



ISOCARP

# BRIDGING THE DIVIDE CONNECTING THE YOUNG CITY AND THE POLISH HOOK AREAS

Young Professionals Think Deep Workshop  
Gdańsk, April 2023





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Data collection - Site visit

Data analysis

Strategic design solutions

Vision

Objectives

Scope of intervention



solution  
 Presentation  
 problem  
 challenge  
 heritage  
 Gdansk  
 tunnel  
 definition  
 refining  
 Site visit  
 urban planning  
 engineering design  
 icebreaker  
 modalities  
 rehearsal



# Gdańsk



polish hook  
Mottawa  
City Center  
Waterfront  
waterfront city  
Gdańsk  
WW II destructions  
Shipyard  
contemporary  
Development  
solidarity  
Fortification  
Young City  
Rebuilt  
Island





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Public Realm

Green Connections

Connection with Water

Mottawa

Polish Hook

Community

Tunnel

Mobility

Young City  
Human Rights

Tram  
Economy

Circular

Governance  
policies

GRANSKI

Experiences

Revival

Engineering  
Planning  
Urban Design

Industrial  
Heritage

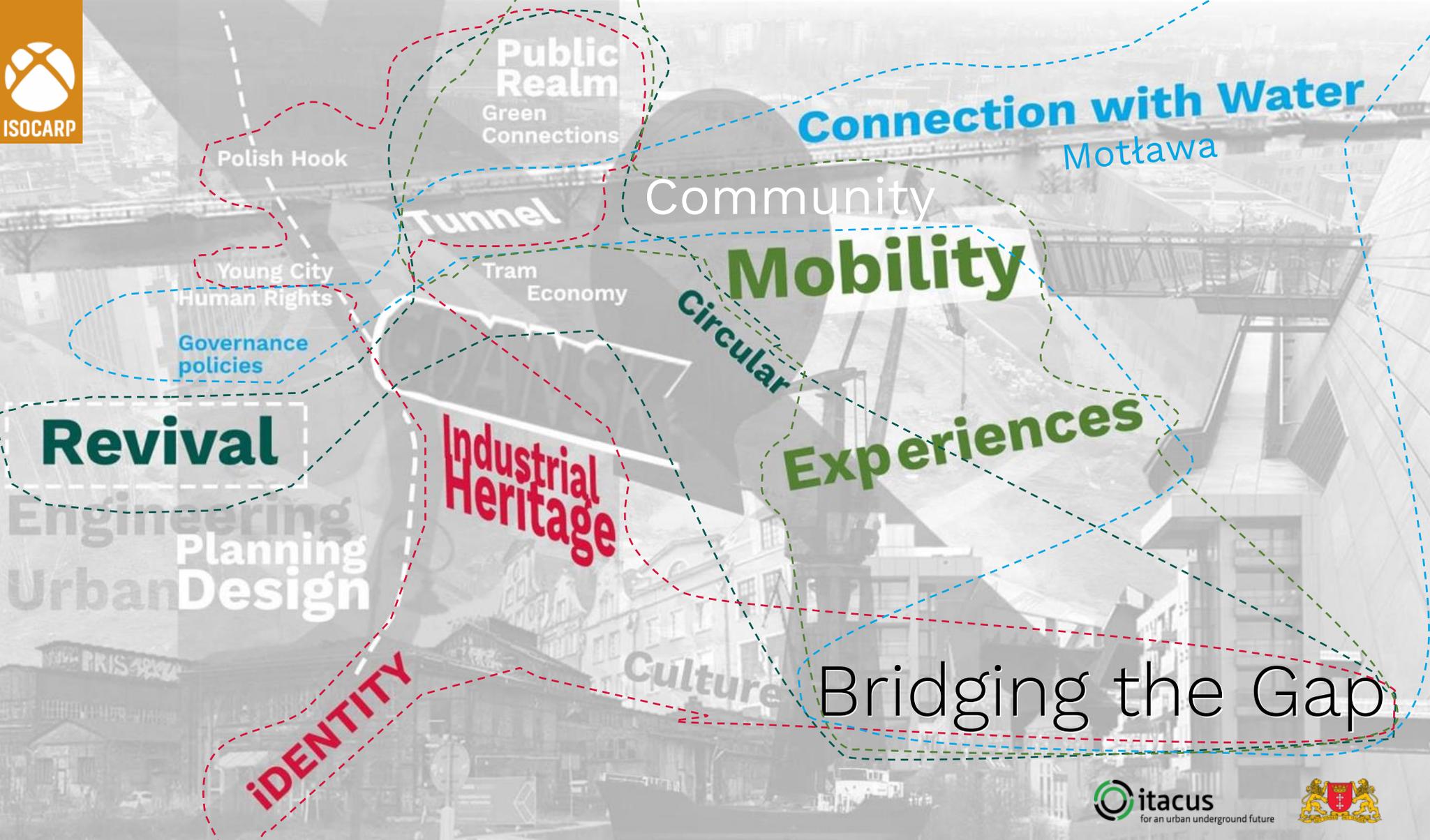
Culture

IDENTITY





ISOCARP



Public Realm

Green Connections

Connection with Water  
Mottawa

Community

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Circular Experiences

Experiences

Revival

Engineering  
Planning  
Urban Design

Industrial Heritage

IDENTITY

Bridging the Gap

Polish Hook

Tunnel

Tram Economy

Young City  
Human Rights

Governance policies

Culture





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## Circular Gdansk

Madina Zhapekova  
Lerato Moshoeshe  
Juan David Salazar  
Mattia Petrini  
Maarten Demarsin



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# THE CITY THAT REINVENTS ITSELF

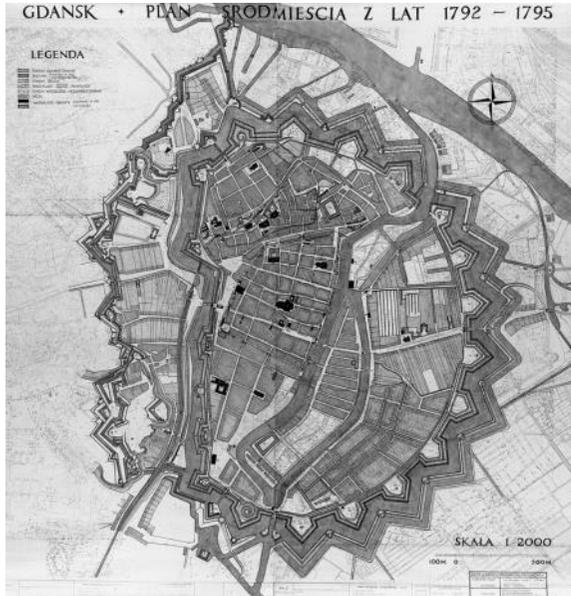


Gdansk is a city that has proven to be capable to rebuild itself

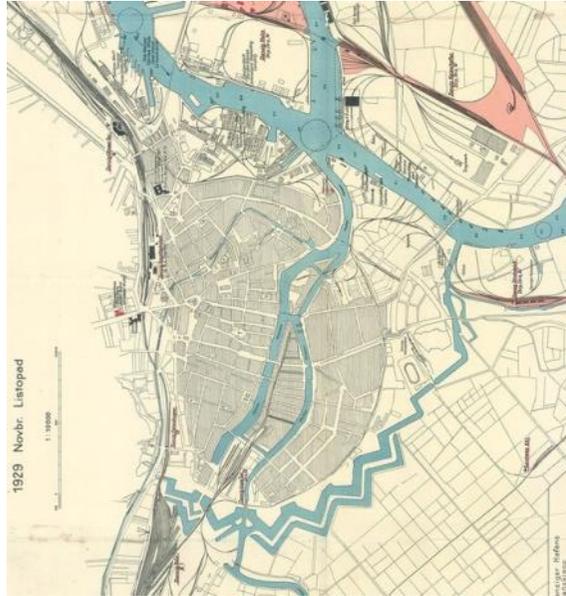


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# THE CITY THAT REINVENTS ITSELF



*Fortifications in 18<sup>th</sup> century Gdansk closed the city in the North, separating it from the canal.*

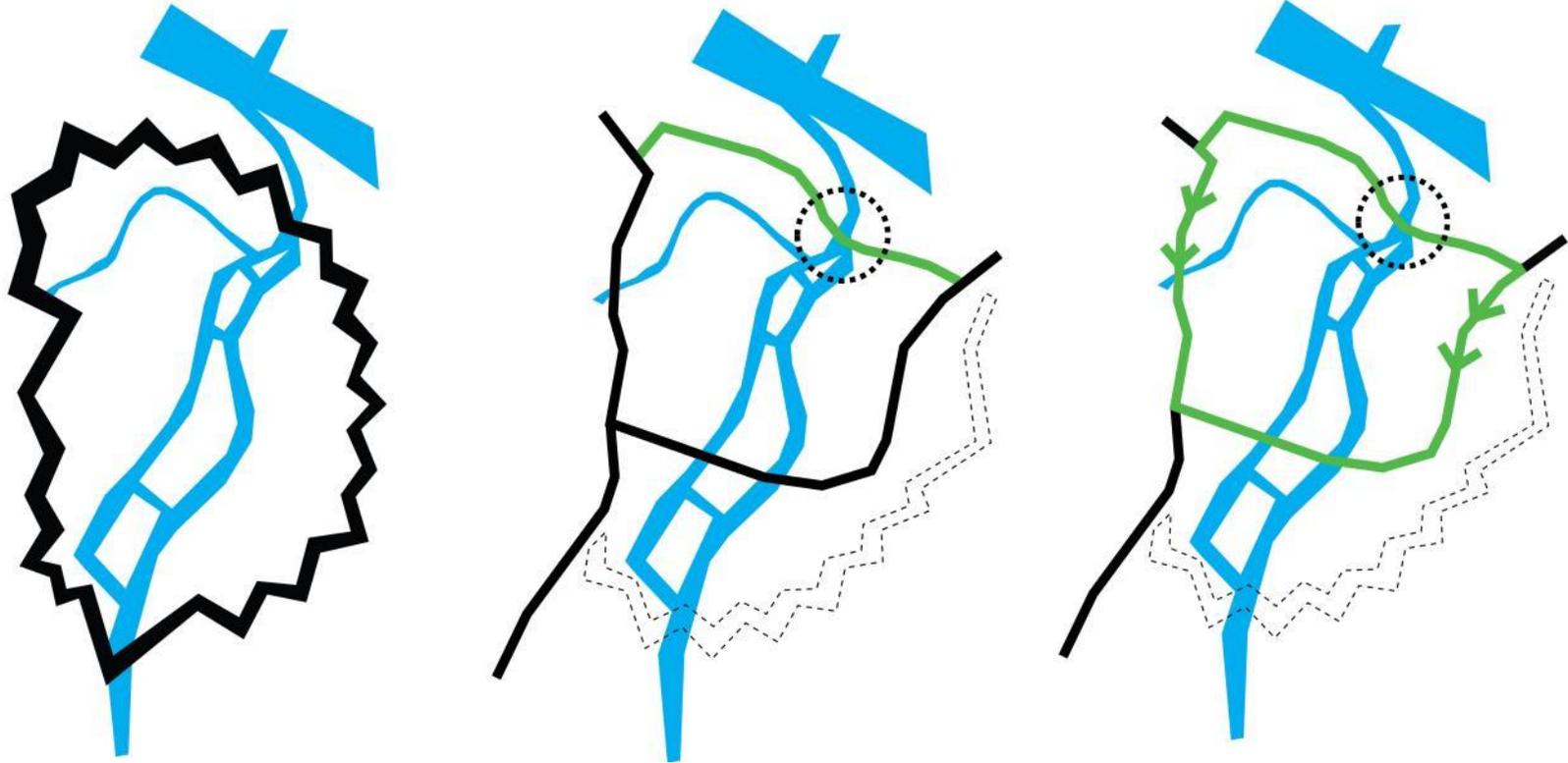


*Map of 1929: the city opens up towards the river and the breaks the circle of fortifications in the North.*



*Real estate developments make the Gdansk has to reinvent its northern boundary once again.*

