Foster + Partners

How can Infrastructure define Urban Identity
03 02 26

Angus Campbell

37 Years in Rail Infrastructure

1990

King's Cross Masterplan
London, England
1987

Metro System
Bilbao, Spain
1988 - 1995

Canary Wharf
Underground Station
London, England
1991 - 1999

2000

HACTL Superterminal, Chek Lap Kok
Hong Kong
1992 - 1998

Ground Transportation Centre, Chek Lap Kok
Hong Kong
1992 - 1998

Kowloon-Canton Railway Terminal
Hong Kong
1992 - 1998

2005

St Pancras International Station
London, England
1996

North Greenwich Transport Interchange
London, England
1995 - 1998

2010

Florence High-Speed Railway Station
Italy 2003 -

Dresden Station
Dresden, Germany
1997 - 2006

Metro System
Bilbao, Spain
1997 - 2004

Expo Station
Singapore
1997 - 2001

2015

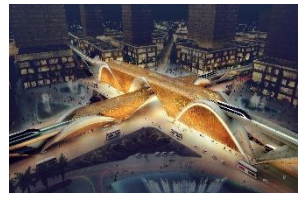
Crossrail Park and Retail, Canary Wharf
London, England 2008 - 2015

New Slussen Masterplan
Stockholm, Sweden 2009 -

Haramain High-Speed Rail
Saudi Arabia
2009 - 2019

York University Station
Canada 2009 -2018

Kai Tak Cruise Terminal
Hong Kong 2010 - 2013



Jeddah Metro
Jeddah, Saudi Arabia 2015 – 2016

2020

Stockholm Central Station
Stockholm, Sweden
2020 -

JP Morgan Headquarters
New York, USA
2018 - 2023

Centennial Yards
Atlanta, USA
2020 -

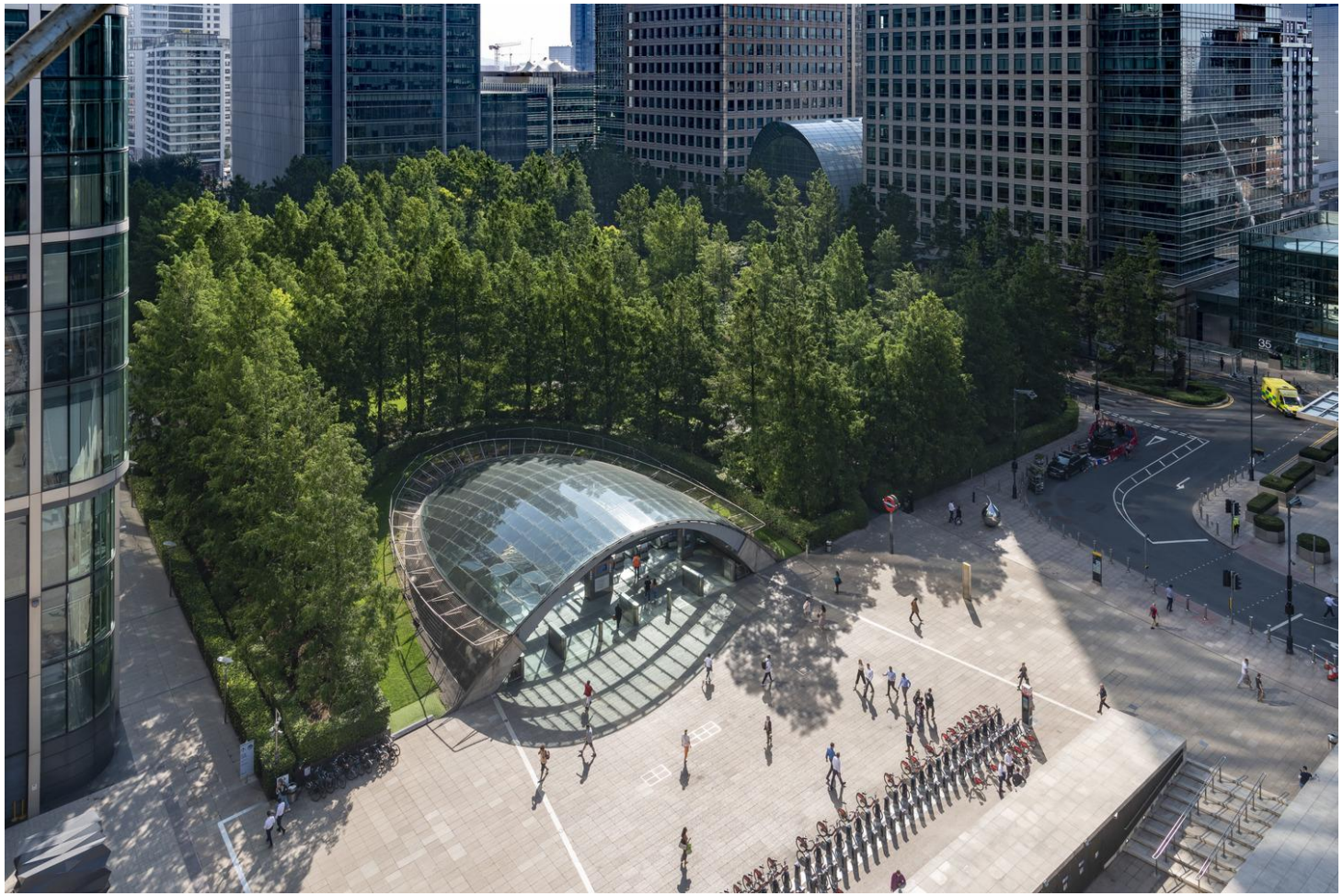
BART Silicon Valley
San Jose, USA
2019 - 2028