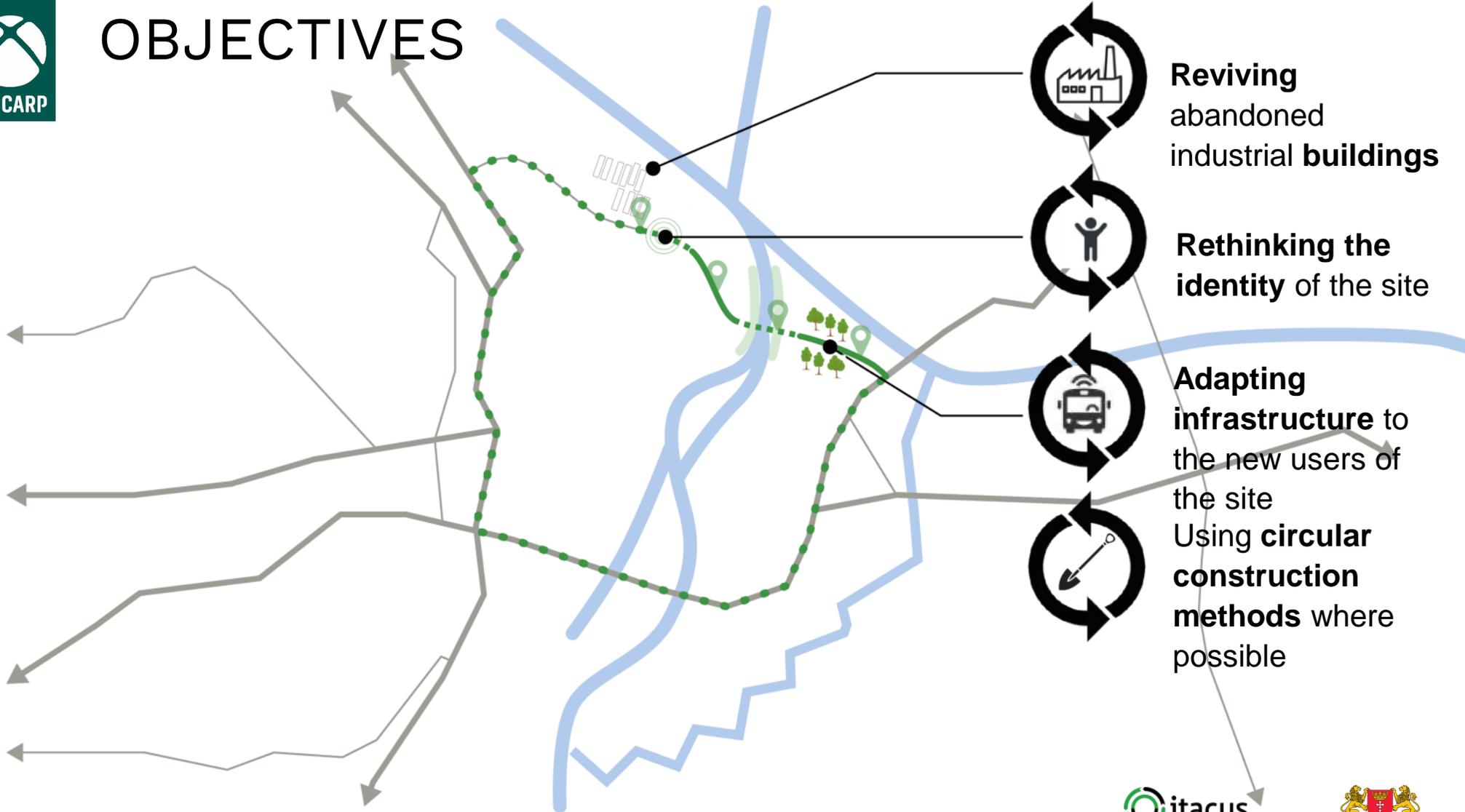
# REDESIGNING THE RING



*Our project proposes to reconnect the ring around Gdansk.*

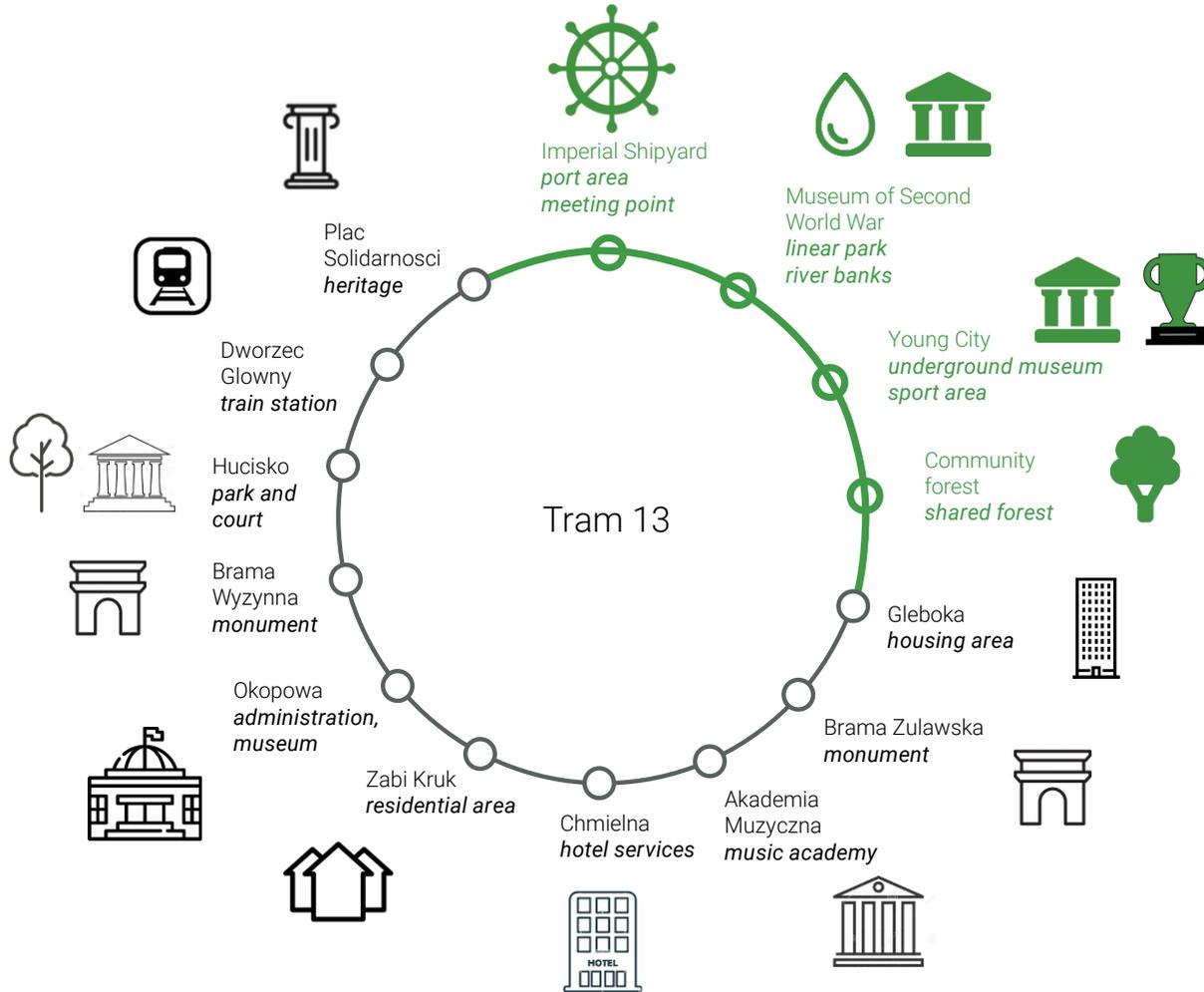


# OBJECTIVES





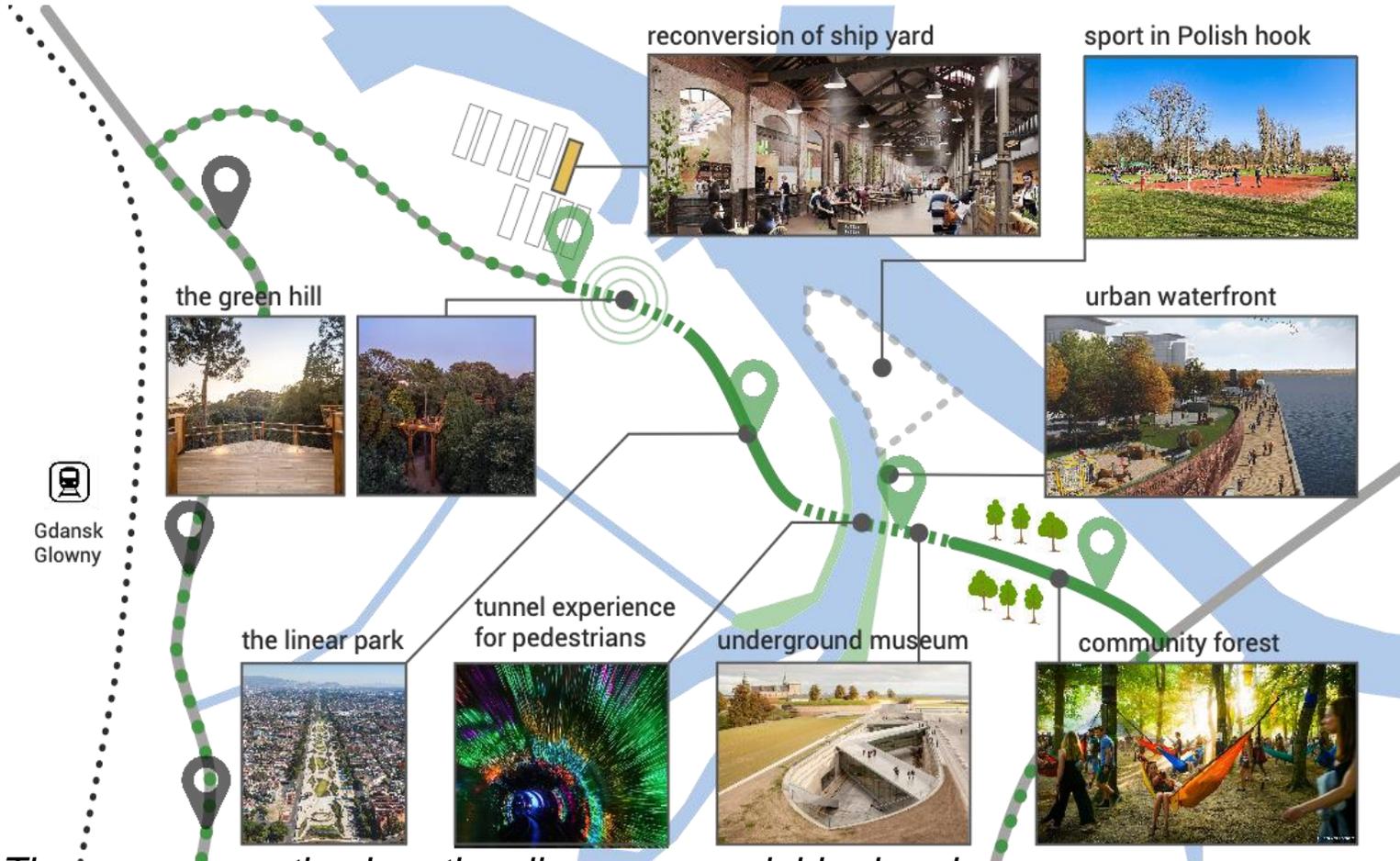
# NEW TRAM STOPS, NEW FUNCTIONS



*Completing the network with new functions*

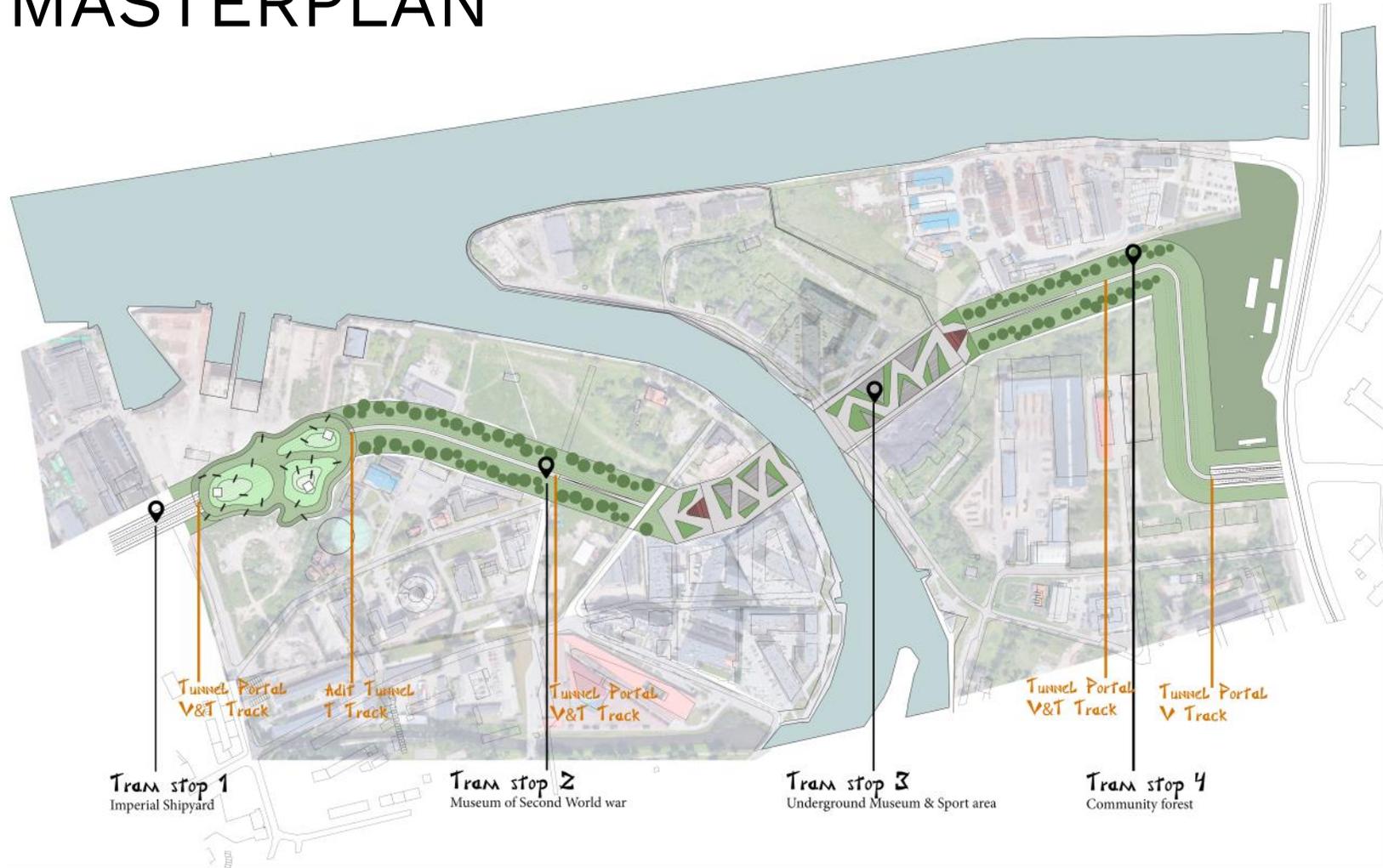


# NEW NEIGHBORHOODS



*The new connection breathes life in new neighborhoods*

# MASTERPLAN

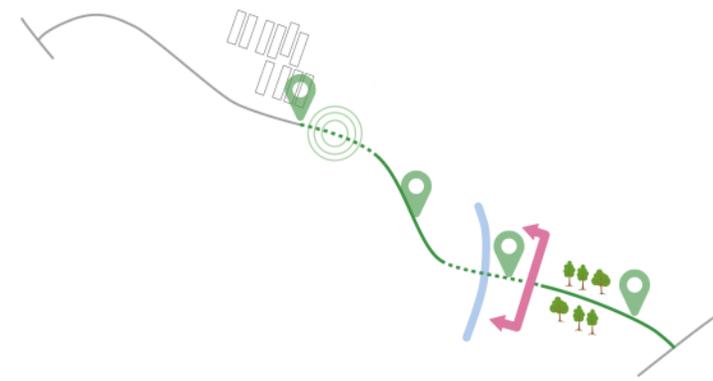




# THE UNDERGROUND MUSEUM



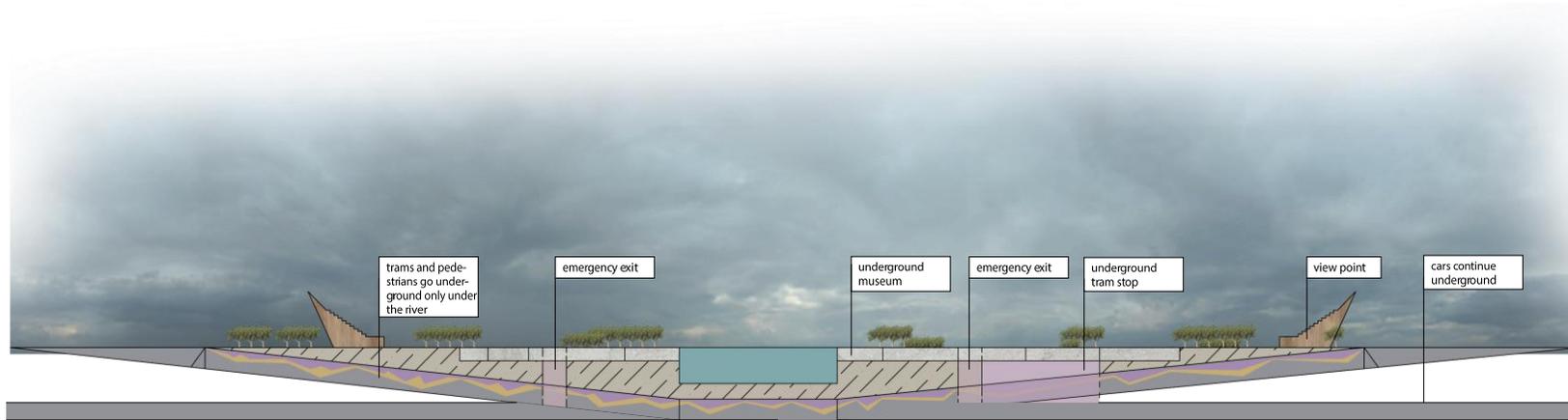
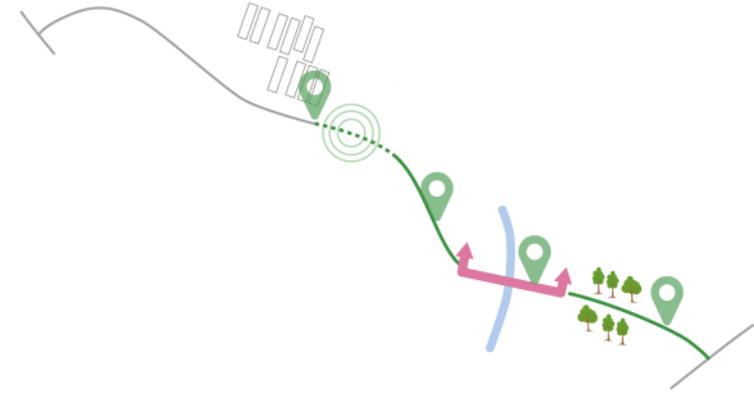
*New cultural program recharges  
breathes life in the underground space*



*National maritime museum Denmark*



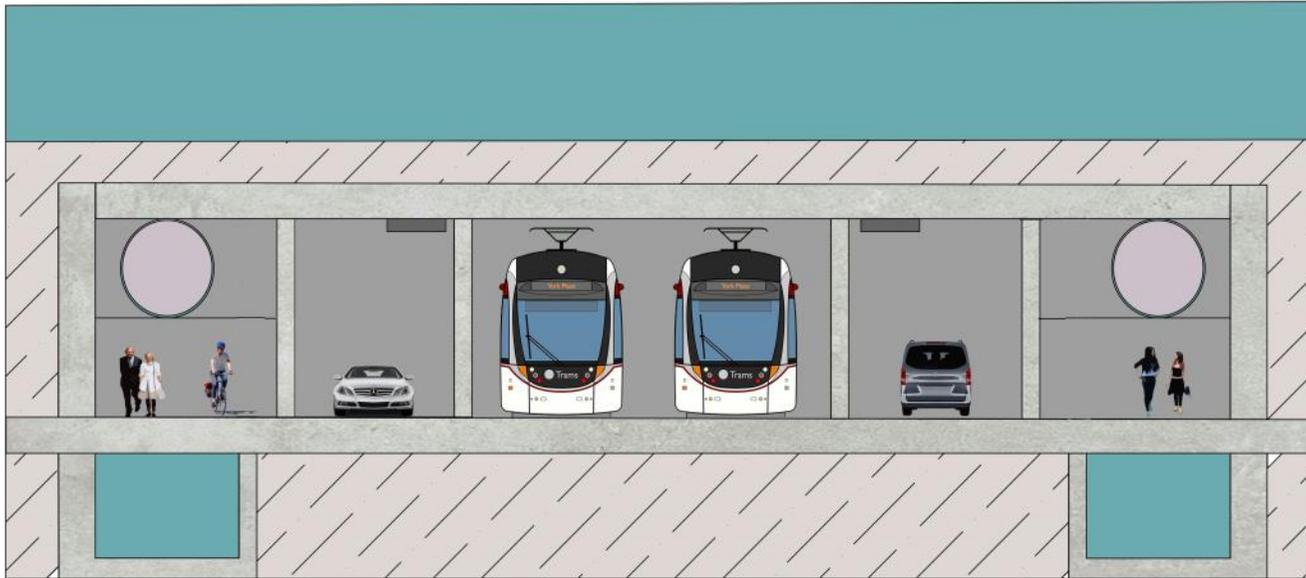
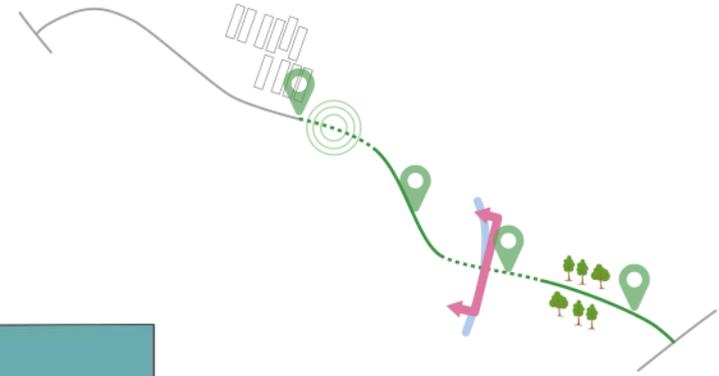
# THE UNDERGROUND MUSEUM



*New cultural program recharges  
breathes life in the underground space*



# THE TUNNEL

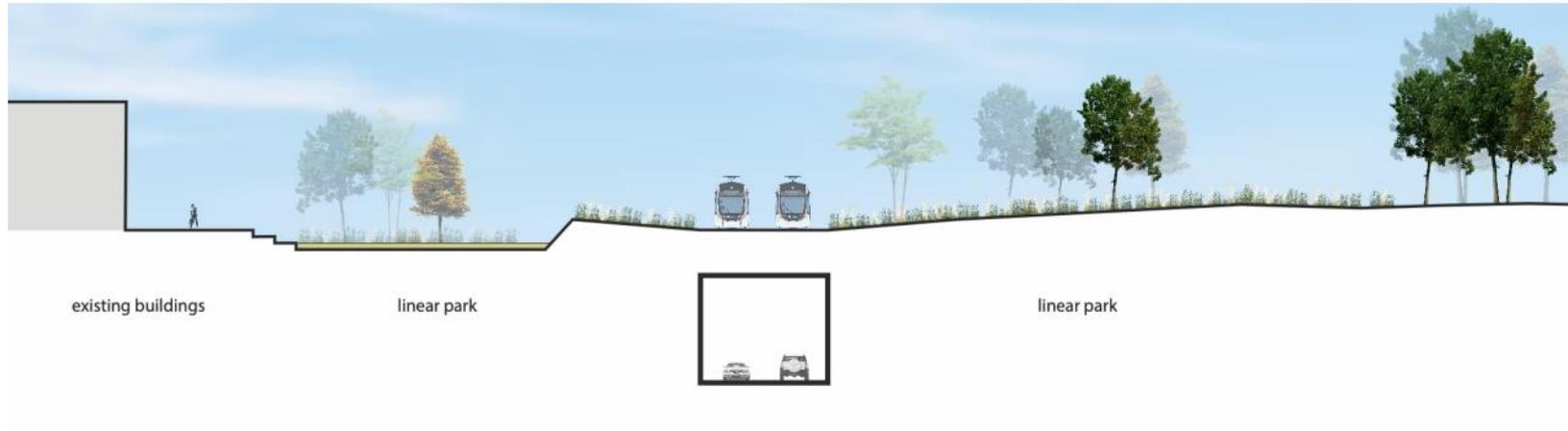
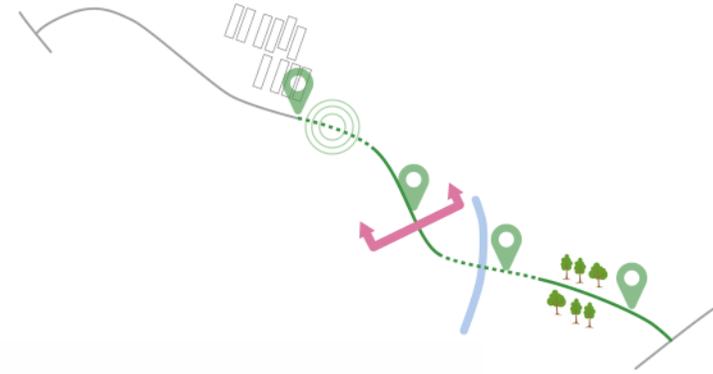


*Under the water*

*Trams meet cars again underground. Bikes and pedestrian have an underground passage*



# THE LINEAR PARK



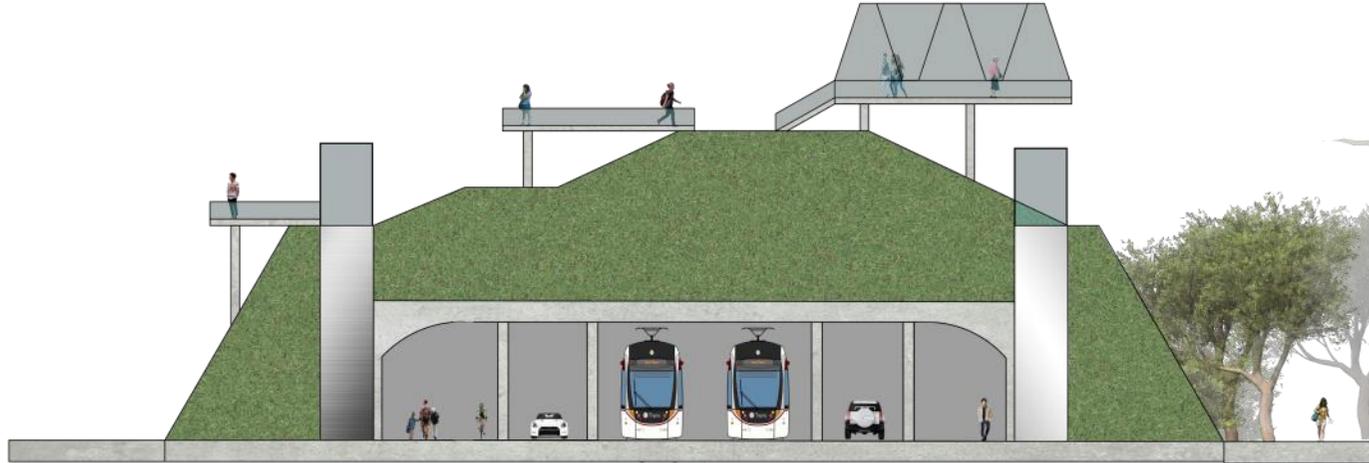
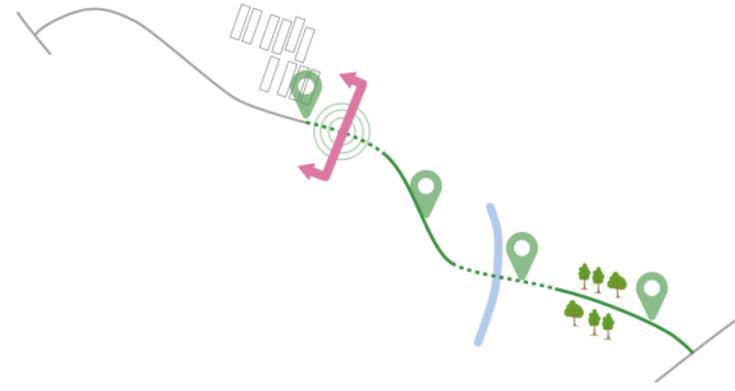
*Trams and pedestrians in a linear park*



# THE GREEN HILL



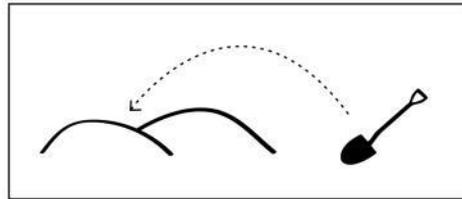
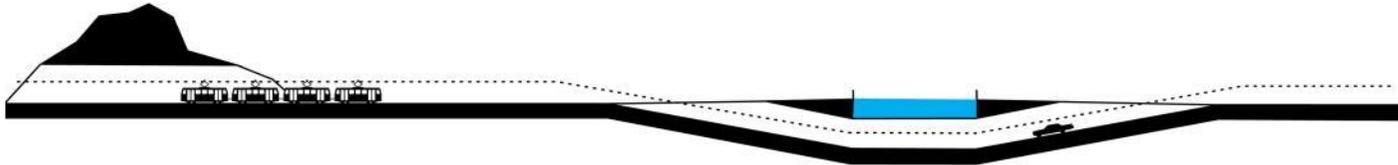
*Treetop walk, Porto*



*Sightseeing thanks to the reuse of excavated land*



# CIRCULAR BUILDING



*Excavated terrain from under the river can be used to create hills on the first tunnel*



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# TUNNEL CONSTRUCTION - CUT AND COVER



*Deep excavation 1 – sheet pile retaining wall*

*Deep excavation 2 - sheet pile retaining wall after cast the section and the cover of excavation 2*

# TUNNEL CONSTRUCTION - CUT AND COVER



*excavation and casting steps*

# INMMERSED TUNNEL PRINCIPLES



*Deep excavation for the concrete casting area*



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# IMMERSED TUNNELLING



*Hemspoor Tunnel*  
*Coatzacoalcos tunnel (Mexico), built by FCC – FCCCO*  
*Fehmarn Belt tunnel is an under-construction*



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# CREATING THE HILLS



## Green solution

Systems make use of on-site material minimising material transport to site. Gives immediate performance, with minimal pollution.