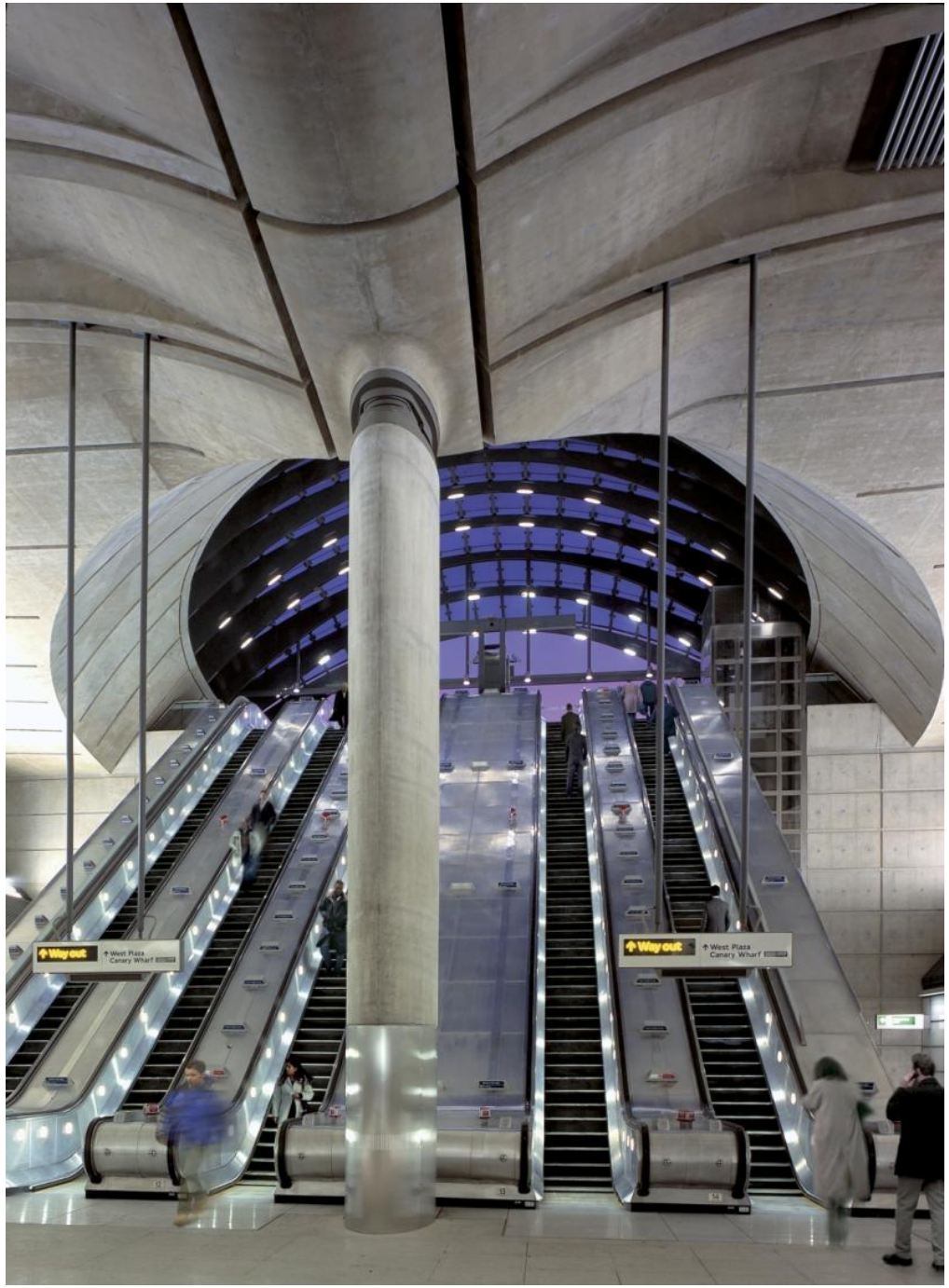
Principal Place
United Kingdom
2013 - 2019

Sydney Metro
Australia
2016 –

Canary Wharf Underground Station

London, UK 1999



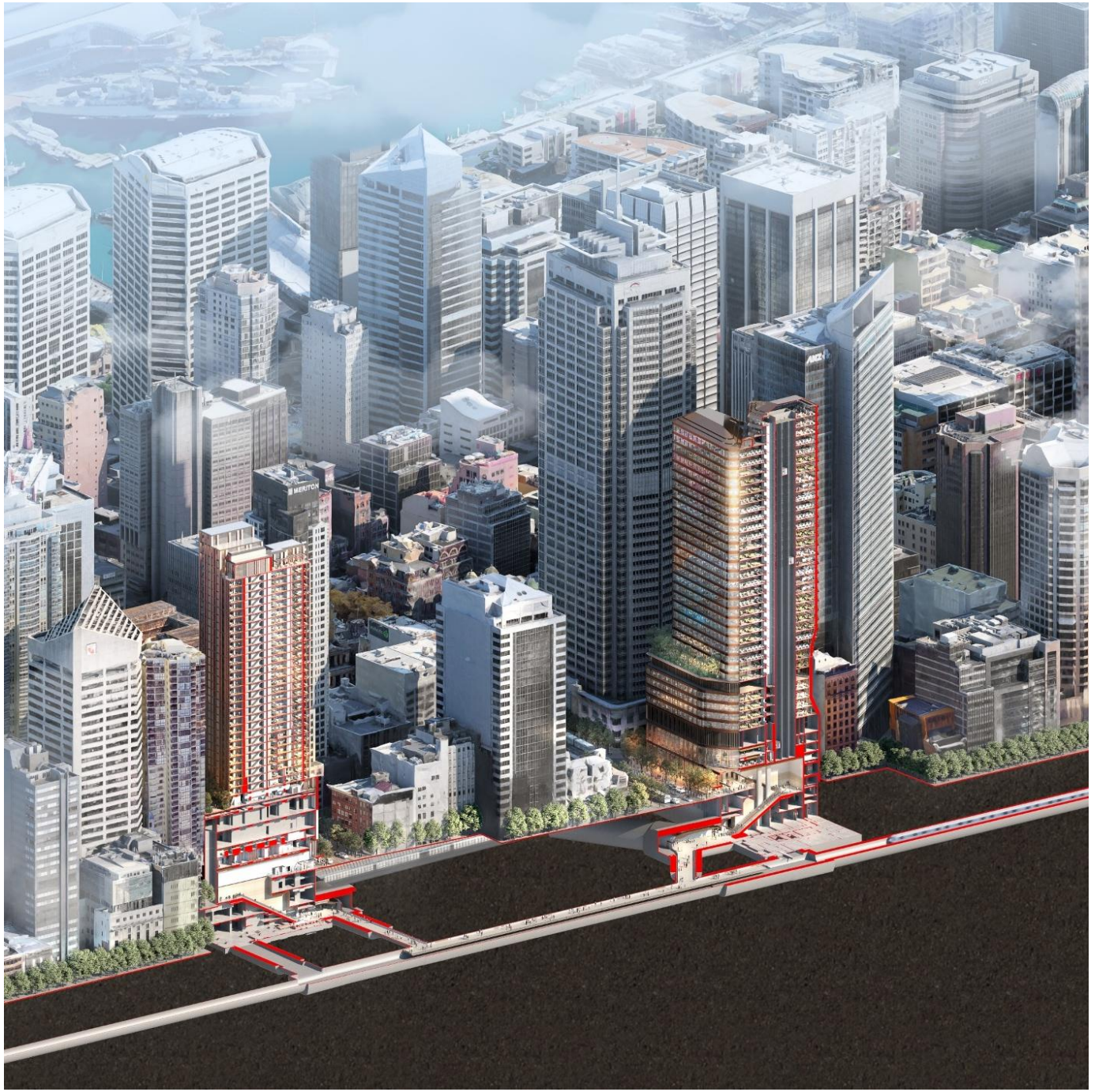


Canary Wharf Crossrail Station

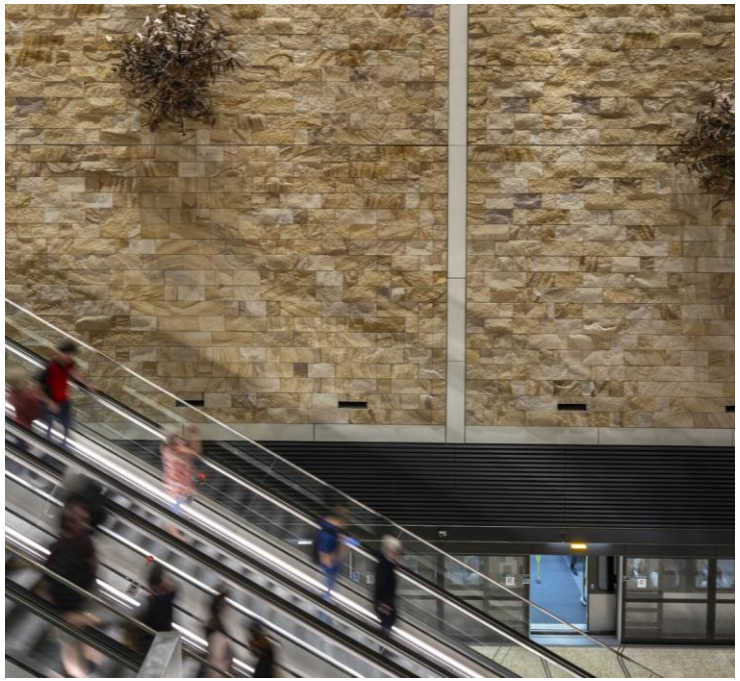