## Failure prevention

Actively holds surface locking it deep into structure. Catches and retains surface failures.



## Increased factor of safety

Installation depth of anchors calculated to ensure system locks into structurally sound soil for an engineered solution.



## Steepened slopes

Allows slopes and embankments to be made steeper, reducing groundworks and maximising use of space.

*Slope stability with geogrid and geotextil*



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## Dziękujemy

Madina Zhapekova  
Lerato Moshoeshe  
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Maarten Demarsin

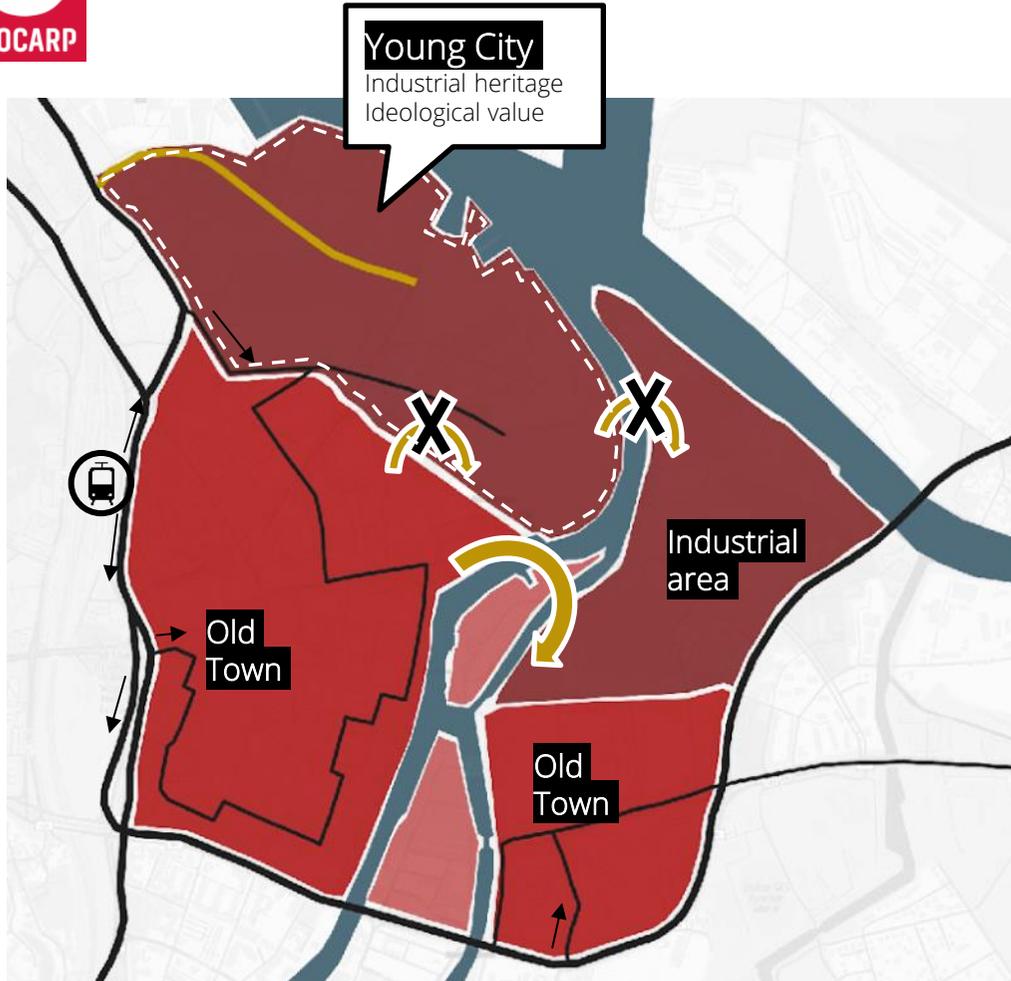


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## CREED by K ACUPUNCTURING THE CITY

Rushi Randeria  
Edmore Mutsaa  
Donia Tayel  
Elisa Vasilu  
Korzay Damar



## THE CONNECTIONS WITH THE YOUNG CITY

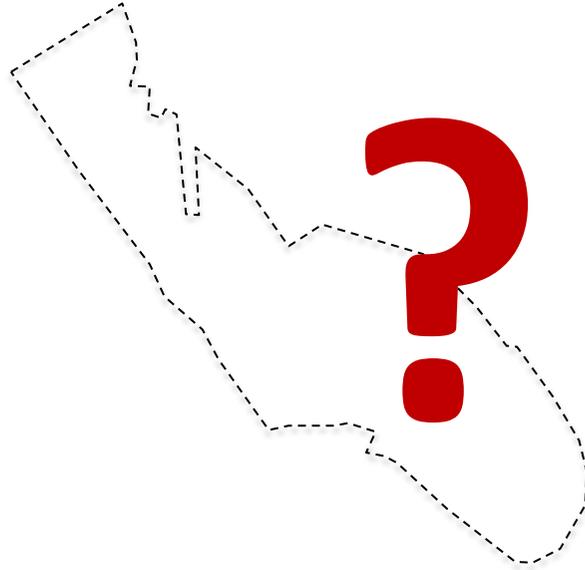
The city of Gdańsk gave us the opportunity of finding a solution on how to **reconnect the Young City to the Old Town and to the Polish Hook**, by constructing an underriver tunnel. As it can be seen the Old Town is connected through bridges and public transport, while the Young City, although its **strong identity** and unique history, remains physically and conceptually isolated.

### Legend:

- Old Town
- Intervention area
- Popieluszki Street
- Bridged connection

### Public Transport:

- Internal Gdańsk connections
- Outside connections
-  Train Station



**S**

- High flow of ships in the river
- Heritage - presence of landmarks and industrial heritage
- River (Water as resource)
- Large green area
- Close to the city center
- Close to the WWII museum

**O**

- High flow of ships in the river – more visibility if the project area
- Flexibility of design – Versatile space in the city
- Use of the waterfront
- Creation of greenery and social spaces (positive impact)

**W**

- Unavailable to the local people
- Private ownership of the site: conflict with the city
- Public transport does not reach the project site (Young city)
- The apartments are rented for short term – booking systems

**T**

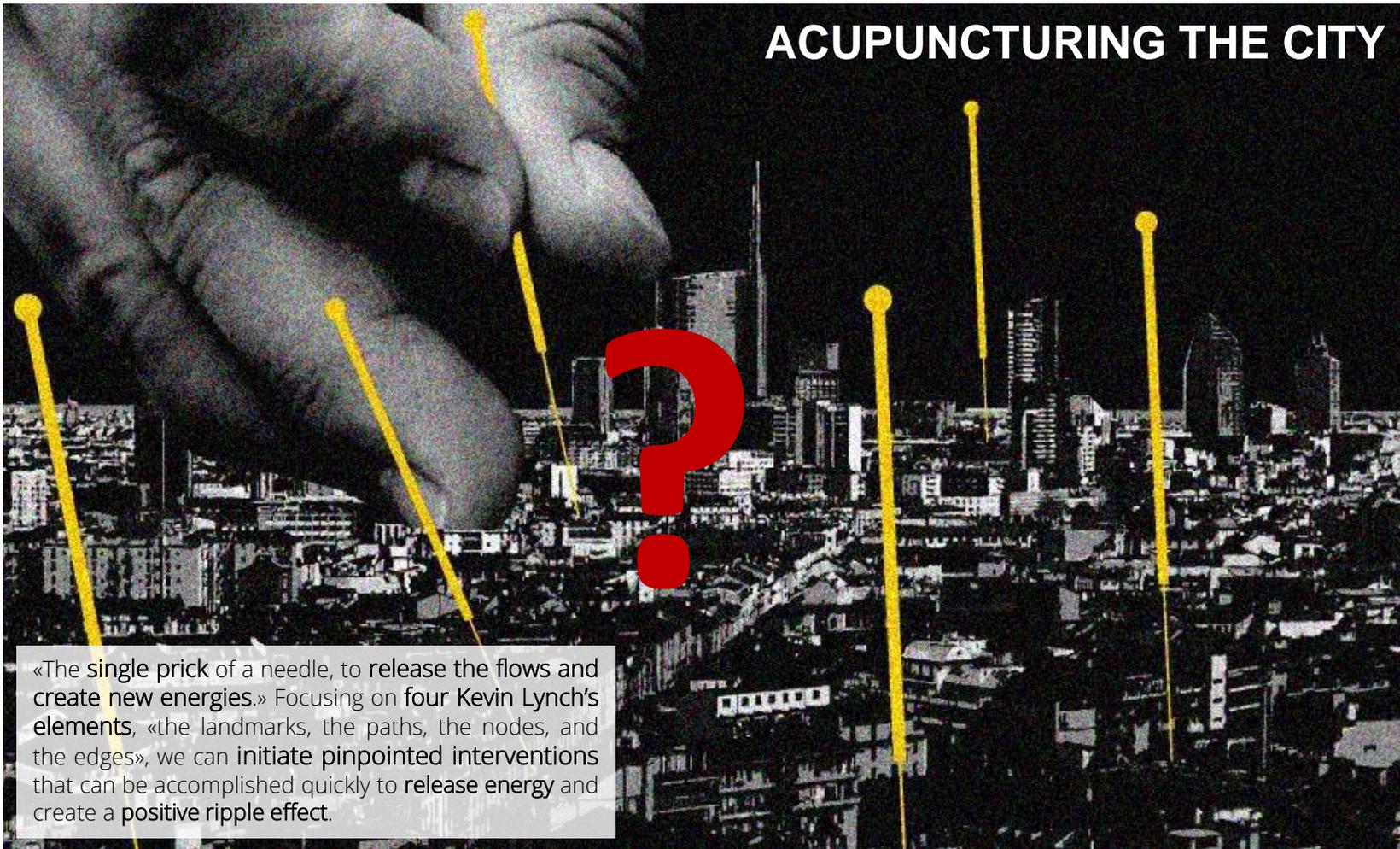
- The creation of a ghost area outside seasonal demand



HOW TO PUT YOUNG CITY ON THE MAP  
IN A POSITIVE WAY

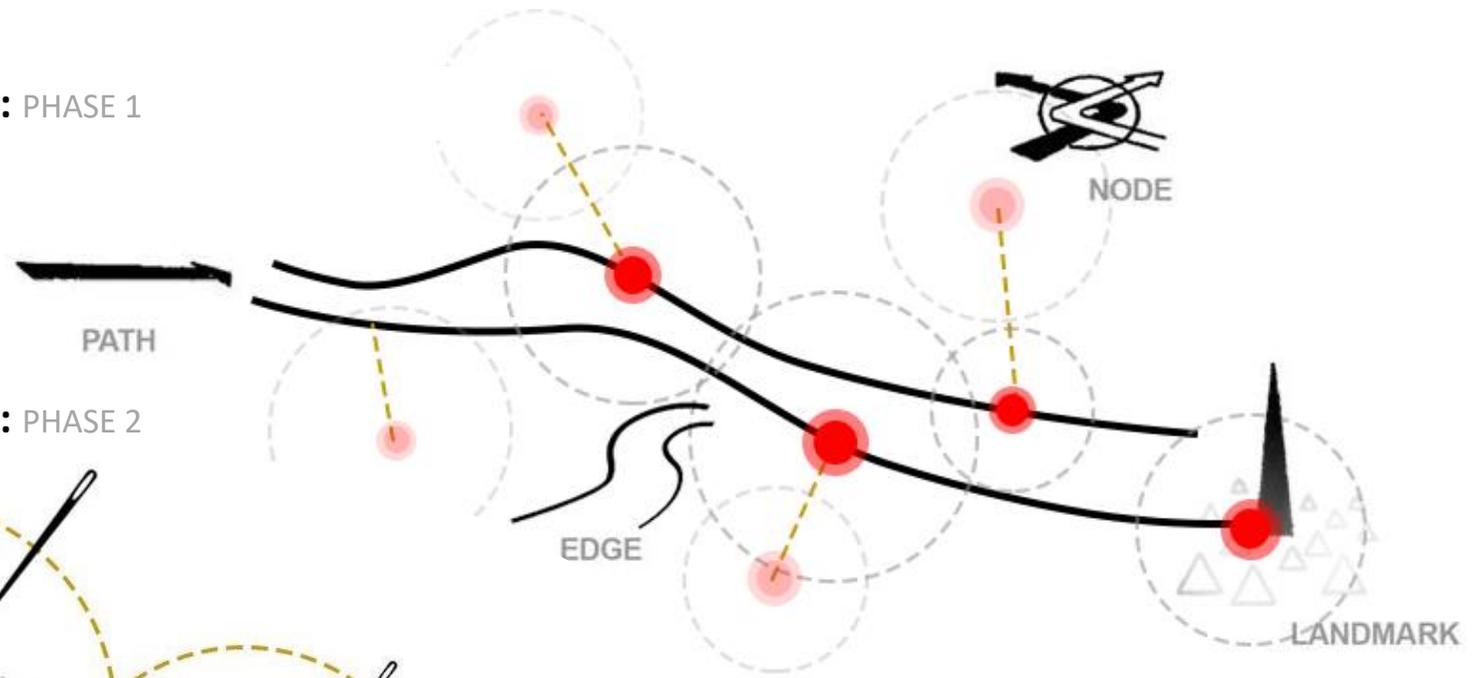


# ACUPUNCTURING THE CITY

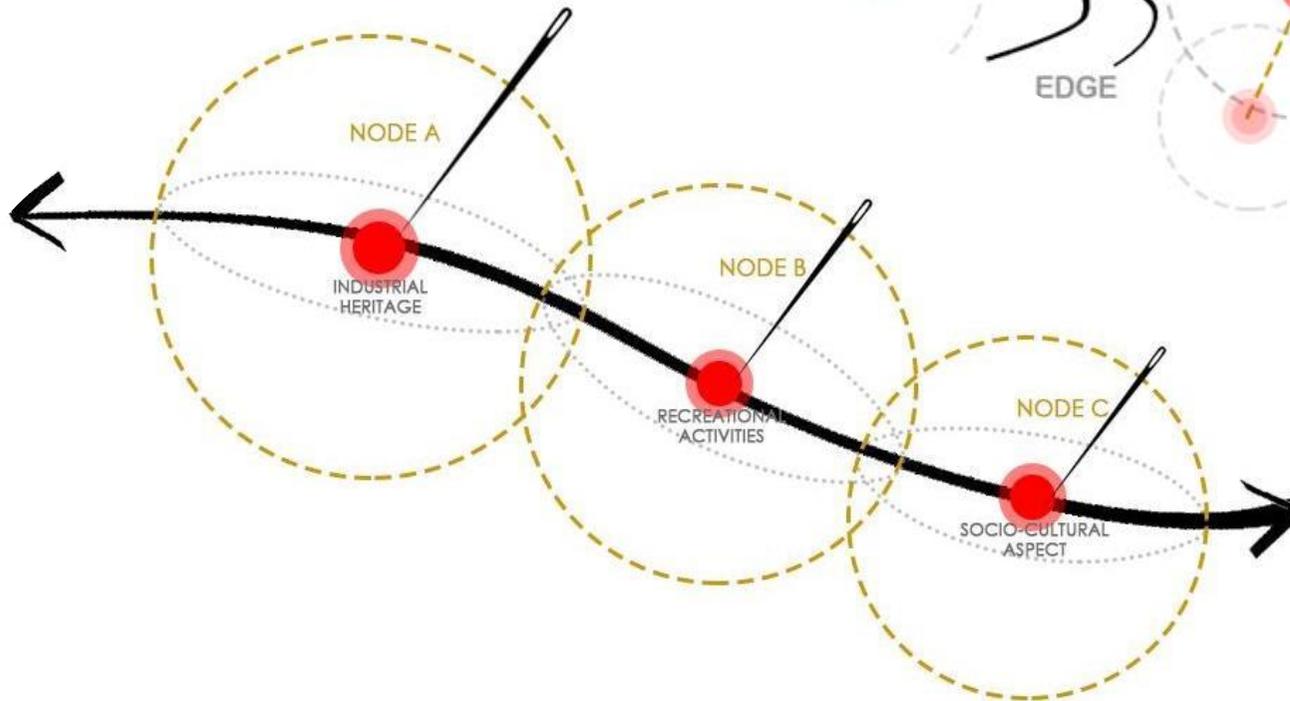


«The single prick of a needle, to release the flows and create new energies.» Focusing on four Kevin Lynch's elements, «the landmarks, the paths, the nodes, and the edges», we can initiate pinpointed interventions that can be accomplished quickly to release energy and create a positive ripple effect.