London, UK 2016

Sydney Metro & Overstation Developments

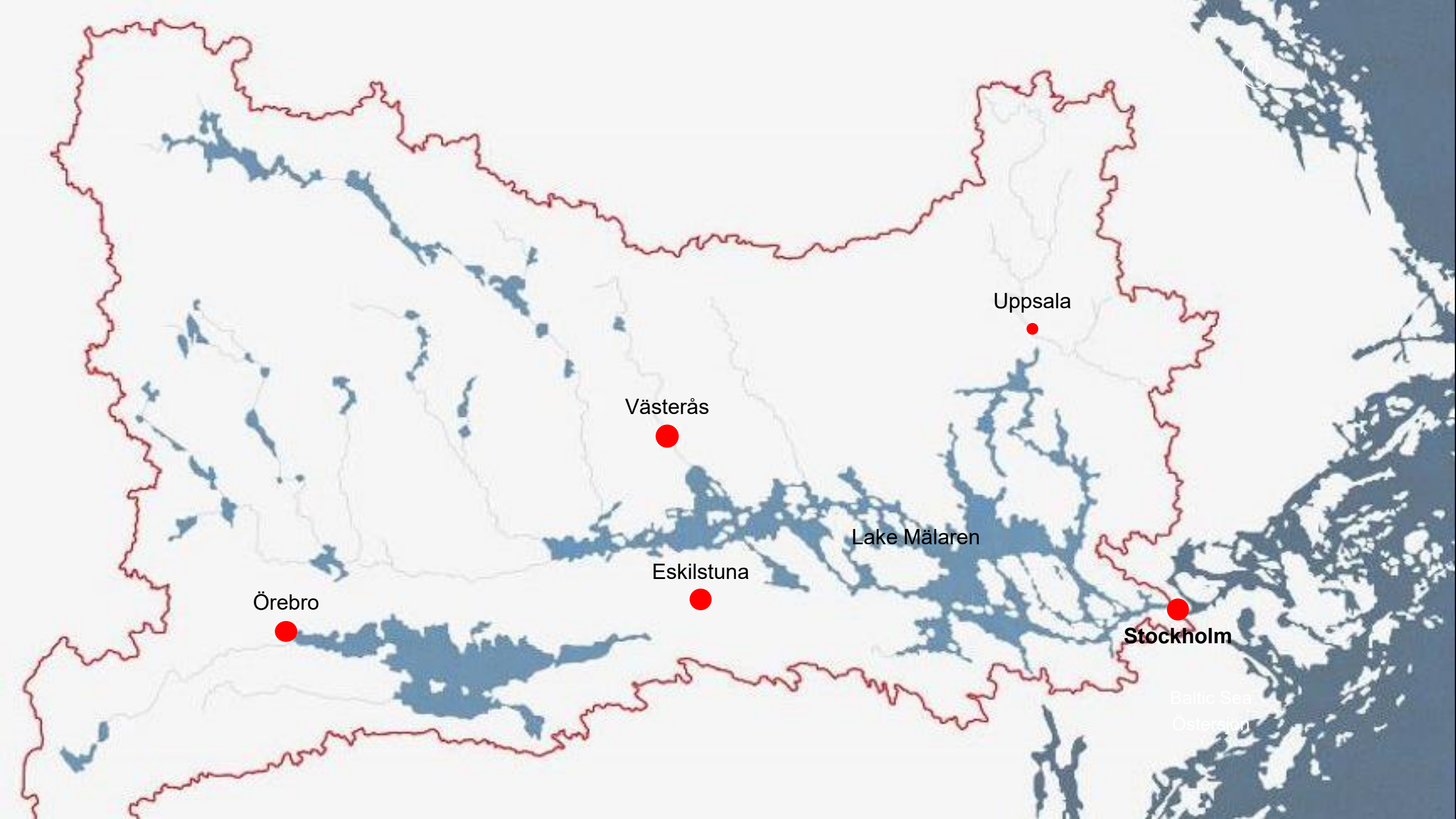
Sydney, Australia



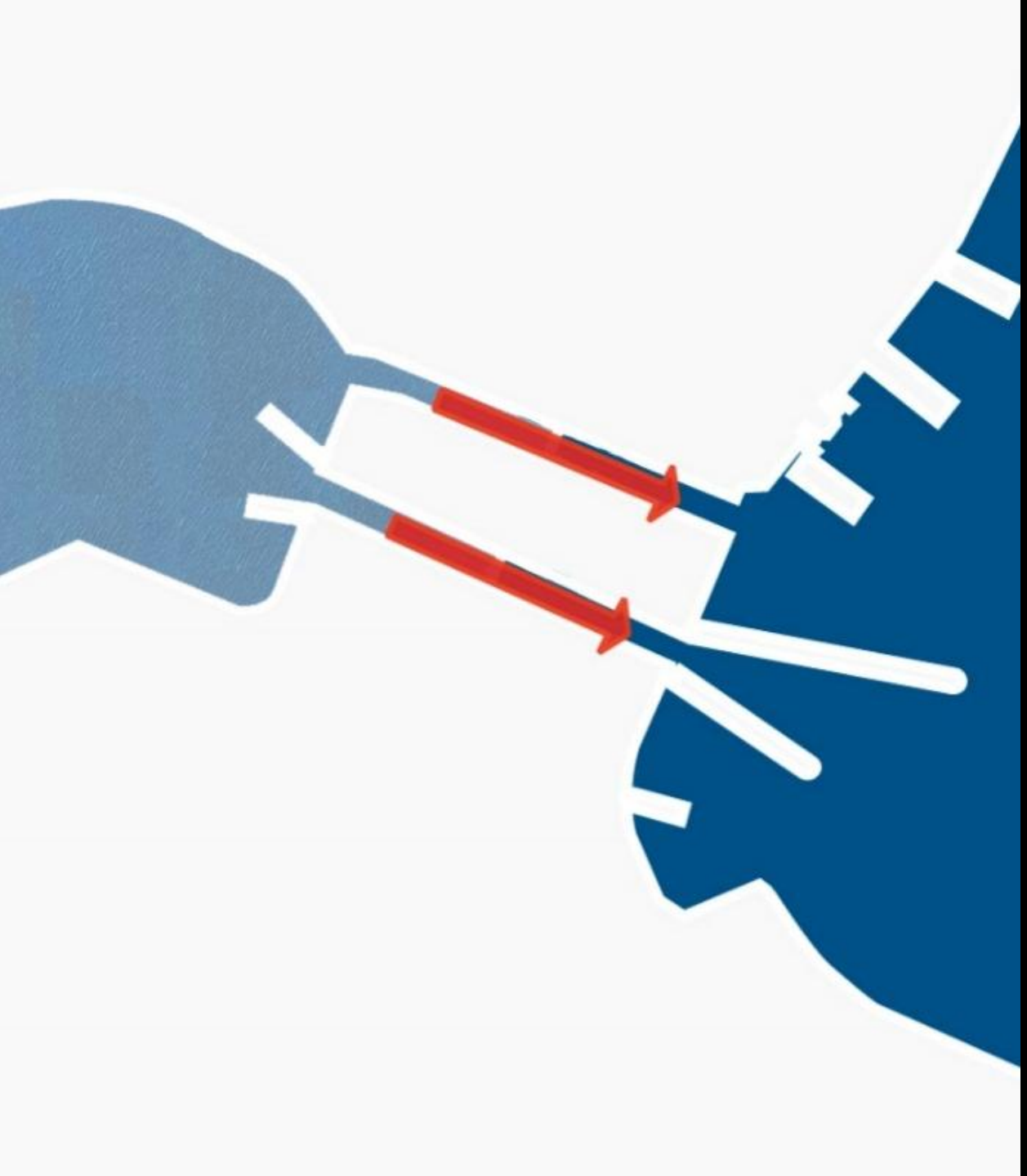
Gadigal & Barangaroo Stations
Sydney, Australia

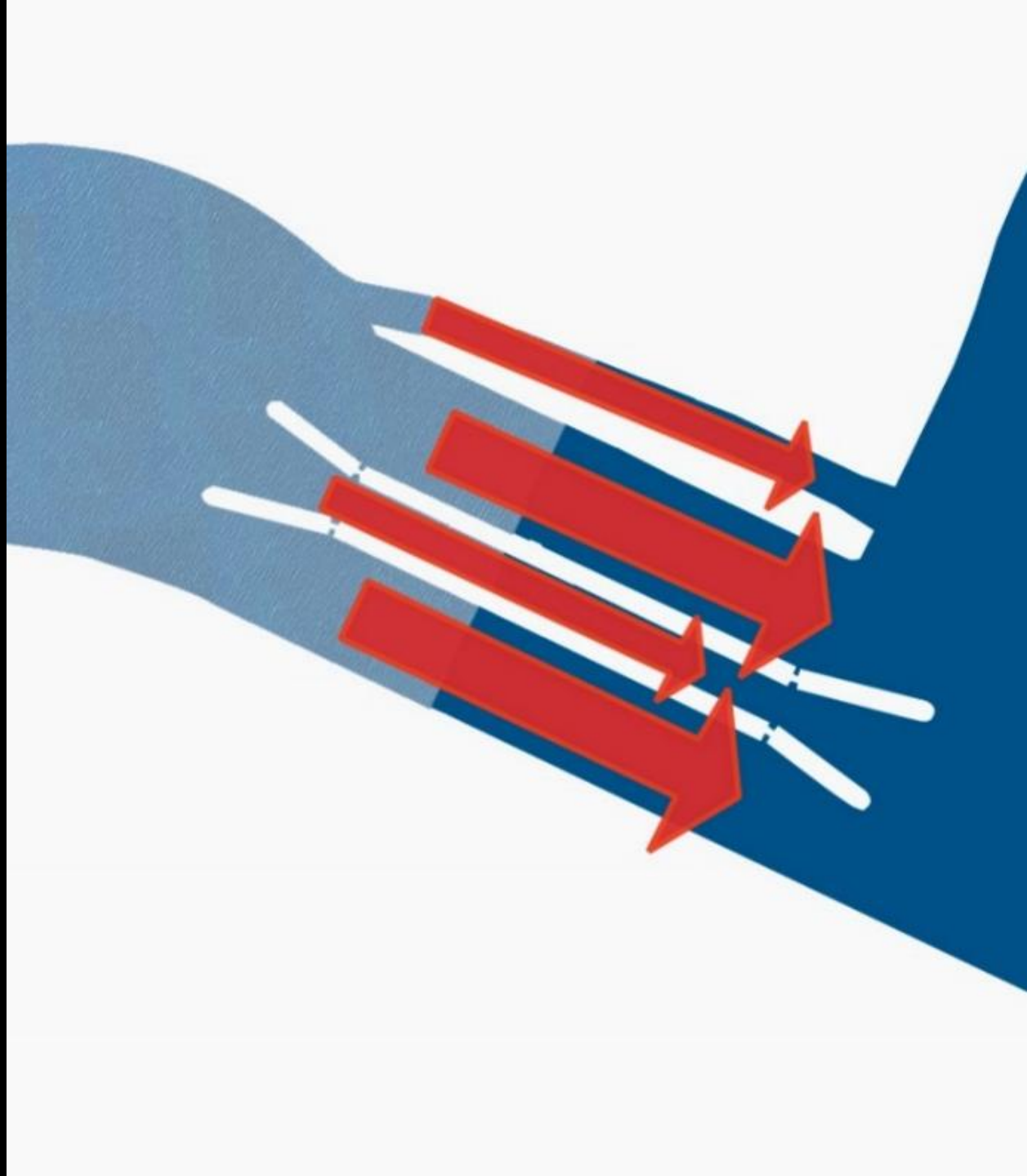


Slussen Climate Resilient Masterplan Sweden

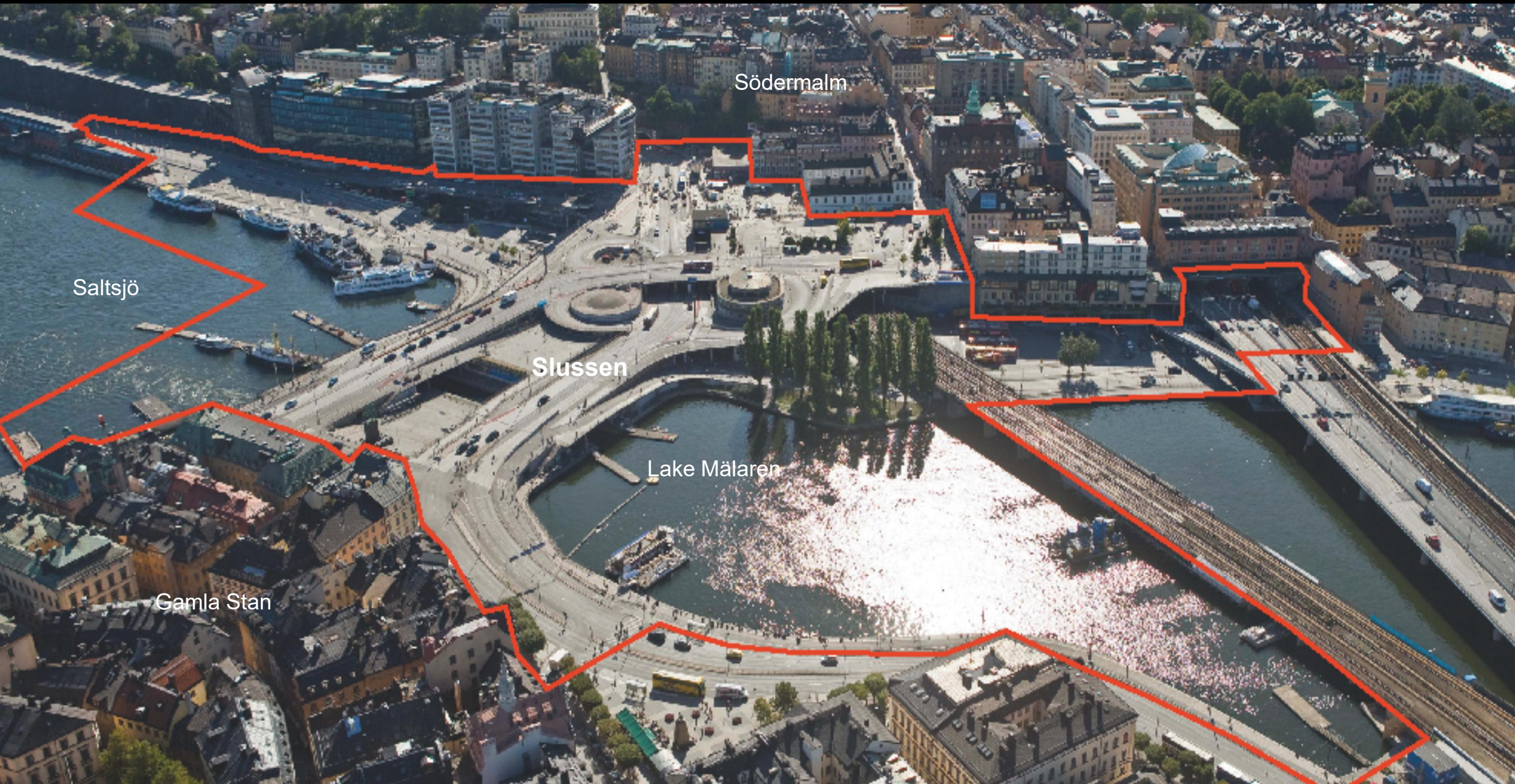

Uppsala
Västerås
Lake Mälaren
Eskilstuna
Örebro
Stockholm
Baltic Sea
Östersjön


Norrström
Slussen
Hammarbyslussen





The Site – 13.5ha of City Renewal



The Growth of Slussen – 1600 - 1750

1642

The First North-South Crossing in Stockholm

1733

The Gateway to Stockholm

The Growth of Slussen – 1800 - 1950

1885

A Busy Working Harbour

1938

The Arrival of the Motor Car

The Project Brief

Site Area = 135,000 m2

Transport = 44,000 m2

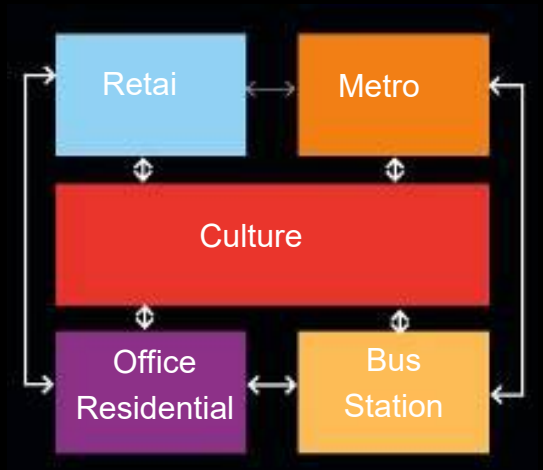
Commercial = 24,000 m2

Culture = 11,500 m2

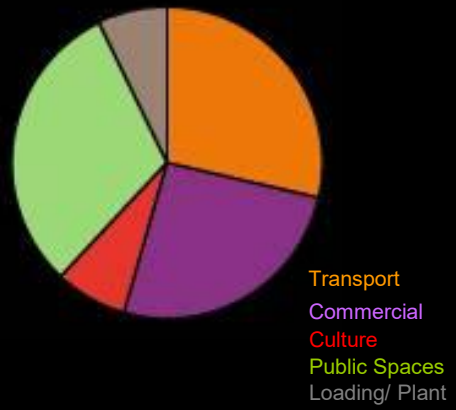
Retail = 15,500 m2

Loading= 11,000m2

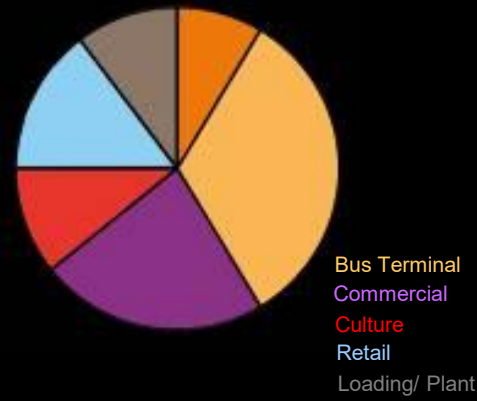