## PROJECT MIND MAP: PHASE 1



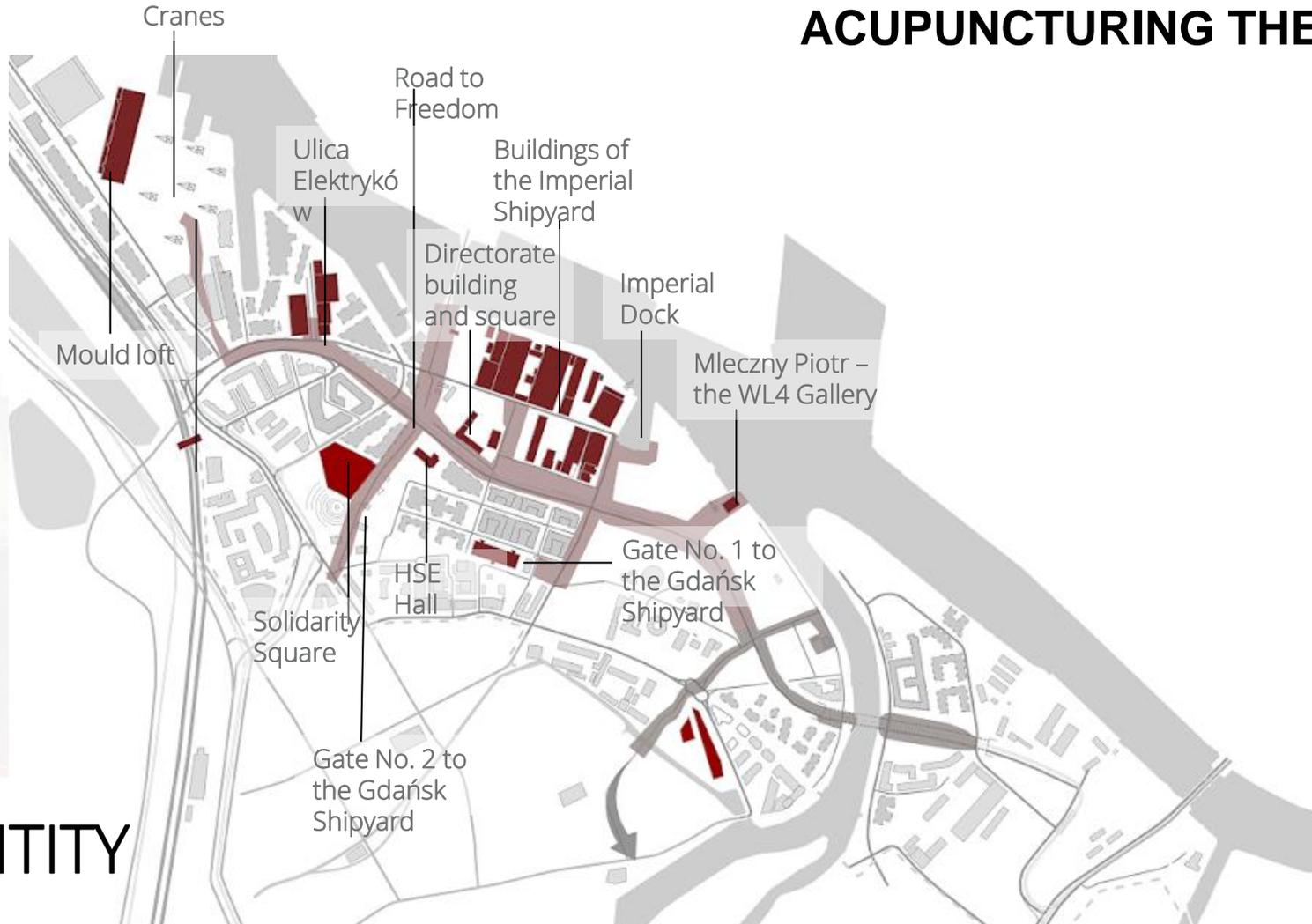
## PROJECT MIND MAP: PHASE 2



The proposed future project of the new street extension represented a way to cross the Young City, not only following the direction to the Polish Hook, but also by transversal corridors that connect the main street to the inside of the buildings, and also to the waterfront which is the preferred trail on the area. We propose a thematic trail starting from the industrial heritage and continuing on the other side as socio-facilities to benefit local communities.



# ACUPUNCTURING THE CITY



## THE IDENTITY HISTORIC LANDMARKS





# ACUPUNCTURING THE CITY

THE IDENTITY  
HISTORIC LANDMARKS



# IDENTIFICATION OF THE MAIN TRANSFORMATION DRIVERS



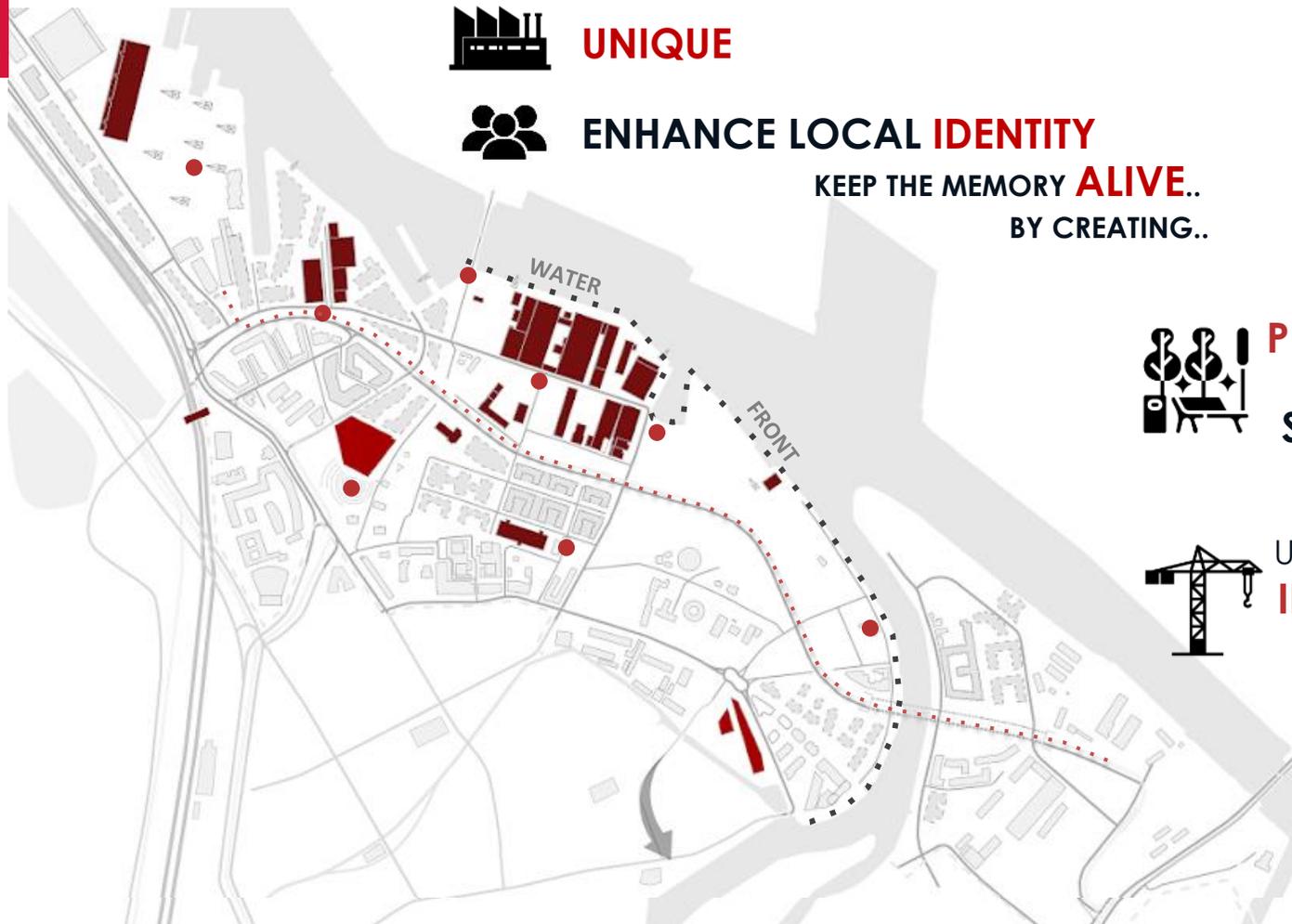
**UNIQUE**



**ENHANCE LOCAL IDENTITY**

KEEP THE MEMORY **ALIVE..**

BY CREATING..



**PUBLIC SPACES** RELATED  
TO ACTIVITIES INSIDE THE  
**SHIPYARD BUILDINGS**



USE **MACHINARIES** AND  
**INDUSTRIAL ELEMENTS**  
AS **LANGUAGE**

RETHINK **BUILDING**  
**FUNCTIONS**



## THE OBJECTIVES OF THE PROJECT FROM DIFFERENT PERSPECTIVES

Gdańsk **COMMUNITIES**



Reappropriation of the Young City

Public spaces for the community  
Recreational Leisure Commercial



Physical activity  
Socialization  
Sense of place

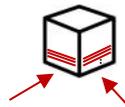


Health and Wellbeing



**DEVELOPERS**

Attract people to live in the buildings



Base for attractive commercial activities



Reputation positive outcomes

**Gdańsk CITY**

**Revitalization** of a central area of the city

The city recognized as a model case study others want to visit

Increased **attractiveness**

More power to local authorities to pursue **social needs** and **policy making**



01.

INTERVENTION 1 THE LANDMARK

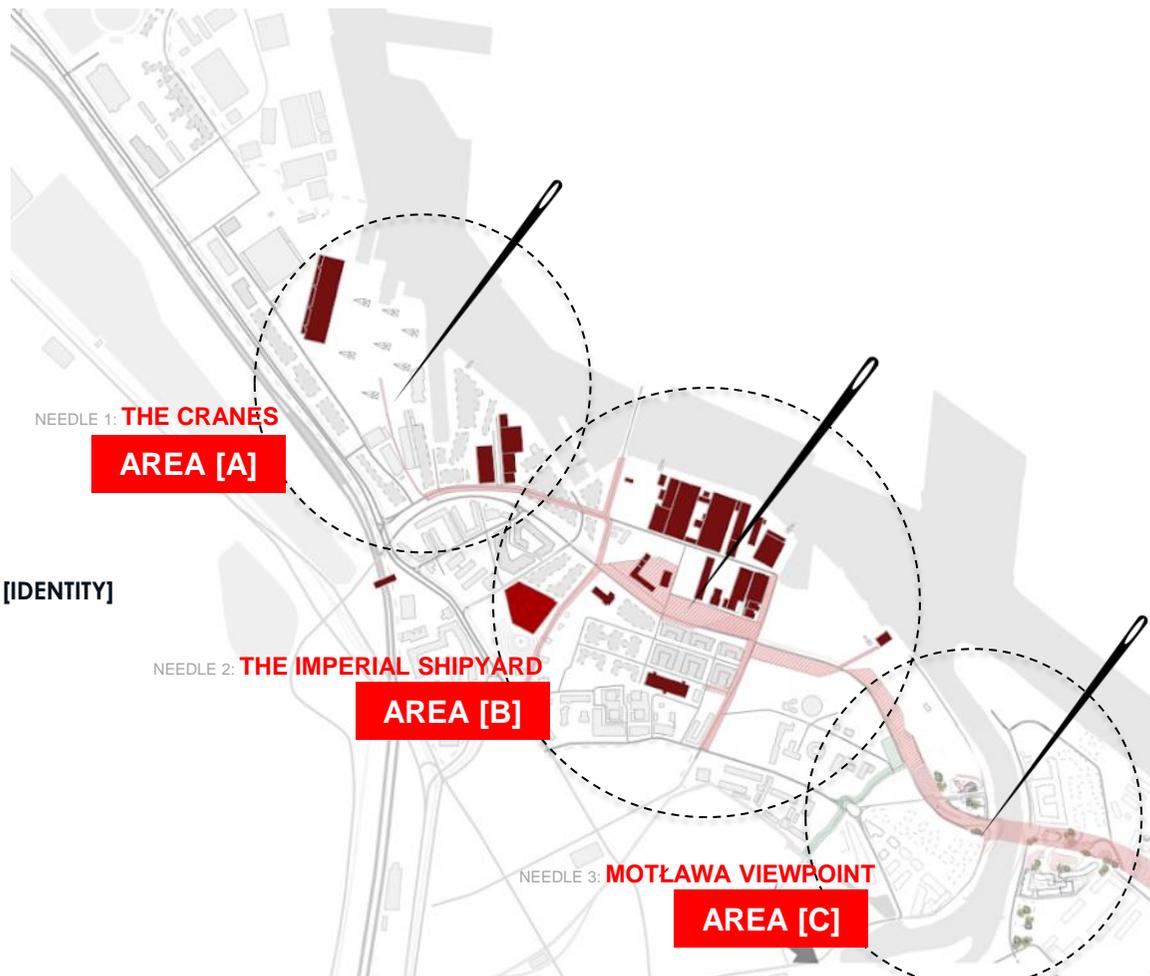
02.

INTERVENTION 2 THE INDUSTRIAL HERITAGE [IDENTITY]

03.

INTERVENTION 3 THE NEW DESTINATION

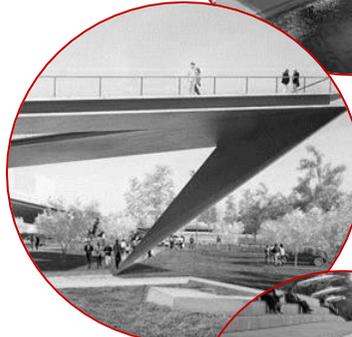
# ACUPUNCTURING THE CITY





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# ACUPUNCTURING THE CITY



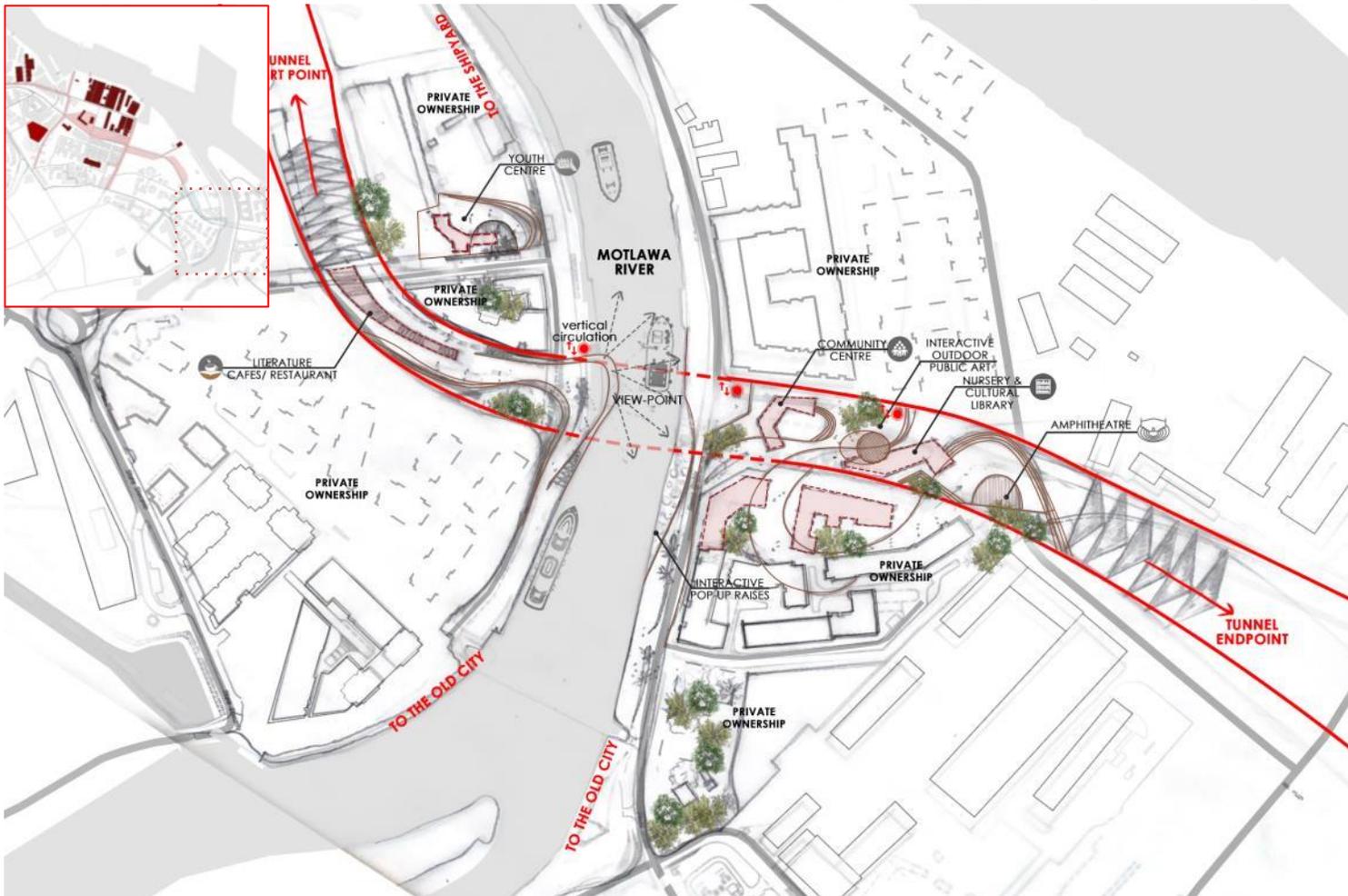
VIEW-POINT



RECREATIONAL SPACES



INTERACTIVE POP-UP RAISES



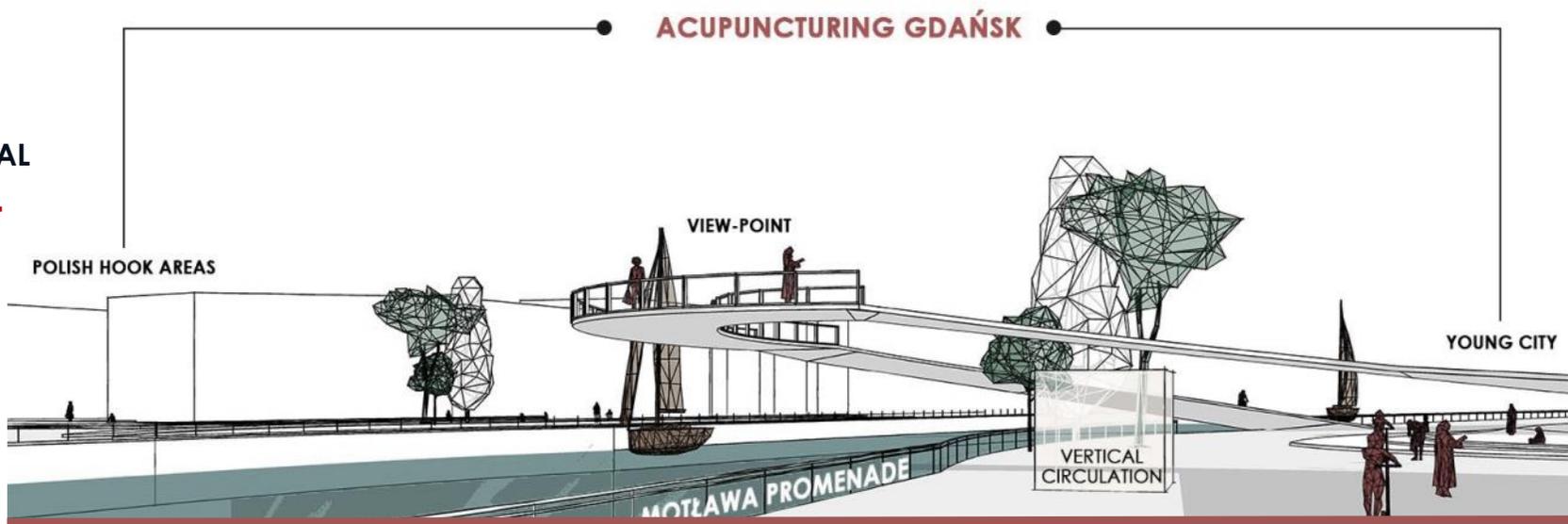




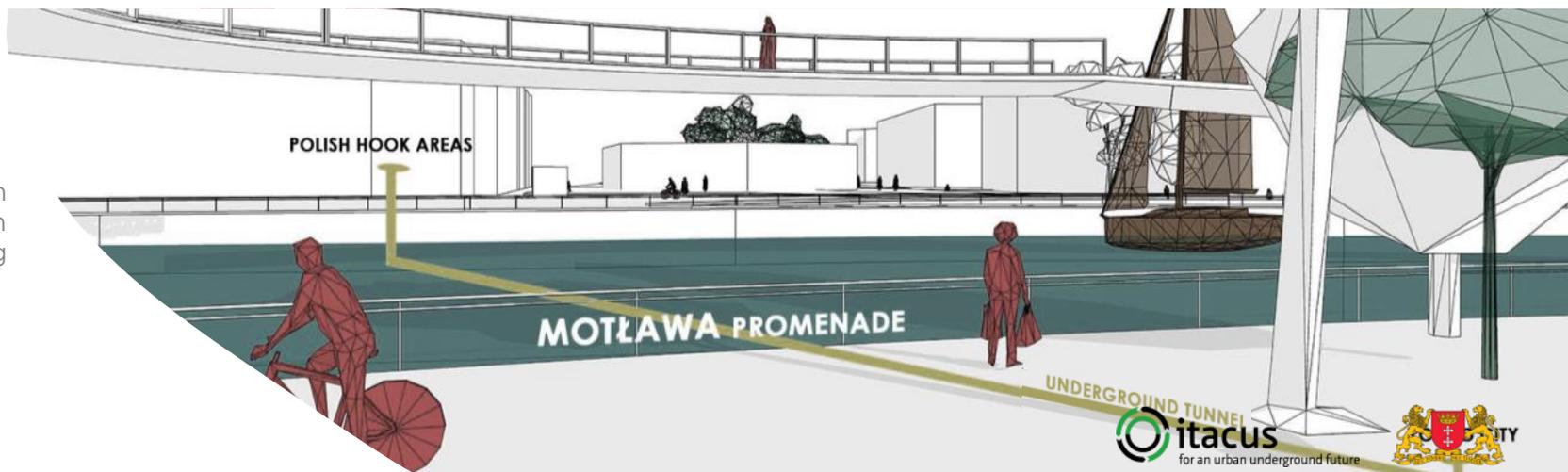
ISOCARP DESIGN PROPOSAL

## Motława viewpoint

Acts as a visual connection between both riverbanks as an attraction point to the promenade.