Total = 106,000 m2
Gross Area

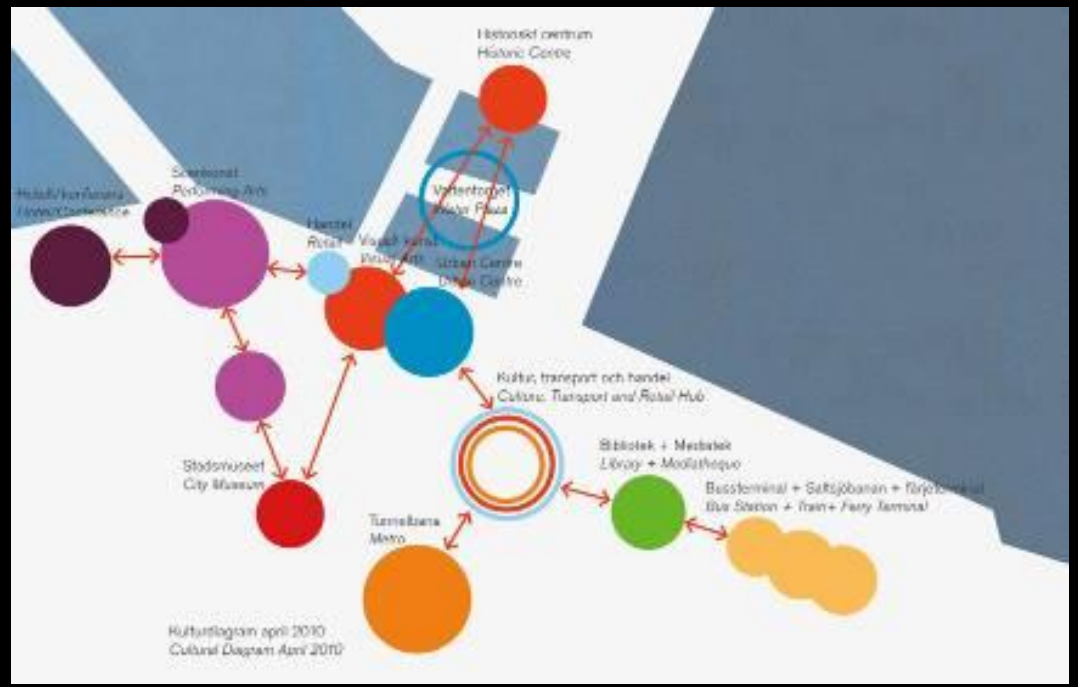


Functional Mix



Brief GEA





Key Components

Pedestrian Bridge

+

Road Bridge

+

Public Square

Waterside Quarter

+

Mediatheque

+

Performance Space

Cultural Space

+

Bus Station

+

Metro Station

= Slussen

Aims and Ambitions

Create a new Cultural Quarter

Reinstate fully accessibility pedestrian Connectivity to the Waterside

Simplify and extend cycle routes connecting to the wider context

Create new increased and more varied public space typologies

Enhance and improve public transport interconnections

Increase water visibility

Enhance water control mechanisms

Create thriving quayside activities

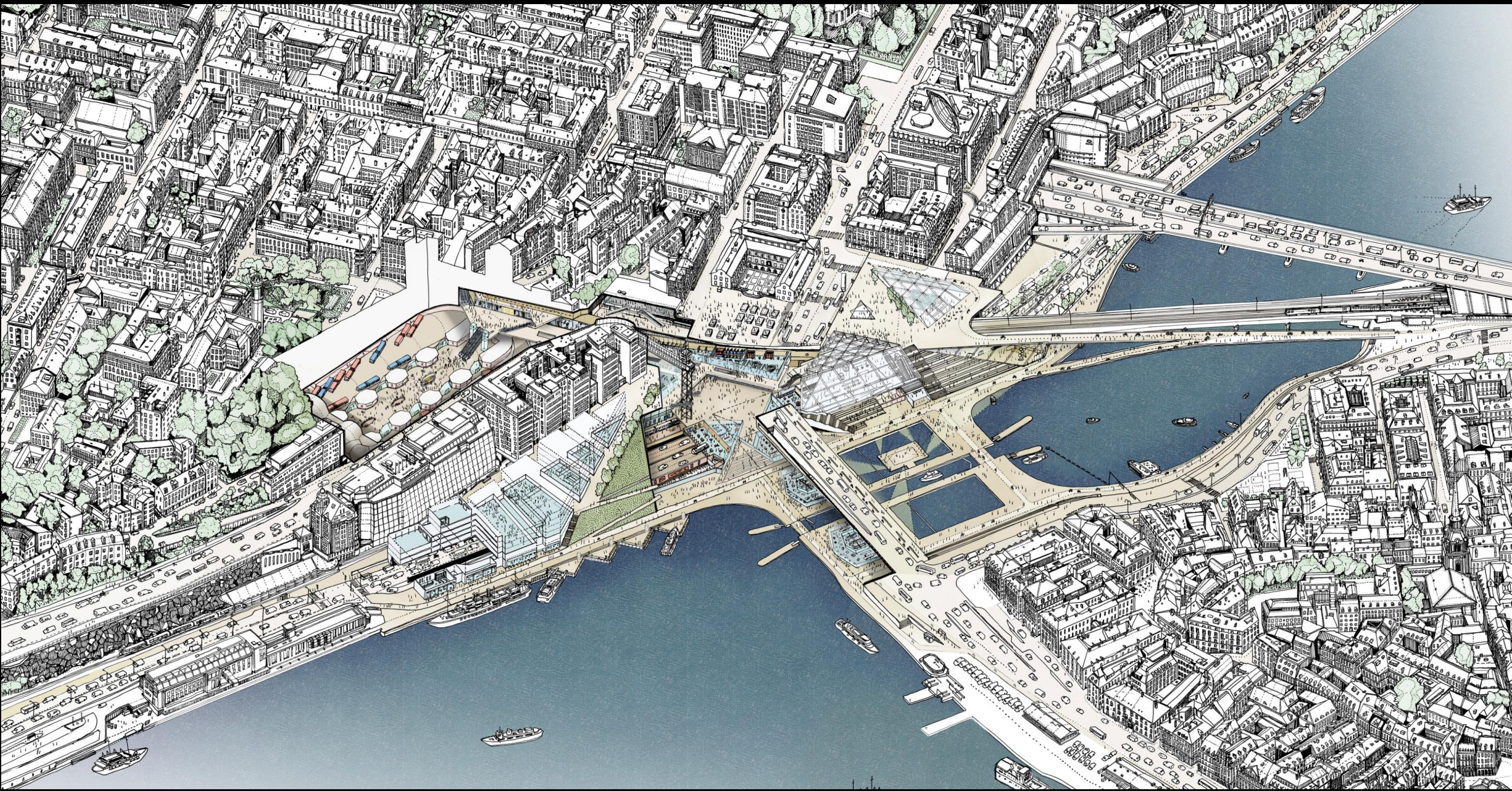
Enhance the setting of historic landmarks

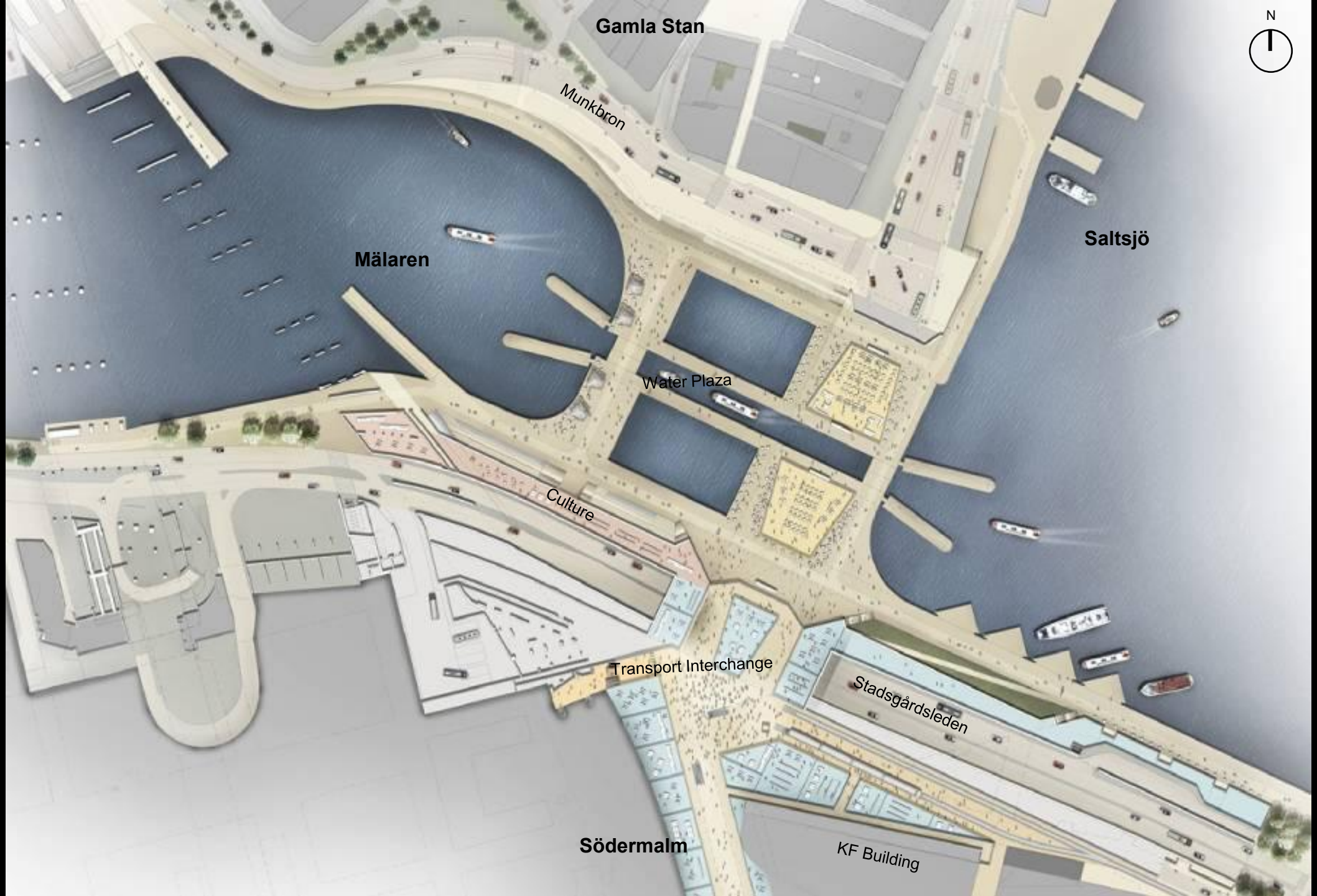
Working with the City of Stockholm

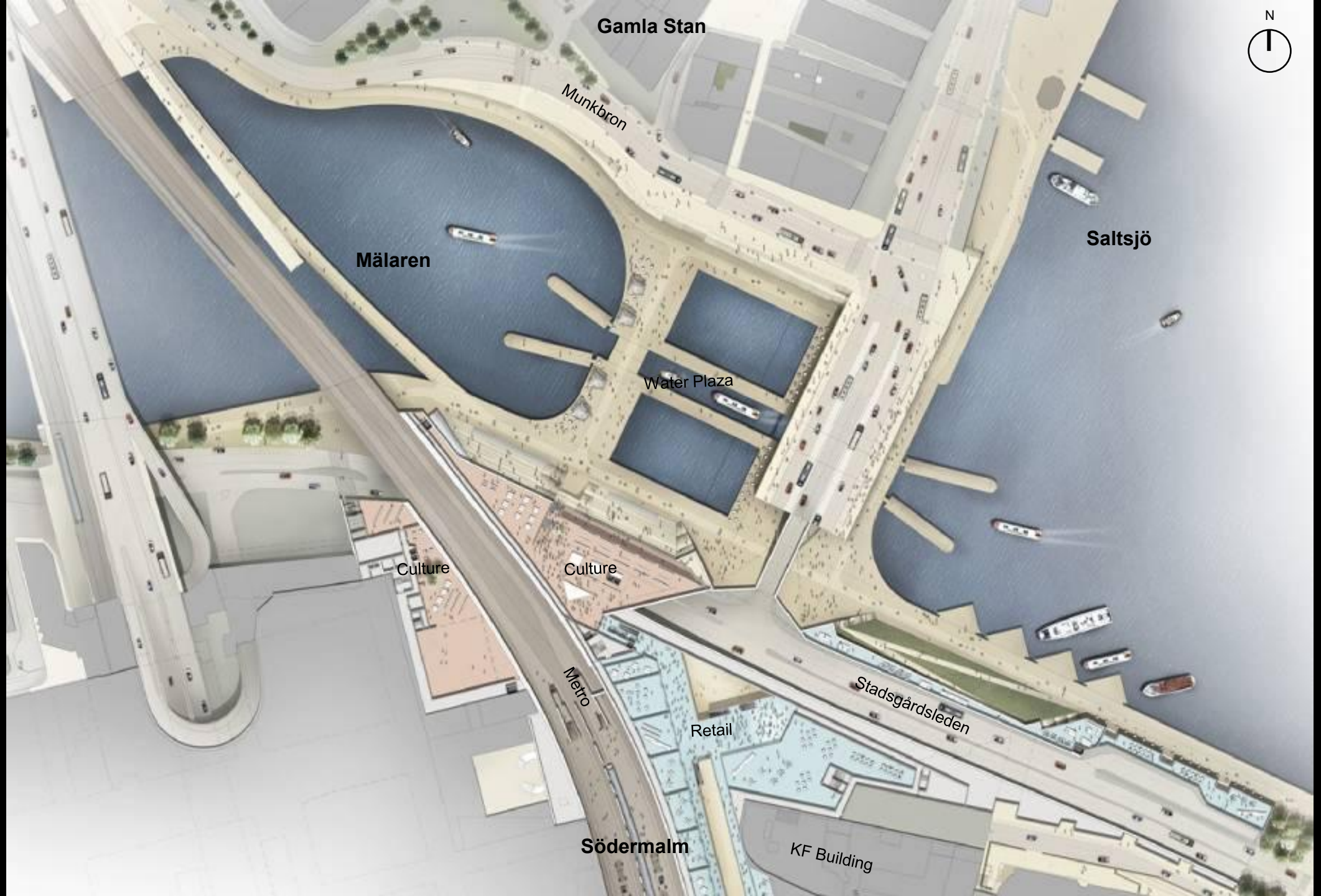
A Design Team of over 130 Organisations, Stakeholders and Interested Parties