Bridging the young city with the Polish hook Areas through an interactive tunnel crossing Motława river.



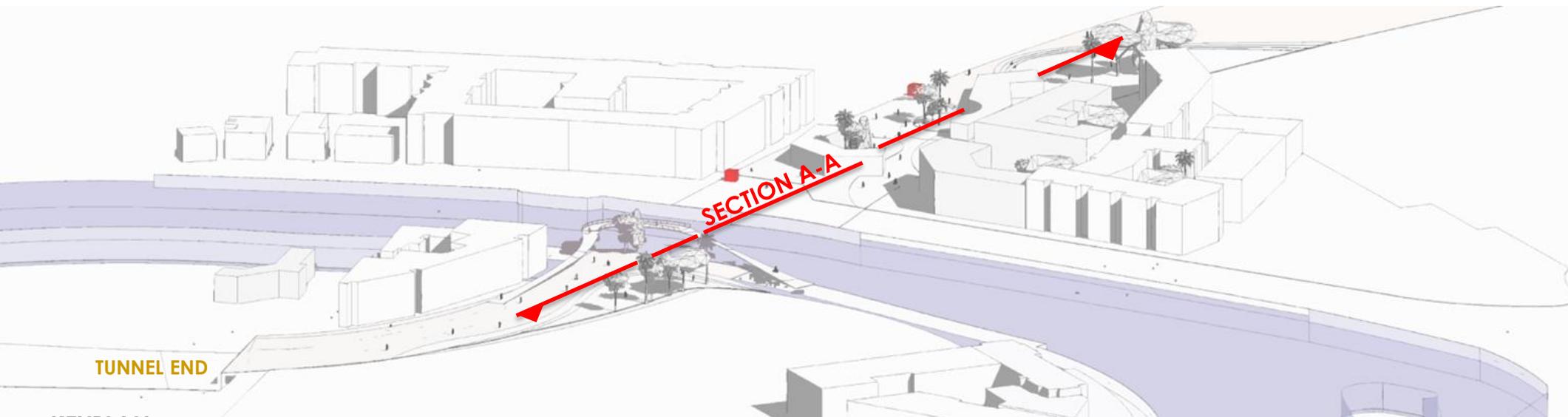


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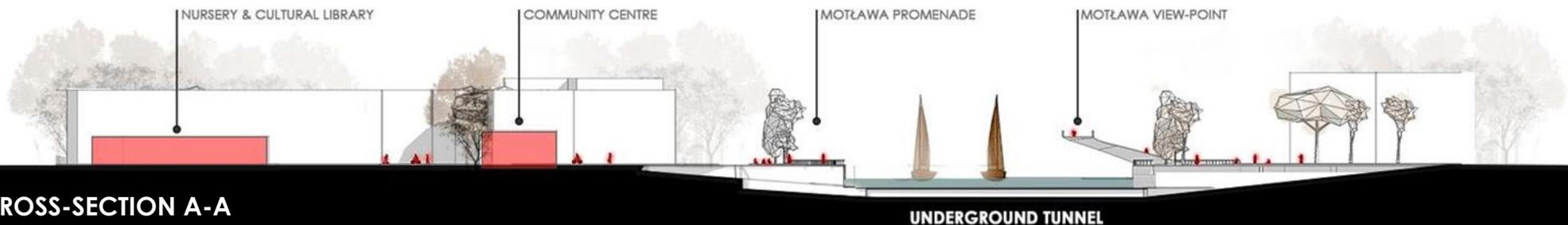
DESIGN PROPOSAL

# ACUPUNCTURING THE CITY

TUNNEL END



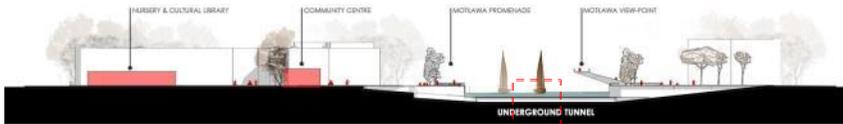
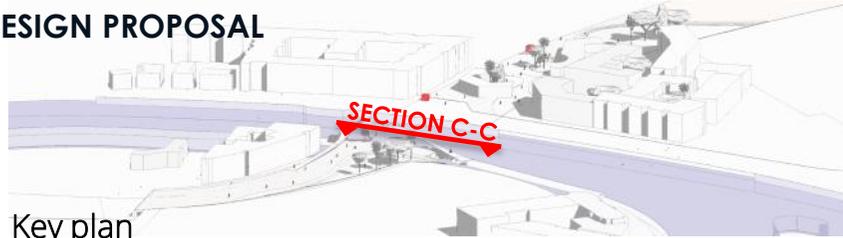
KEYPLAN



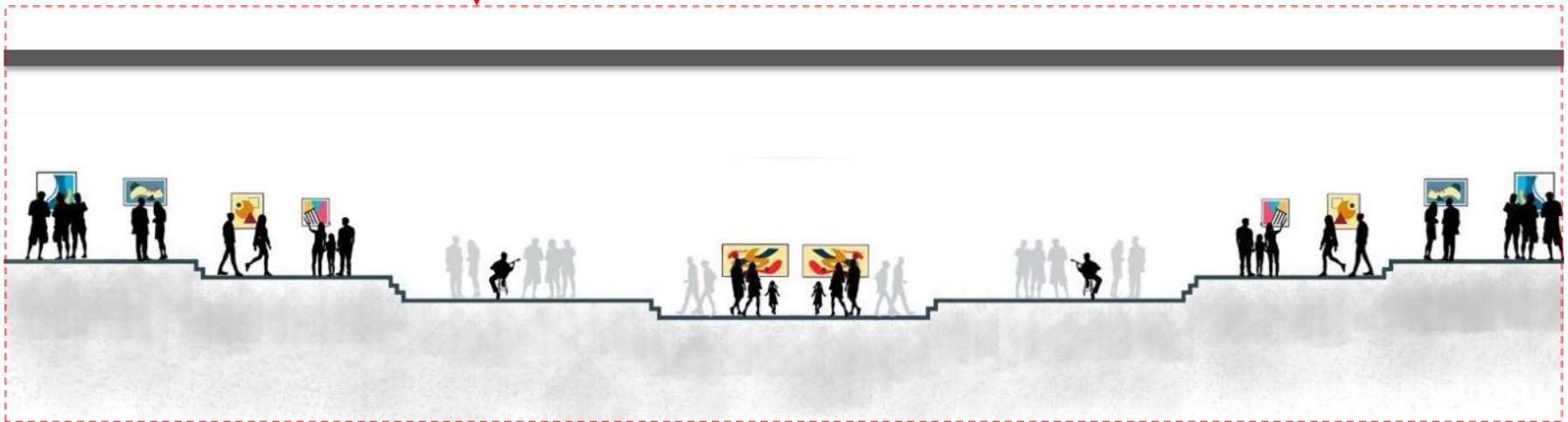
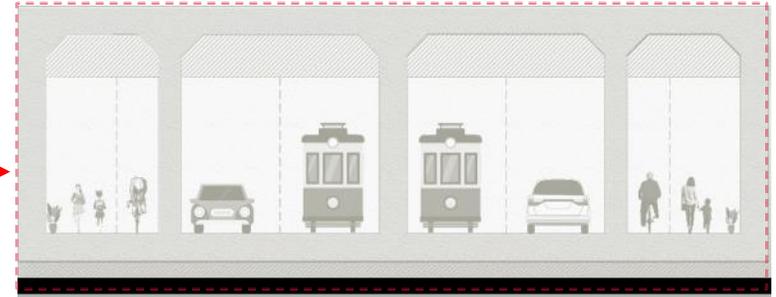
CROSS-SECTION A-A

UNDERGROUND TUNNEL

## DESIGN PROPOSAL

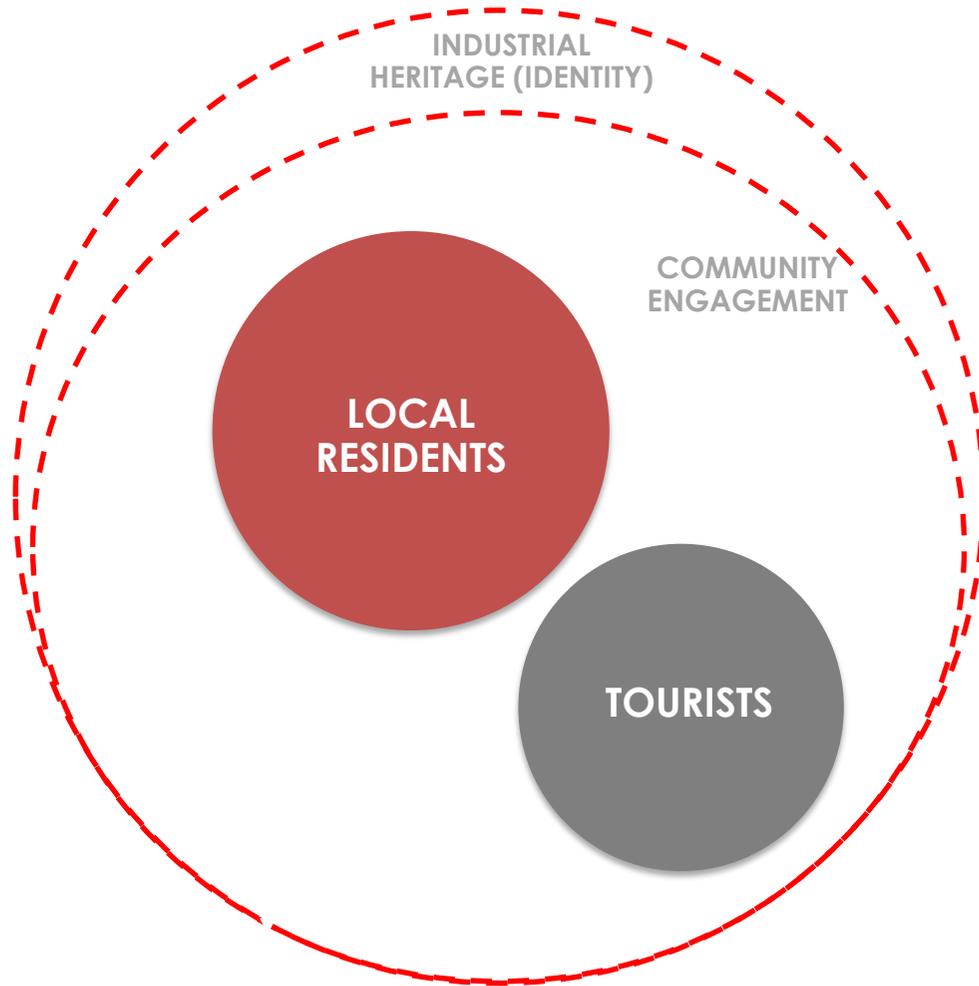


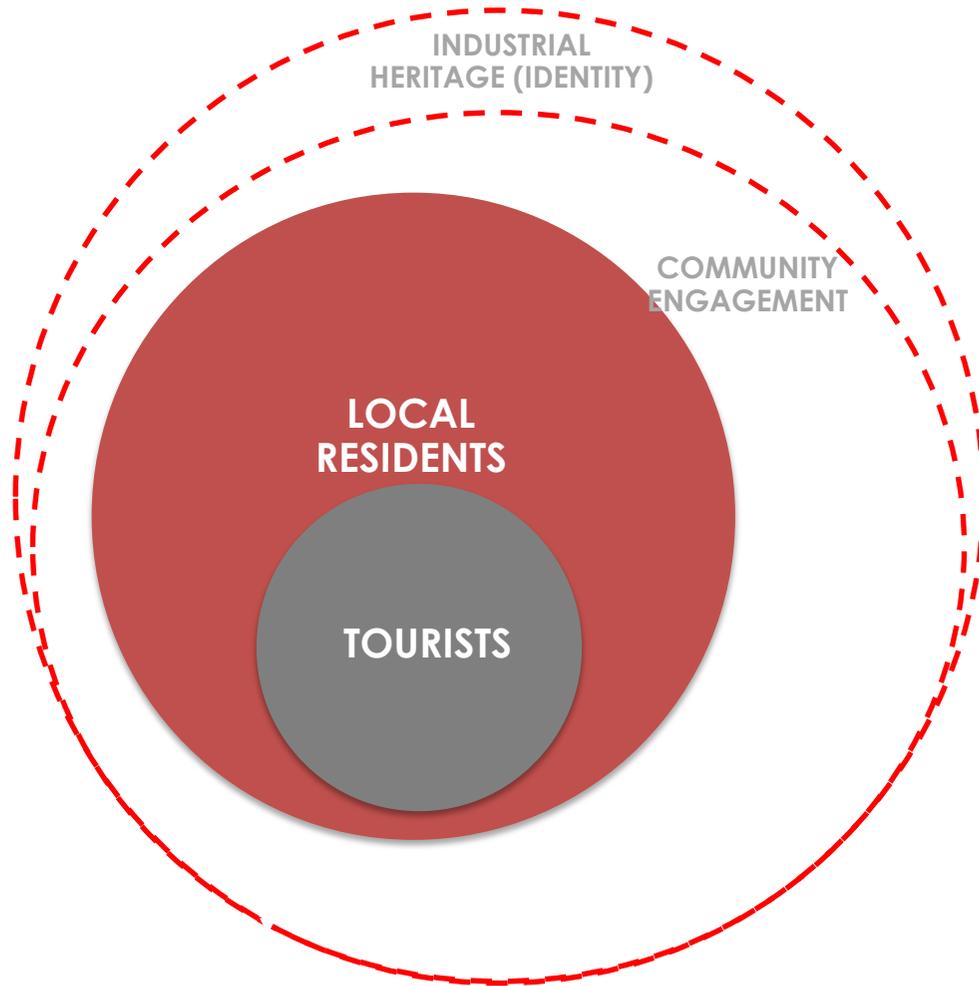
# ACUPUNCTURING THE CITY





# ACUPUNCTRING THE CITY





# ACUPUNCTURING THE CITY

## ACUPUNCTURING THE CITY THROUGH HERITAGE

INDUSTRIAL HERITAGE AS AN IDENTITY

PRESERVING COLLECTIVE MEMORY

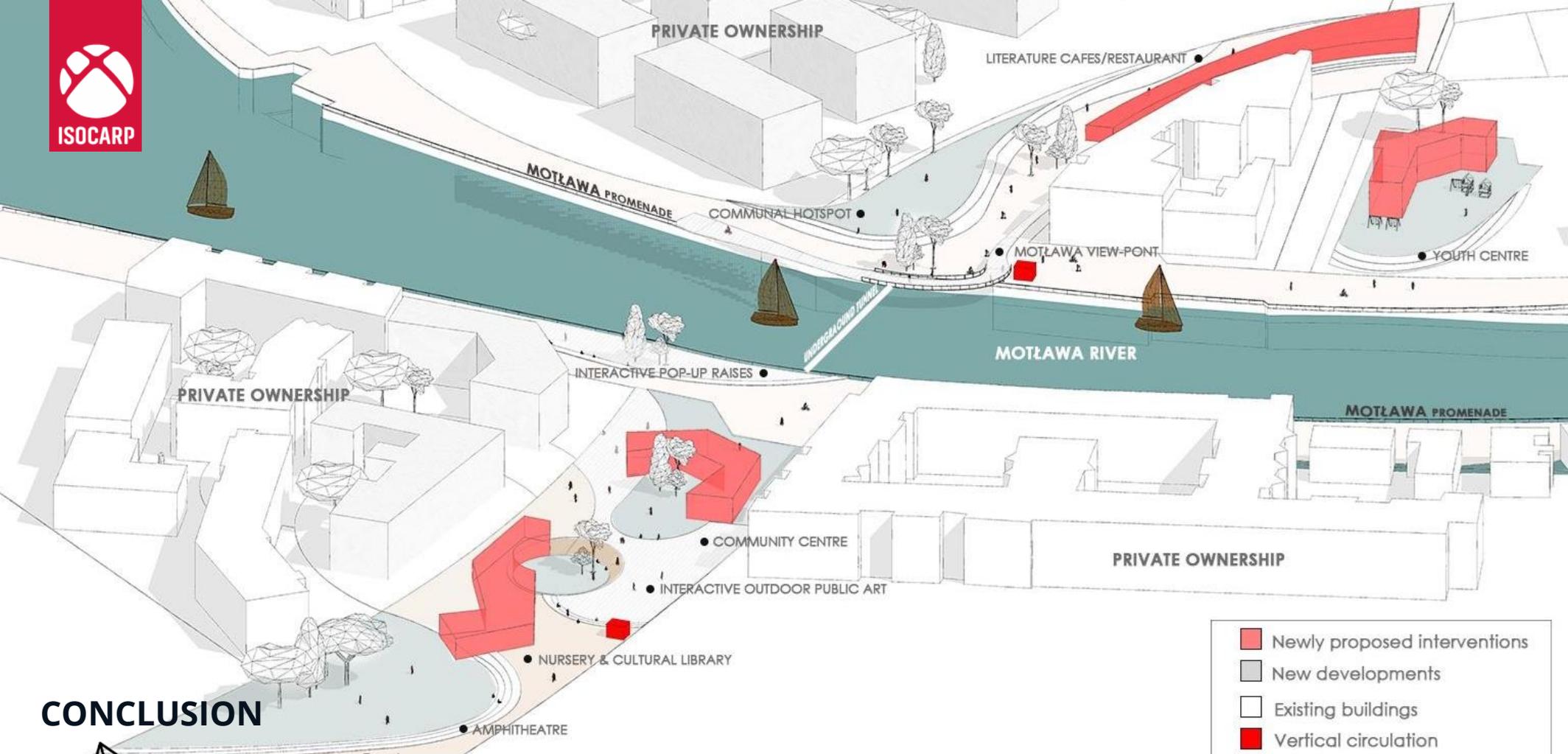
SOCIO-CULTURAL FUNCTIONS

COMMUNITY URBAN SPACES

TUNNEL AS A GALLERY



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- Newly proposed interventions
- New developments
- Existing buildings
- Vertical circulation

## CONCLUSION



IDENTITY



COMMUNAL SPACE



SENSE OF PLACE



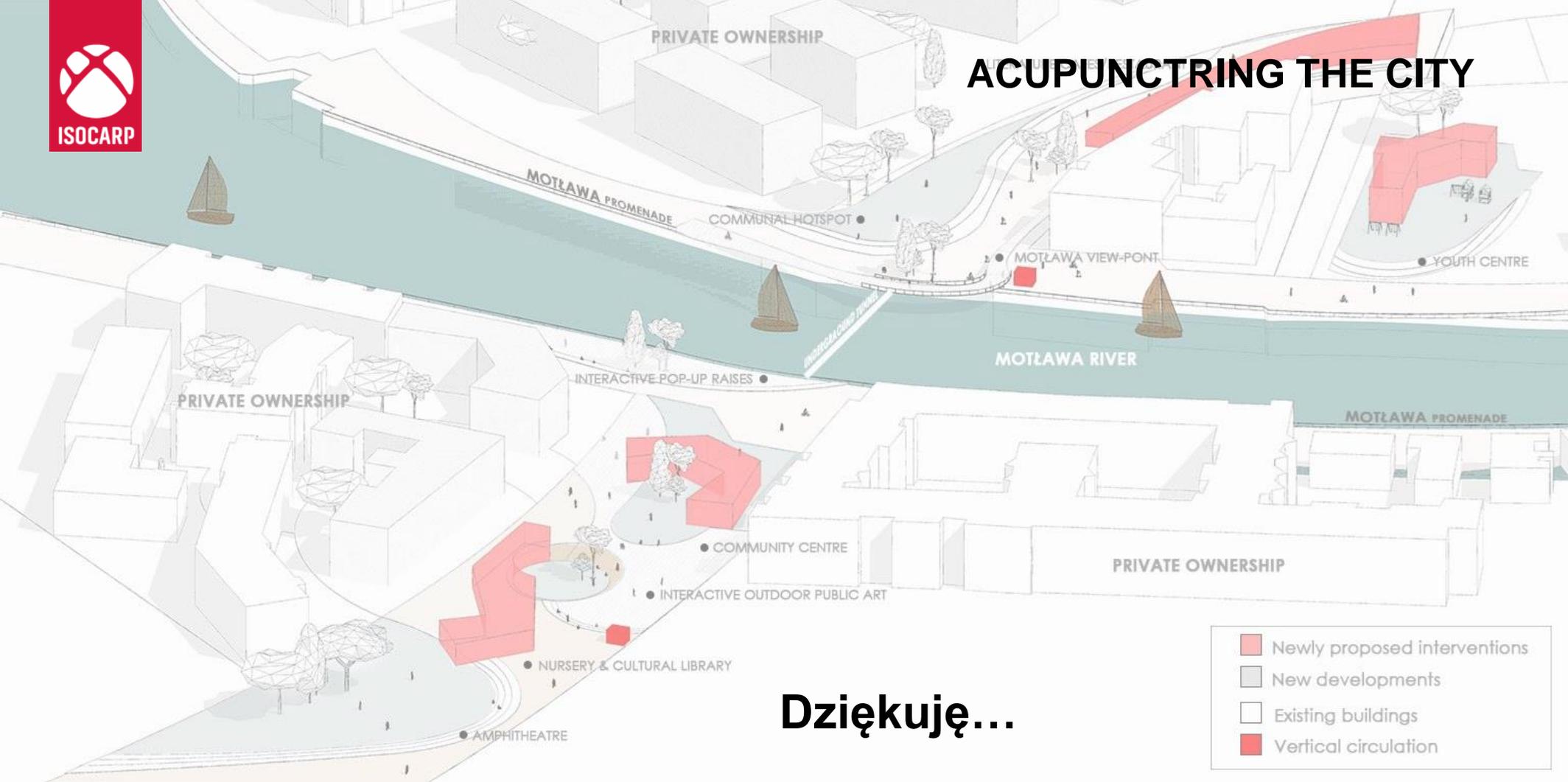
HEALTH & WELL-BEING

IMPACT



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# ACUPUNCTURING THE CITY



## Dziękuję...



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## WePlus

Viktoria Khokhlova, Sara Biancifiori,  
Revşen Özdemir, Andraž Podvez,  
Onur Inal



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# THE PORT CITY, GDANSK





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# CITY GEOGRAPHY

SEA

CITY





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# CITY GEOGRAPHY

SHIPYARD

GDANSK





NOWA WALOWA

YOUNG CITY

SHIPYARD

NOWA WALOWA

POLISH HOOK

GDANSK





WE CROSS

SHIPYARD

YOUNG CITY



NOWA WALOWA



POLISH HOOK



GDANSK





WE PLUS

SHIPYARD

YOUNG CITY



MOTLAWA

NOWA WALOWA



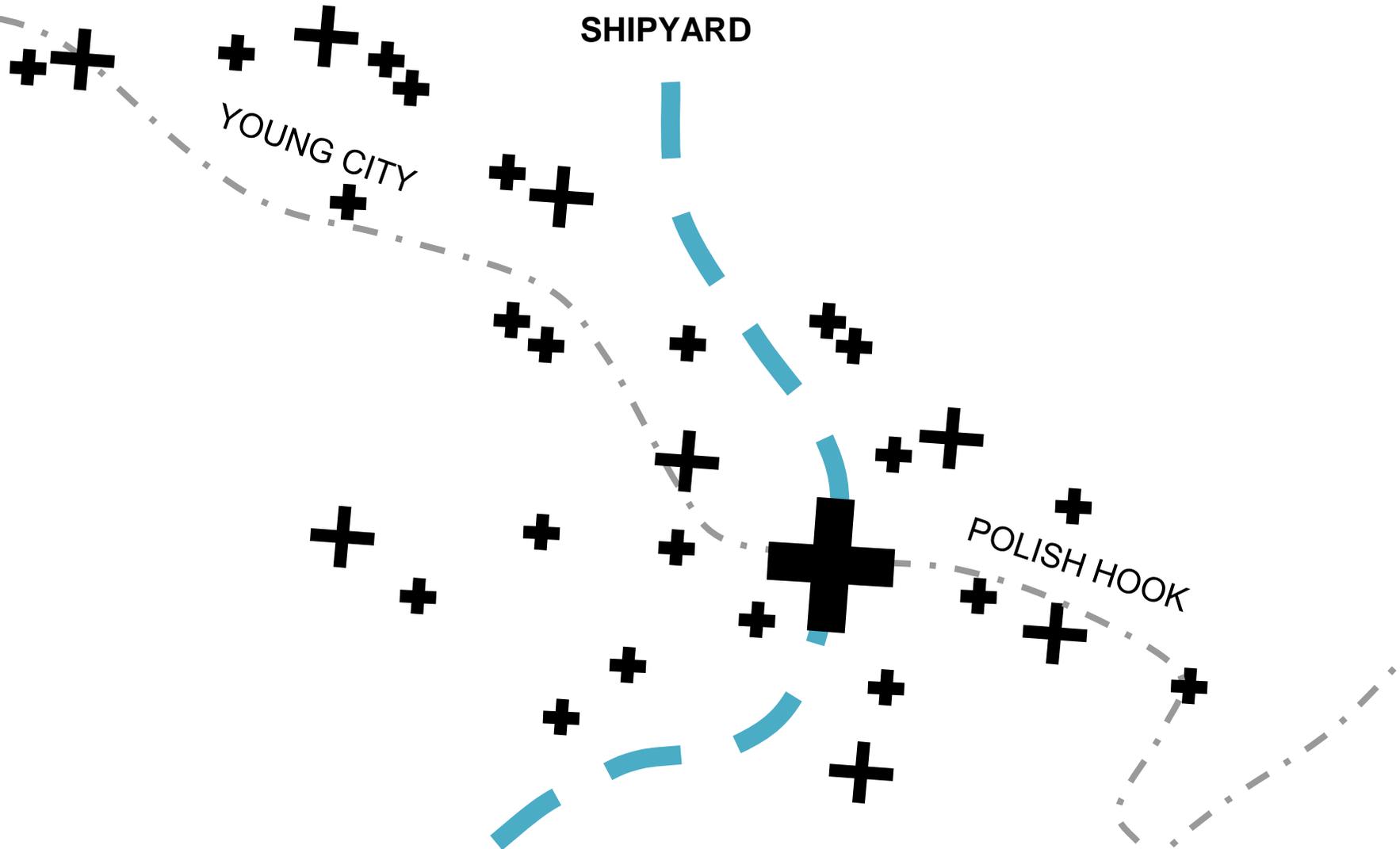
POLISH HOOK



MOTLAWA

GDANSK





SHIPYARD

YOUNG CITY

POLISH HOOK

GDANSK





ISOCARP

YOUNG CITY

SHIPYARD

GDANSK

POLISH HOOK

### WePLUS:

- development booster
- positive changes activator
- resilient community
- solidarity with nature
- productive cityscapes
- healthy generations
- active lifestyle
- connected neighborhood
- circular economy





# WATERFRONT EXPANSION

## Benefits:

- city expansion
- intensive water activities
- integrative actions
- water retention
- water filtration
- new water mobility system
- promoting diverse water sports
- engaging the public spaces

# HEAD TOWARDS MOTLAWA





# LIVE BY MOTLAWA



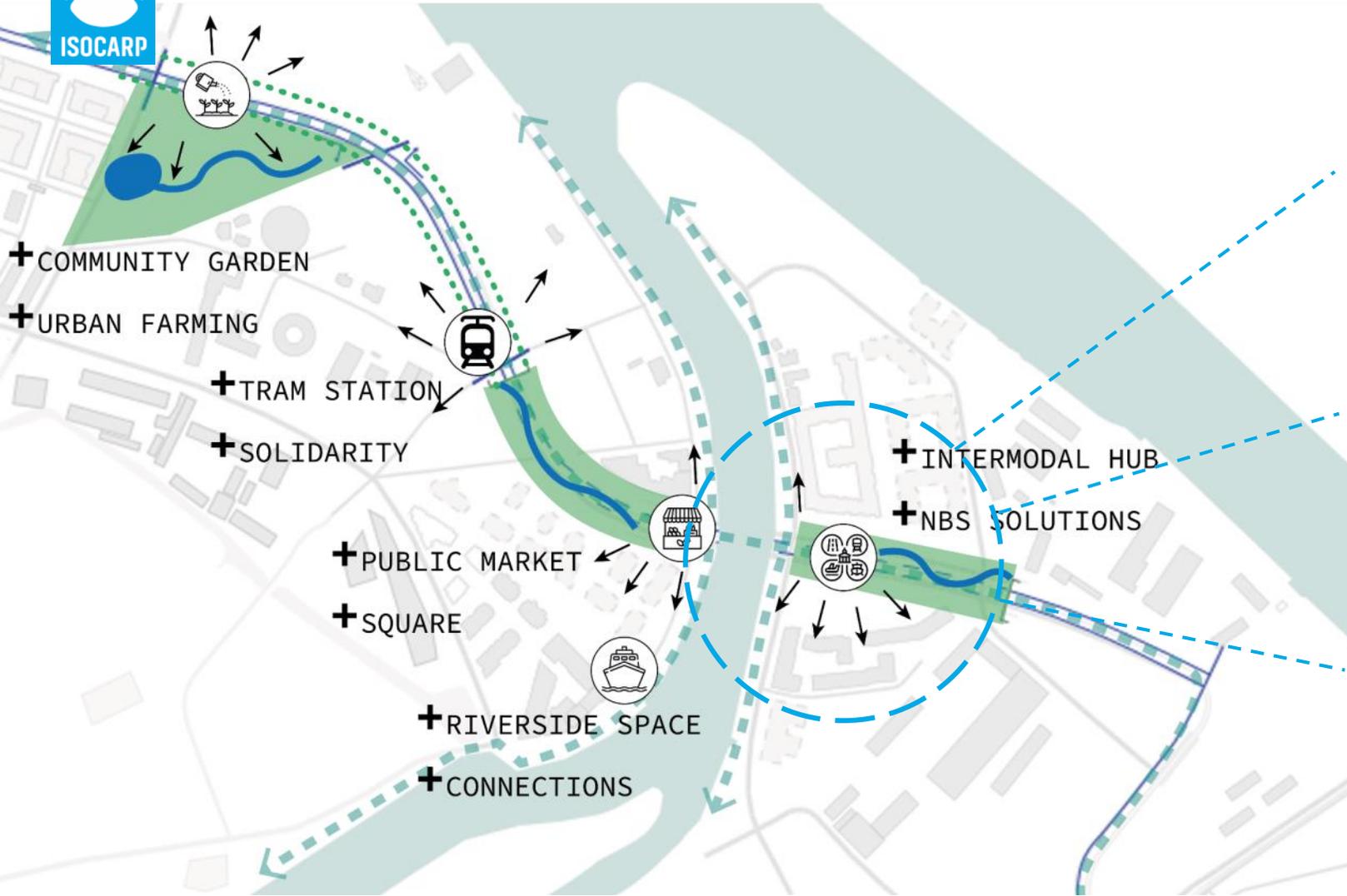
# INTERACT WITH MOTLAWA



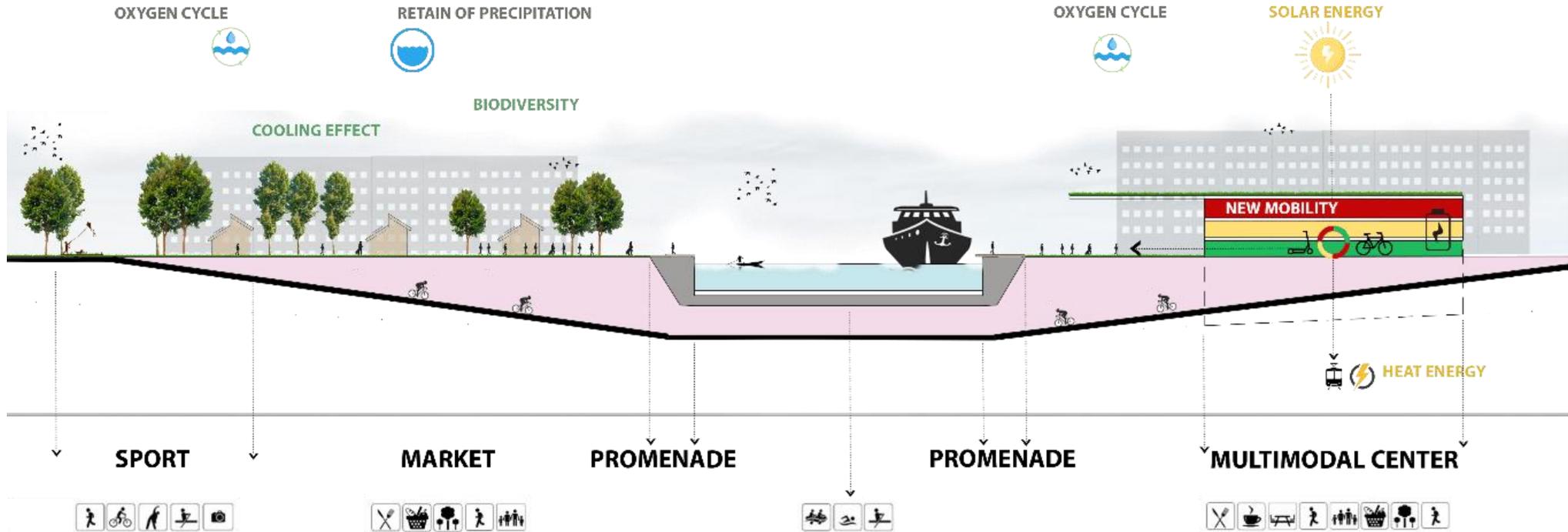


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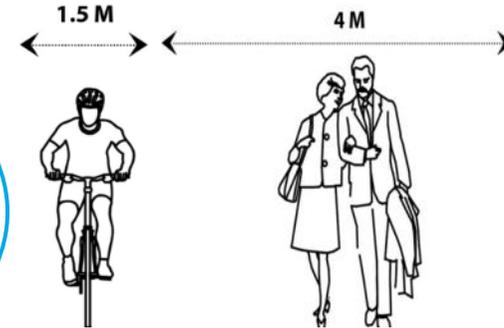
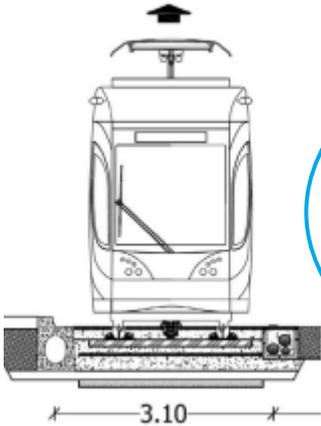
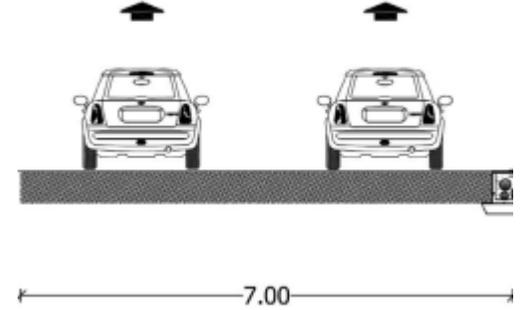
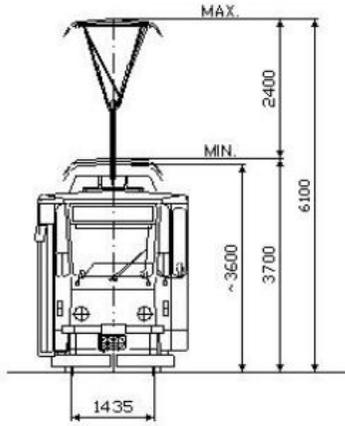
# PROJECT PROGRAMM



# CROSS MOTLAWA



# NOWA WALOWA STREET VARIANTS



# MOTLAWA RIVER UNDERPASS



Slowacki Tunnel, Poland

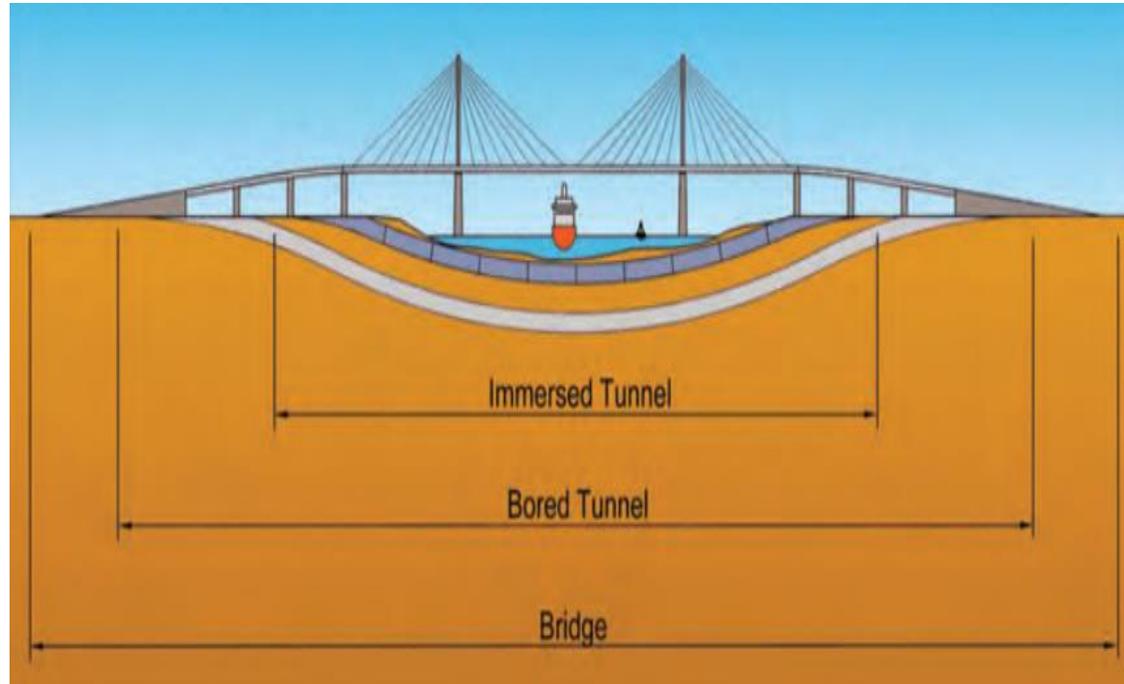


Tunnel Świnoujście, Poland



Slowacki Tunnel, Poland

Reference: [5],[6],[7],[8],[9],[10],[11]



The Scheldt Tunnel, Belgium



N31 Harlingen, Holland



The Veluwemeer, Holland

# COMPARISON OF POSSIBLE METHODS

## BORED TUNNEL



**Longer Tunnel Length**



**More Excavation Material**



**Smaller Cross Section**



**High Initial Costs**



**Uninterrupted river traffic**

## IMMERSED TUNNEL (AQUEDUCT)



**Shorter Tunnel Length**



**Less Excavation Material**



**Bigger Cross Section**

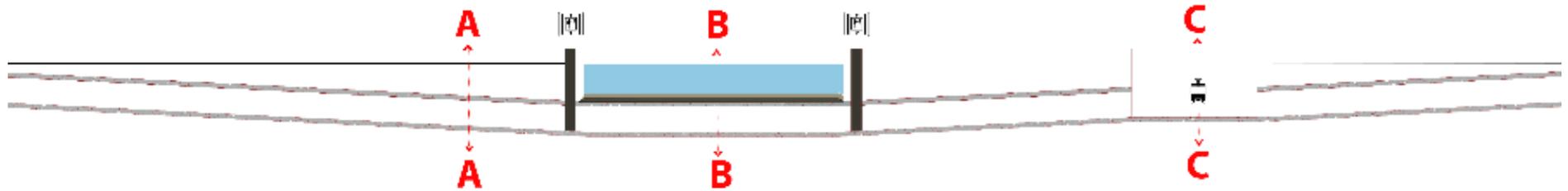


**Relativ Lower Initial Costs**



**Interrupted river traffic (24 Hours)**

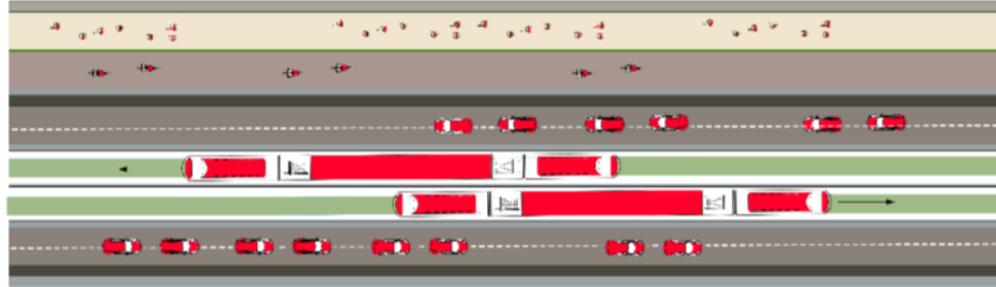
# RIVER UNDERPASS ALIGNMENT



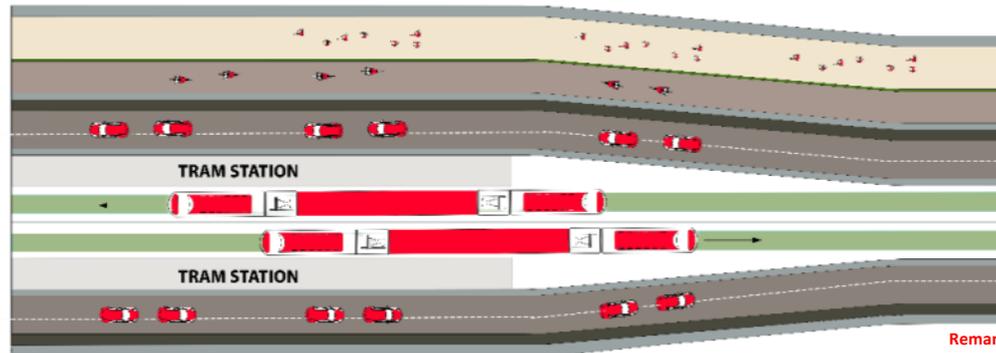
**Remark:** This is a temporary superficial sketch  
The model must be updated according to current regulations

# TRAFFIC IN INLET AND OUTLET PORTAL

DETAIL A-A



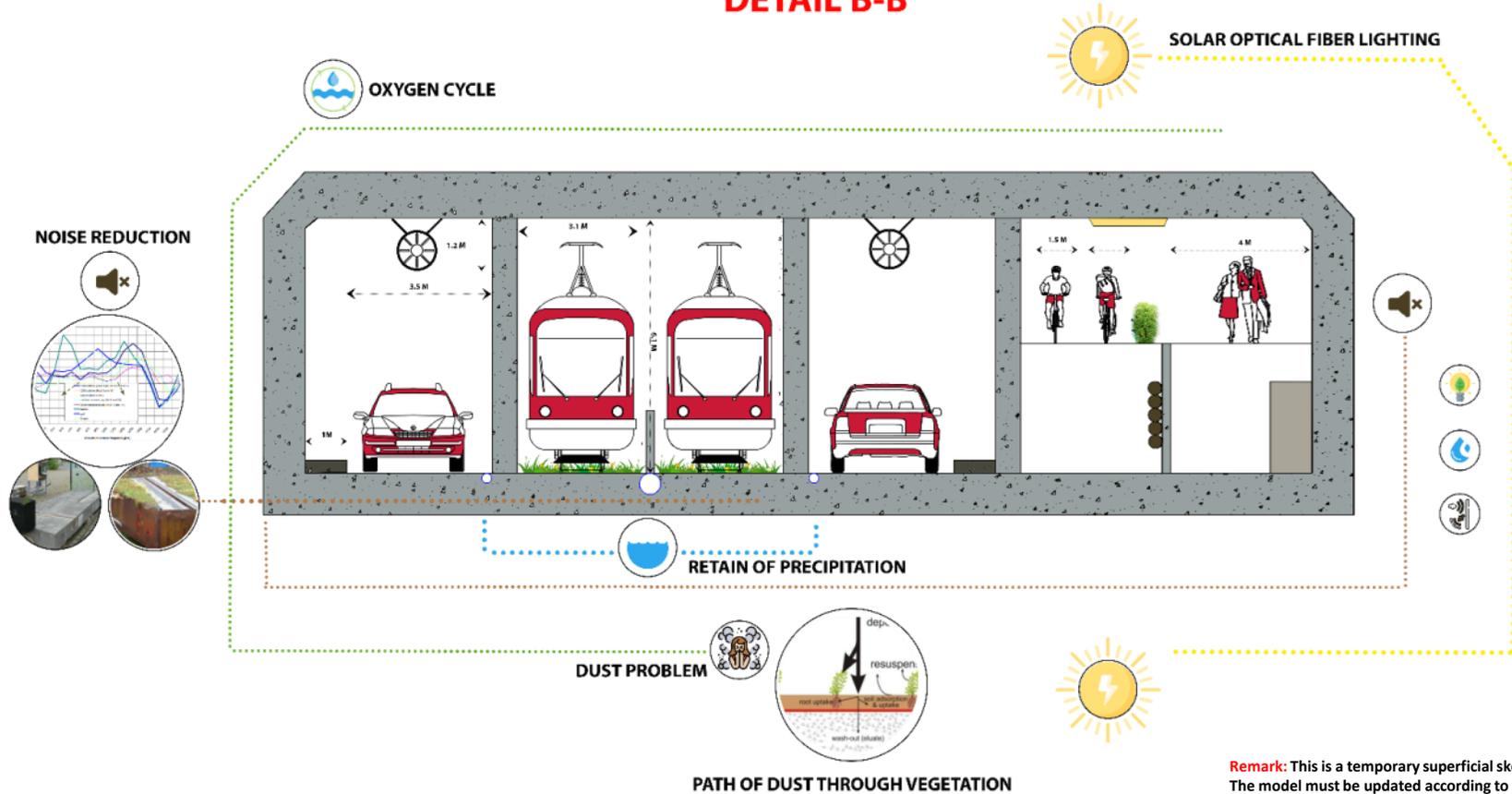
DETAIL C-C



Remark: This is a temporary superficial sketch  
The model must be updated according to current regulations

# ENVIRONMENTAL FRIENDLY CONCEPT

## DETAIL B-B



**Remark:** This is a temporary superficial sketch  
The model must be updated according to current regulations



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# UNDERGROUND SPACE

## Conditions:

- Motorized transport tunnel
- Tram tunnel
- Private parking - residential
- Service connections
- Technical room
- Storage

MOTLAWA

MOTLAWA

NOWA WALOWA

P

P

P

P

T

P

P





# NEW DEAL

## Private/Public Partnership Agreement:

- streets categorization
- buffer zones regulations
- economic cooperations
- multi-codification
- benefits for the private sector
- revenue generation
- subsidies



# NEW URBAN

+ urban farming



NOWA WALOWA



+ community gardens

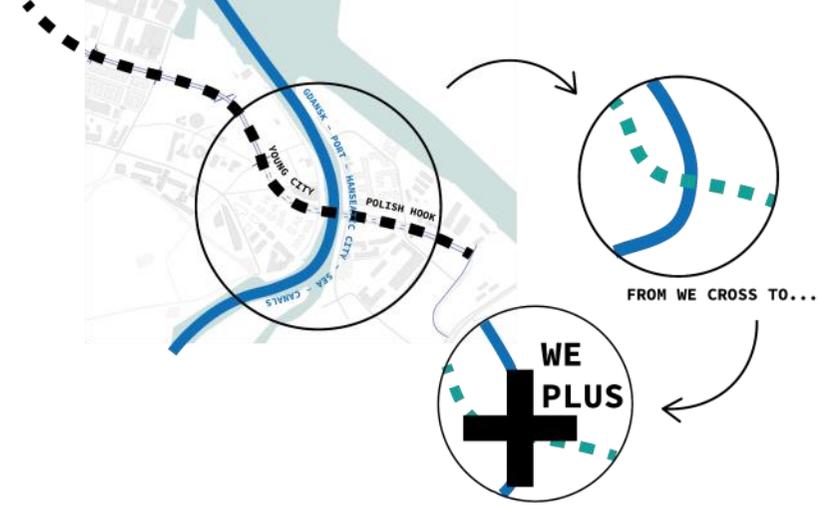
+ market square

+ intermodal center

+ event arena

+ new mobility







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## BeGdańsk Uncover to rediscover

Ahmed Adham, Alice Borsari, Ringo  
Rocha Reboucas, Konstantinos  
Karantzoulis, Kristina Golubenko,  
Agnieszka Melerska

## HOW TO ENSURE A LIVEABLE, DYNAMIC URBAN SPACE?





## IMMERSE YOURSELF IN THE EXPERIENCE OF

A living mobility tunnel  
under the Motława





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## STRATEGY AND DESIGN APPROACHES

How are we going to achieve it?



01 **SUPPORT**

Gdańsk natural ecosystems

First Phase  
**2030**

Increase greenery inside the area respecting the local biodiversity and inviting people to interact with water



02 **REGENERATE**

Locals' urban flows

Second Phase  
**2030-2035**

Promoting mobility network between the Young City and the Polish Hook through a liveable tunnel



03 **RESTORE**

Cultural significance

Third Phase  
**2050**

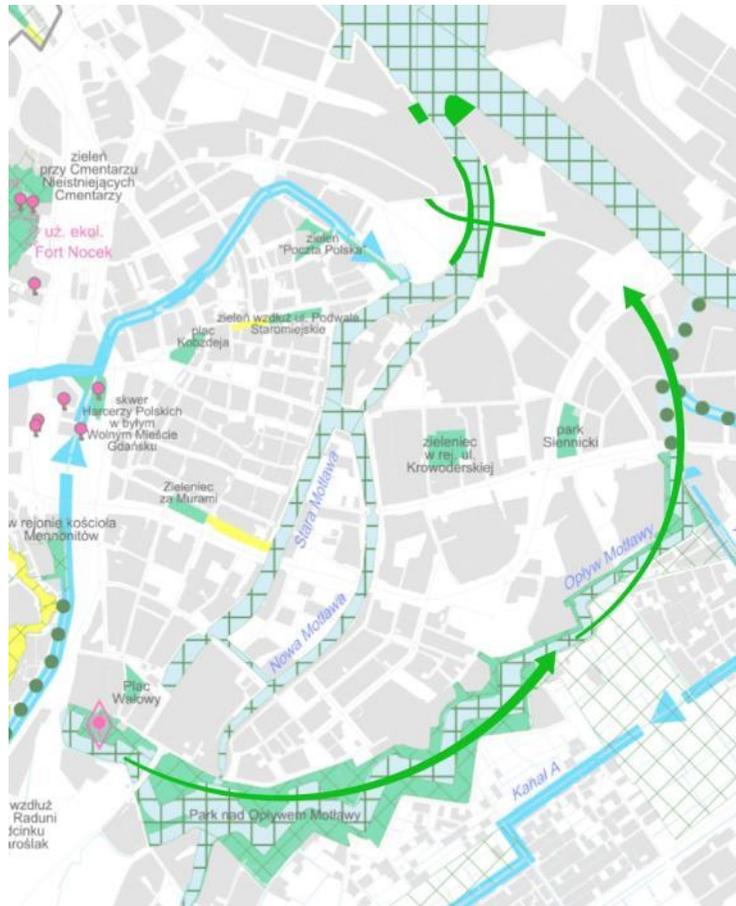
Strengthen the sense of identity with Gdańsk through tangible and intangible heritage of the area

# Development

How can we connect heritage, public spaces and infrastructure?



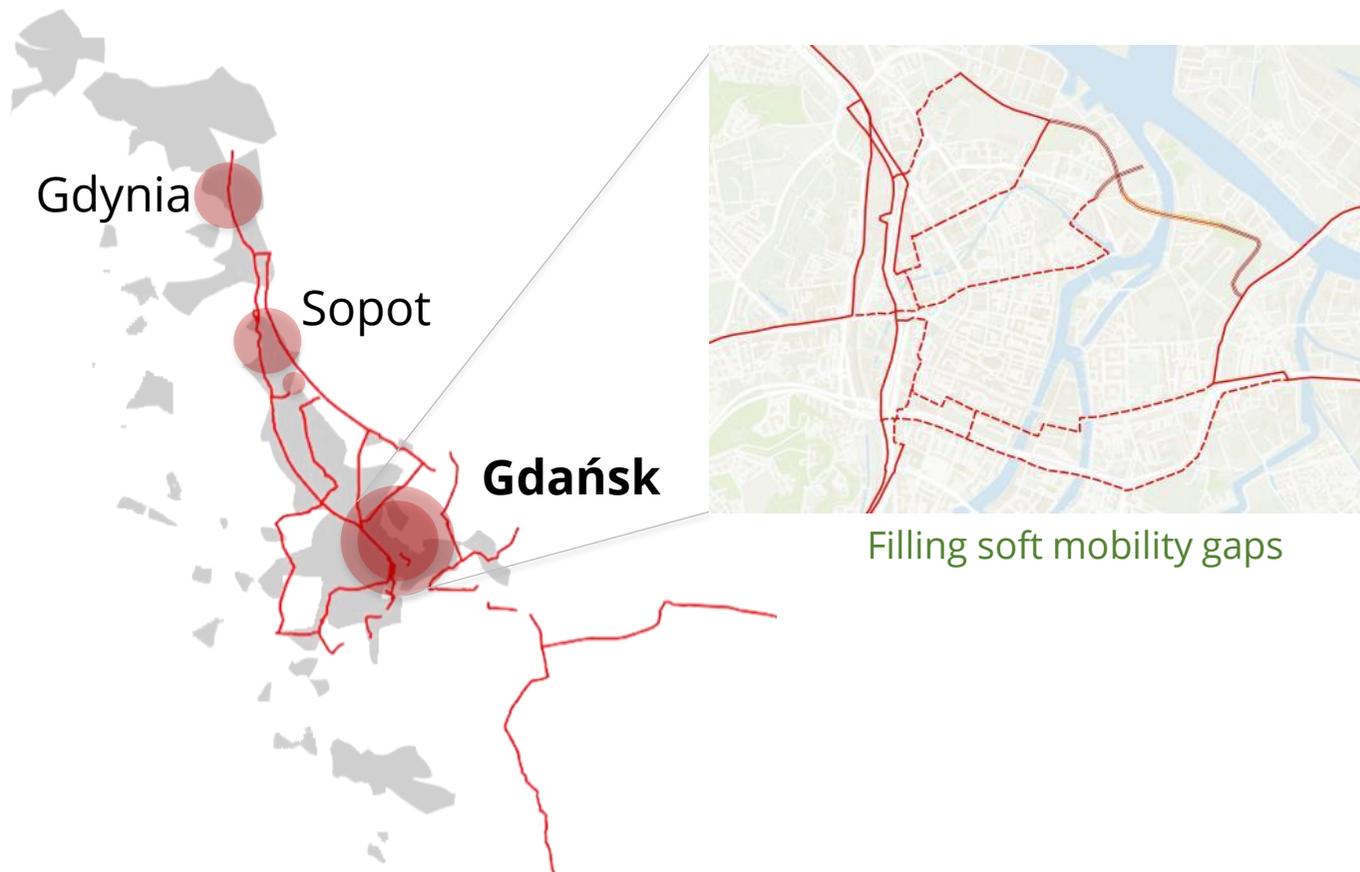
Gdańsk in the 18th century



2018 study for spatial conditions in Gdańsk

# Macromobility

## Tricity cycling network



Filling soft mobility gaps

# Schematic overview

## How can we rediscover?



02 **REGENERATE**  
Locals' urban flows

03 **RESTORE**  
Cultural significance



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YOUNG CITY

### Art walls

#### Inspiration:

Remainings of the wall of a shipyard and historical buildings with street art.



### Meeting point

#### Inspirations:

- Art space "Mleczny Piotr", former cafe and an inn from the 17th century.  
- 19th century garden, used by sailor and passengers - the first in Gdańsk.



### Water walkway

#### Attraction:

- Aquatic plants and flowers.  
- Point of interaction with the water environment.



### Waterfront

POPIELUSZKI/NOWA WALOWA

#### Inspirations:

- 17th century wooden blockhouse, used for traffic control.  
- 19th century public garden and a promenade on the place of a demolished blockhaus.

#### Planting strategy:

- Flower beds planted in groups, taking into account the timing of flowering.



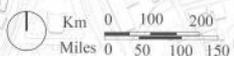
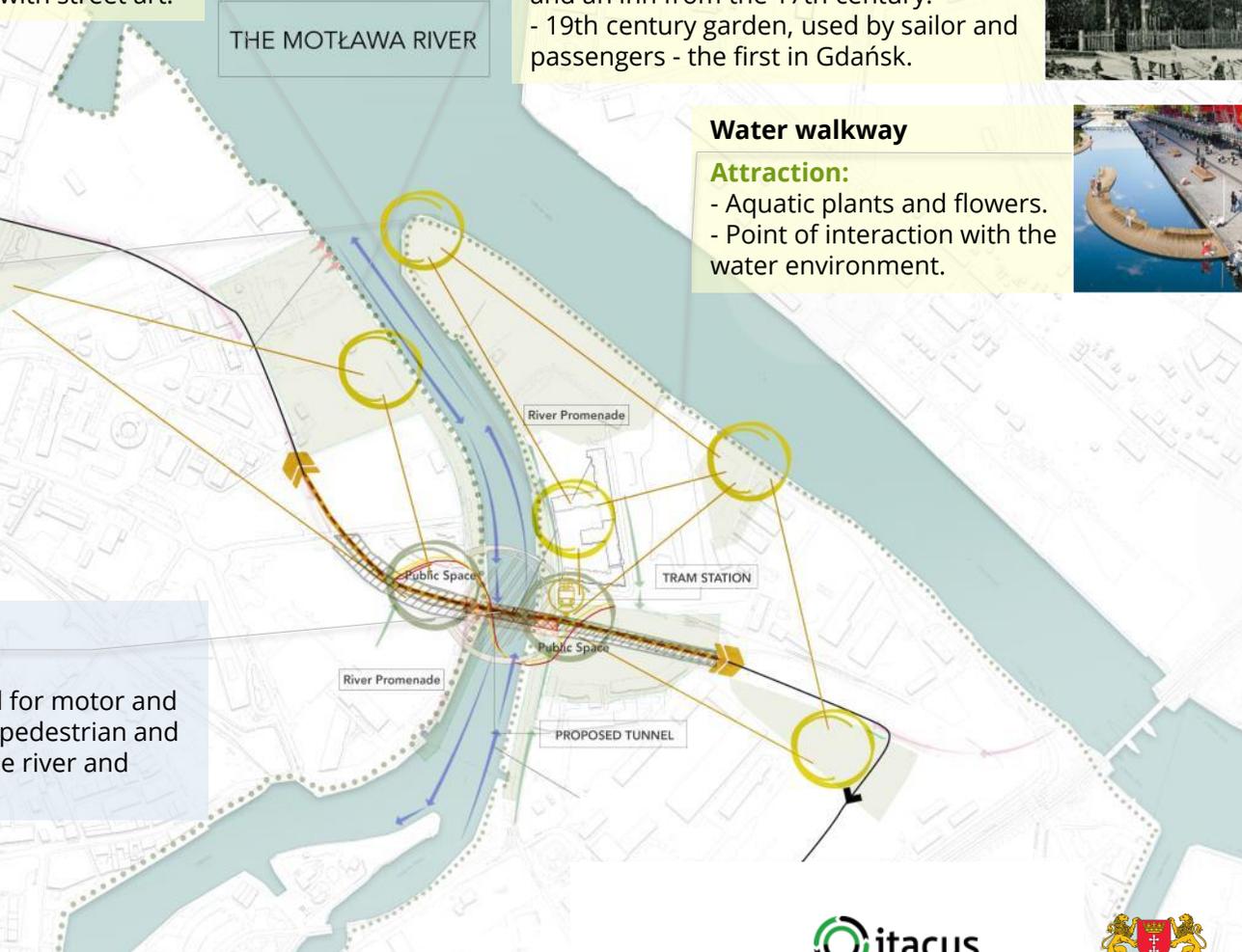
### Tunnel under the Motława River

#### Concept:

- Double-deck tunnel with enclosed lower level for motor and tram transport, and open upper level for soft (pedestrian and cyclist) mobility. The upper level goes under the river and opens at the land stretch.



THE MOTŁAWA RIVER





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# IN FAVOR OF A VIVID SANCTUARY

A Liveable dynamic tunnel under the Motława

THE MOTŁAWA RIVER

PRZEROBKA

## Relax

You can enjoy a drink and talk with your friends while sitting in a chaiselong on the natural river bank

POPIELUSZKI/NOWA WALOWA

## Touch the water

You can fish, put your feet in the water and feel the atmosphere

## Interact with nature

You can interact with the nature from the water level

## Gather and experience

You can safely cross the Motława feeling the connection with the surrounding public spaces

## Enjoy an open gallery

You and your kids can meet and touch the history of the town and artistic installations

Gdańsk Old Town

Km 0 100 200  
Miles 0 50 100 150

MASTER PLAN – CONNECTING THE YOUNG CITY AND THE POLISH HOOK AREAS IN GDAŃSK"

itacus  
for an urban underground future





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ENTERTAINMENT ATTRACTOR

RECREATIONAL ATTRACTOR

ART ATTRACTOR

CULTURAL ATTRACTOR

PRODUCTIVE-COMMUNITY

SOCIAL ATTRACTOR

Crossing bridge

BE-GDAŃSK

# IN FAVOR OF A VIVID SANCTUARY

A Liveable dynamic tunnel under the Motława

Vertical Circulation

 **itacus**  
for an urban underground future





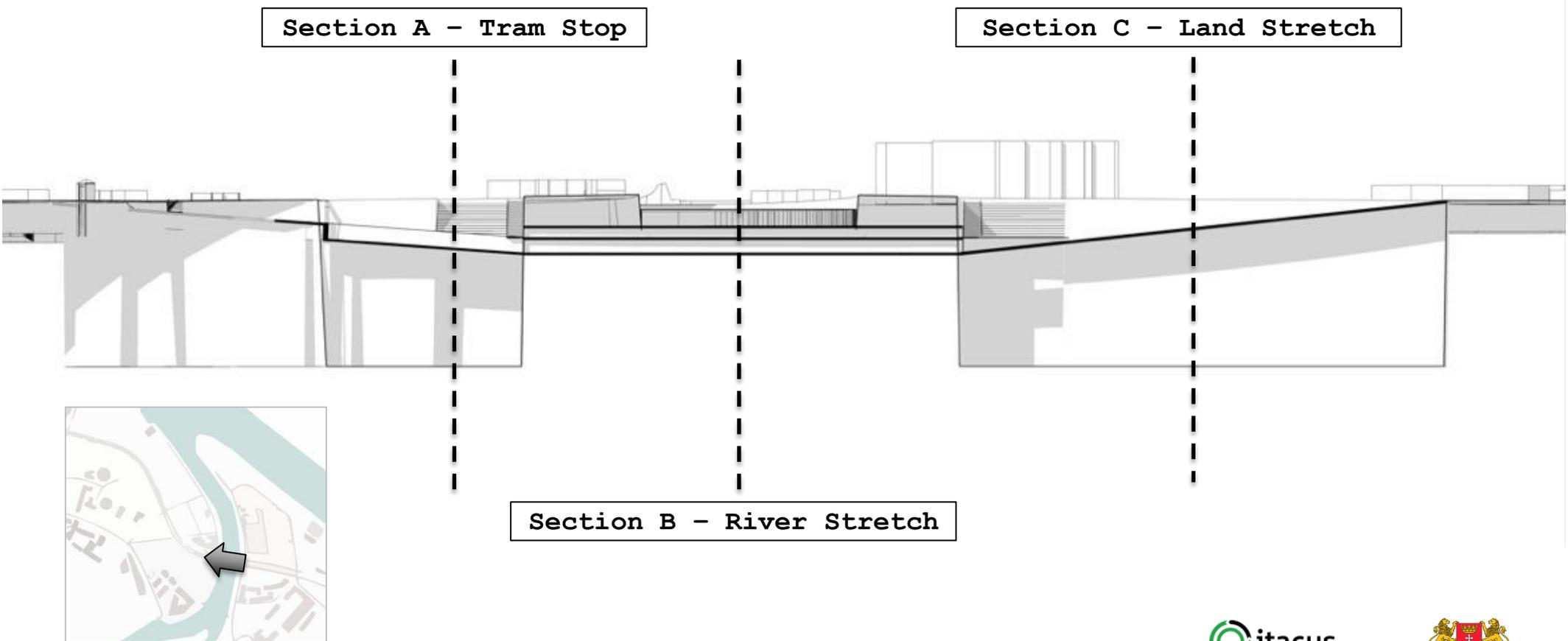
# Inside the tunnel

## Enjoying the urban space



# Inside the tunnel

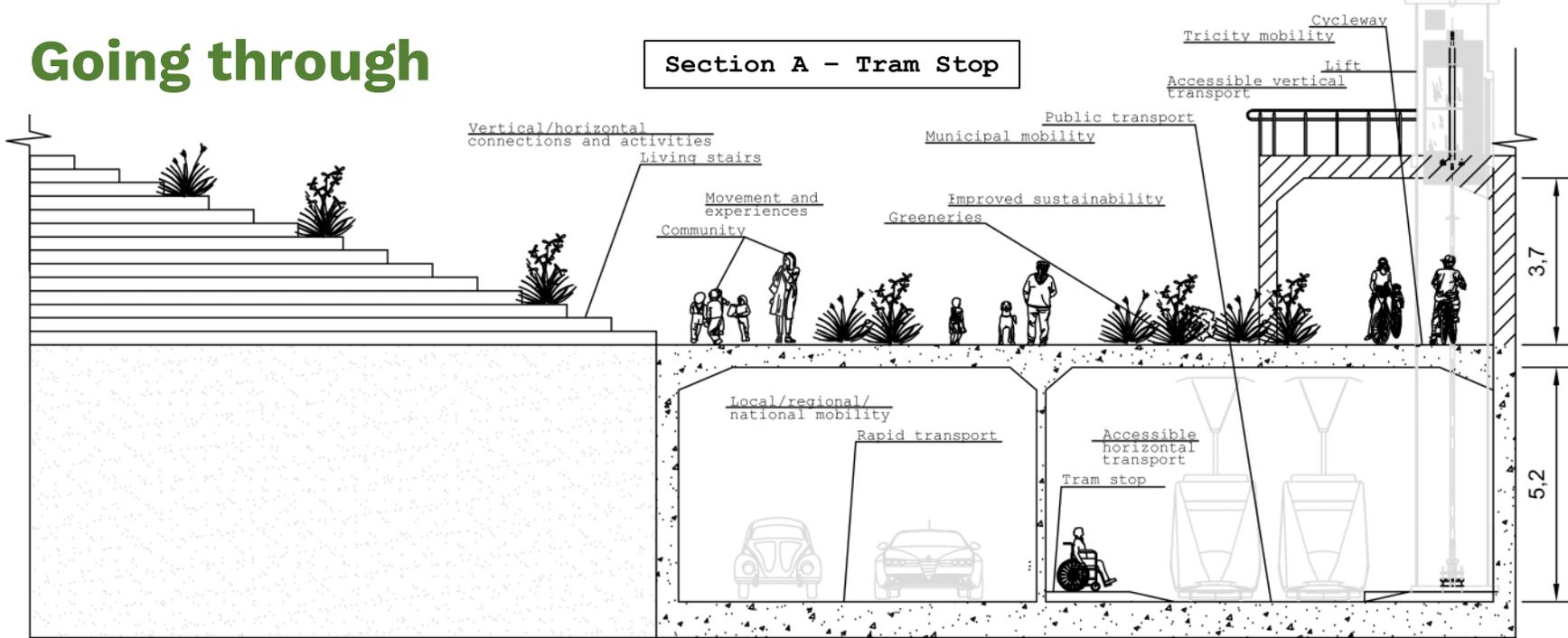
## Going through the details



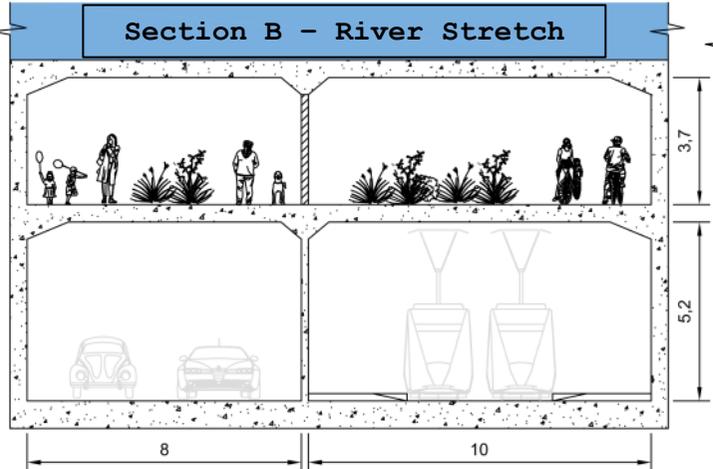


# Going through

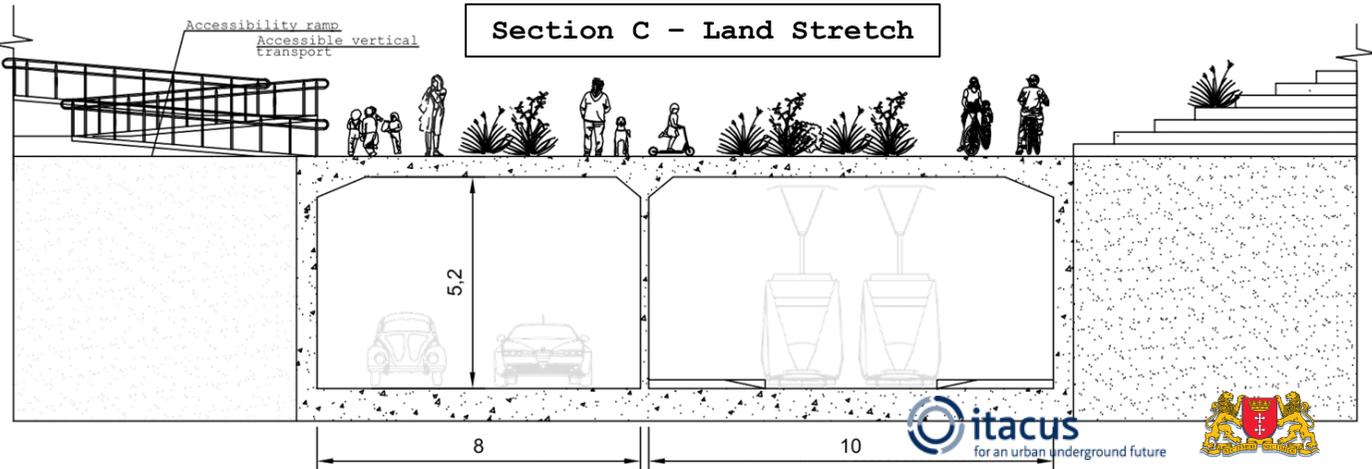
## Section A - Tram Stop



## Section B - River Stretch



## Section C - Land Stretch



# Conclusion

## Key messages



Integration of the tunnel into a united public space



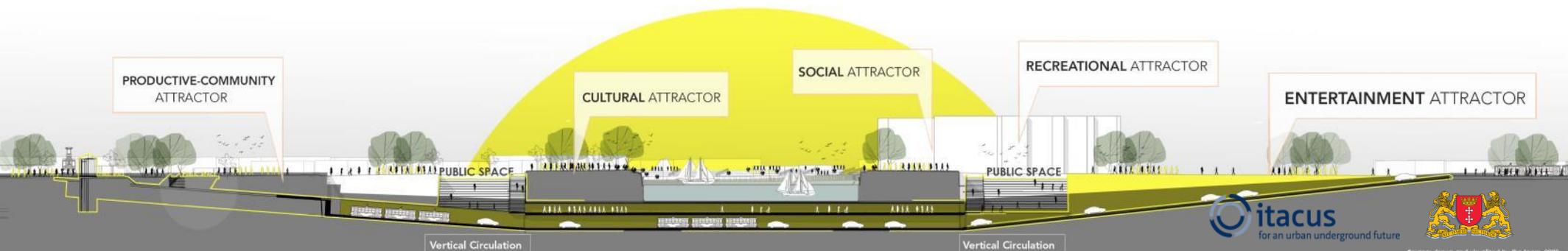
An open tunnel concept creates an inclusive and attractive spot for the citizens



Incorporation of natural and historical aspects



Rediscovery of a forgotten territory in the city, bringing it back to people's minds





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ENTERTAINMENT ATTRACTOR

RECREATIONAL ATTRACTOR

ART ATTRACTOR

CULTURAL ATTRACTOR

PRODUCTIVE-COMMUNITY

SOCIAL ATTRACTOR

Crossing bridge

BE-GDAŃSK

Thank you!

**IN FAVOR OF A VIVID SANCTUARY**

A Liveable dynamic tunnel under the Motława

Vertical Circulation



# Our Approach



**Problem oriented**



**Collaborative**



**Output oriented**



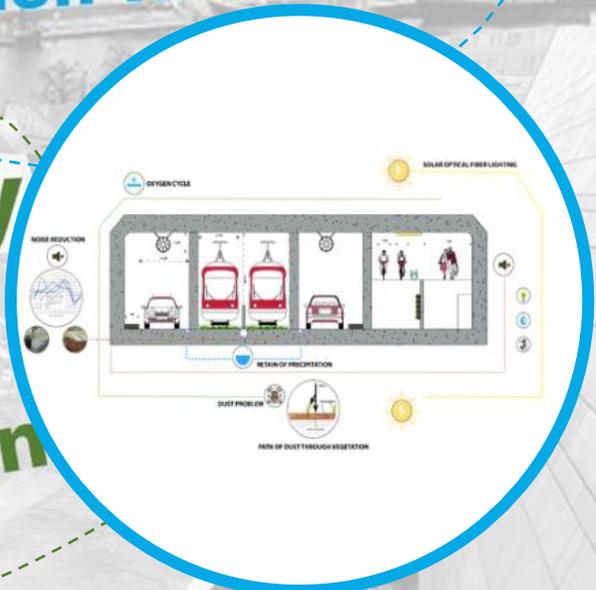
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Connection with Water

Community  
Mobility

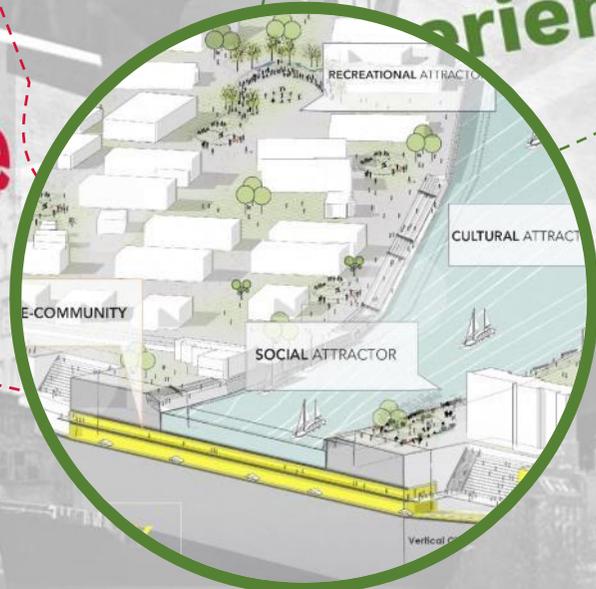
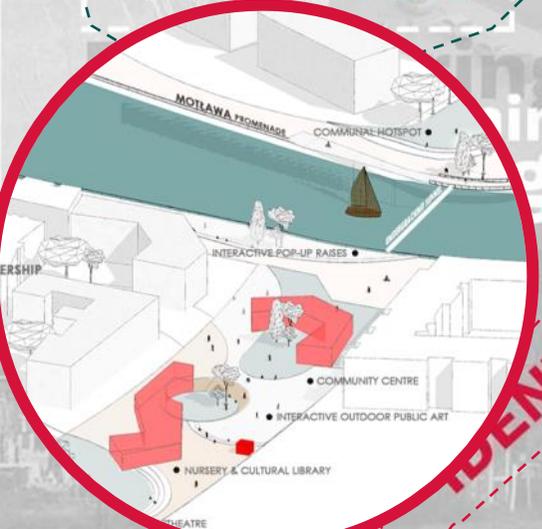
Circular



Revival

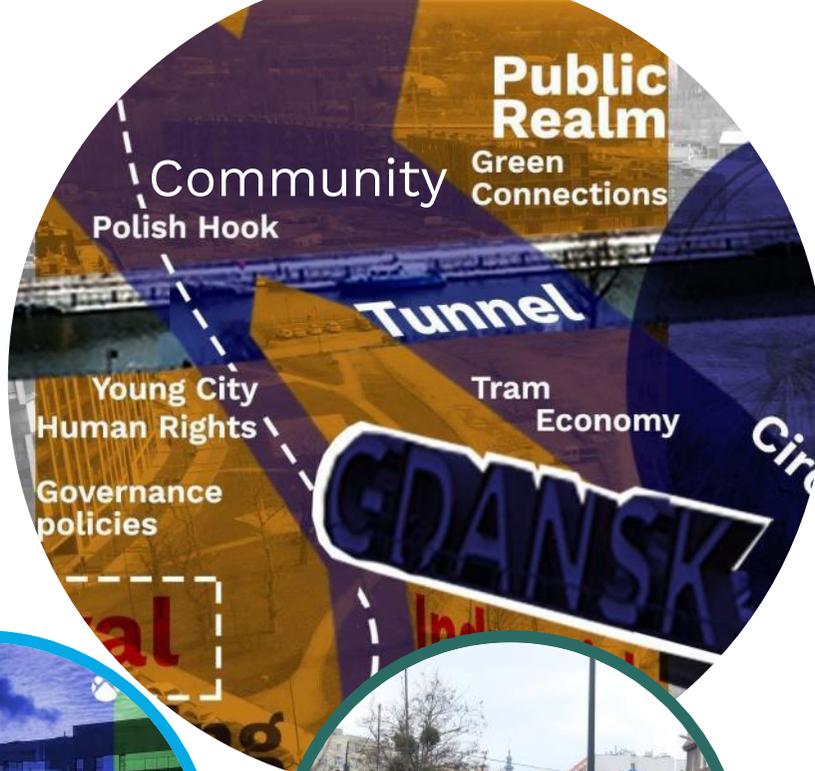
Industrial  
Heritage

Urban



IDENTITY



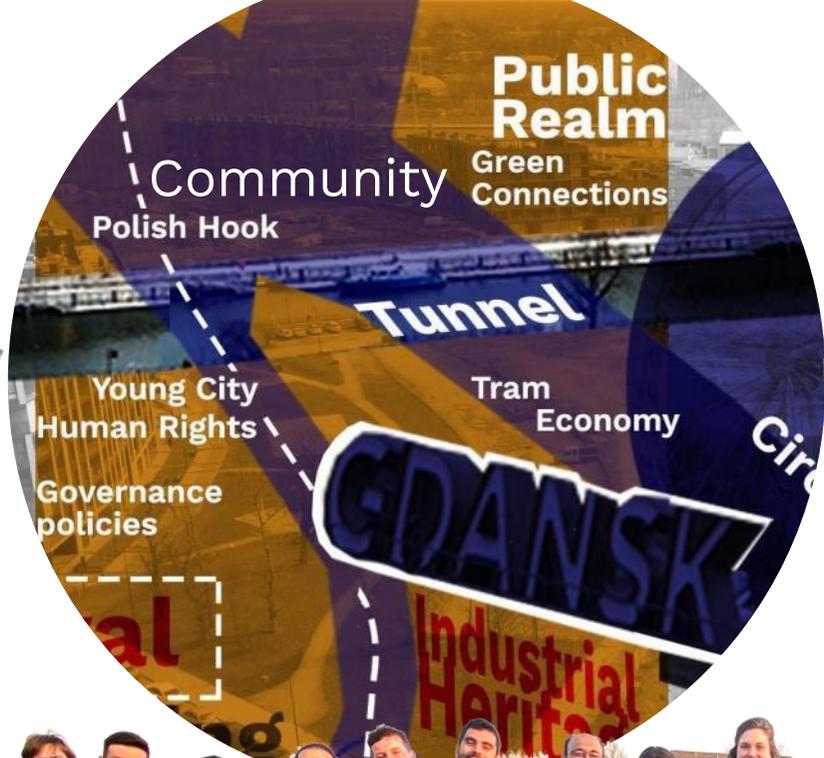


# Bridging the Gap





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Thank you,  
Dziękuję za uwagę