ACAD
Advokatfirman Åberg & Co
Berg Arkitektkontor
Bro & Betong Projektledning AB
Bygganalys
Calluna
DHI
Ekelöw Infosecurity
ELU
ELU Konsult AB
Exploateringskontoret
Fire Safety Design AB
Fosters + Partners
GEOCON AB
Geosigma
Golder
Grontmij
Hifab
Informedia
Informedia Communications AB
Jordbruksverket
Kalkylpoolen
Kerstin Blix AB
KTH
Mannheimer Swartling Advokatbyrå
MKB-centrum
Mätcenter Sundsvall
Nitro Consult AB
Norconsult
Pleiner
ProjectPartner
Projektlots
Ramböll
SLB·analys
SMHI
Spacescape
SSPA
Stadsbyggnadskontoret
Stadsmuseet
Statens marina museer
Stockholm stad / Sweco
Stockholms stad / Cowi
Stockholms stad / Forsen Projekt
Stockholms stad / Grontmij
Stockholms stad / Hifab AB
Stockholms stad / Informedia
Stockholms stad / Projektlots
Stockholms stad / Structor
Stockholms stad / Sweco
Stockholms stad/Sunsvalls Mätcenter
Stockholms stadsmuseum
Stockholms Universitet
Structor
Sweco
Sweco systems
Sydsvensk Markvärdering
Tikab
Trafikkontoret
Tyréns
White Arkitekter
White Landscape
WSP

A Holistic Masterplan Proposal




Gamla Stan
Munkbron
Mälaren
Saltsjö
Water Plaza
Culture
Transport Interchange
Stadsgårdsleden
Södermalm
KF Building
N


Gamla Stan
Munkbron
Mälaren
Saltsjö
Water Plaza
Culture
Culture
Metro
Retail
Stadsgårdsleden
Södermalm
KF Building
N


N
Gamla Stan
Munkbron
Skeppsbron
Mälaren
Saltsjö
Water Plaza
Culture
Culture
Hornsgatan
Park
Katarinahissen
Götgatan
City Museum
Södermalm
KF Building

Lots of Public Consultations

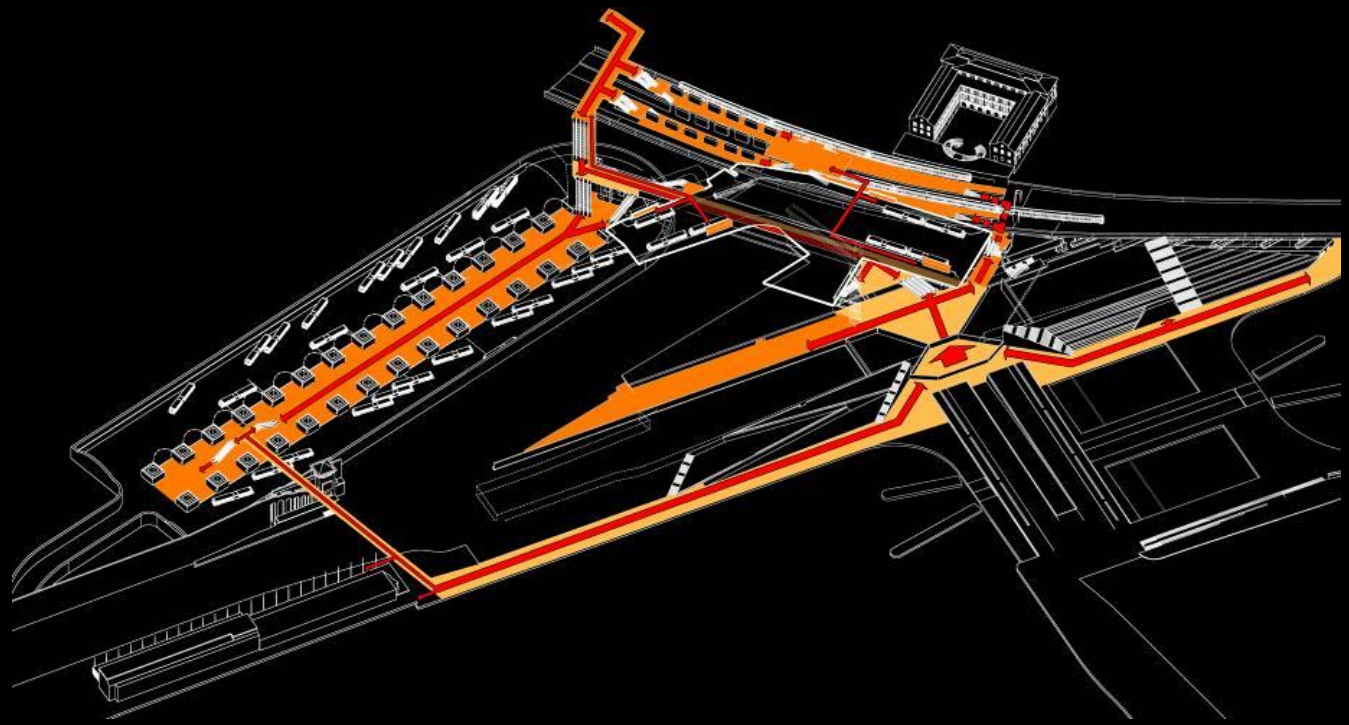


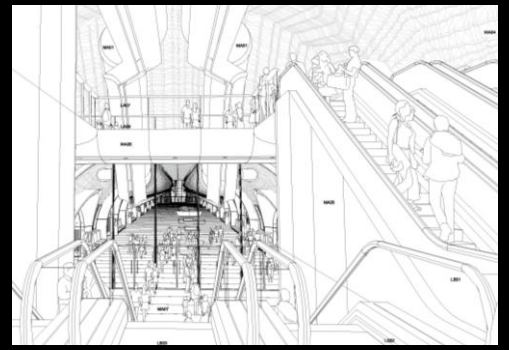


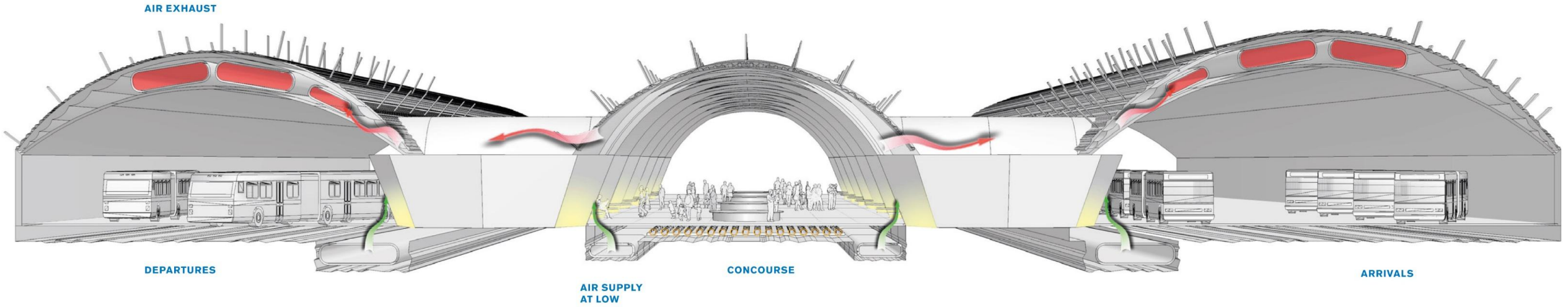


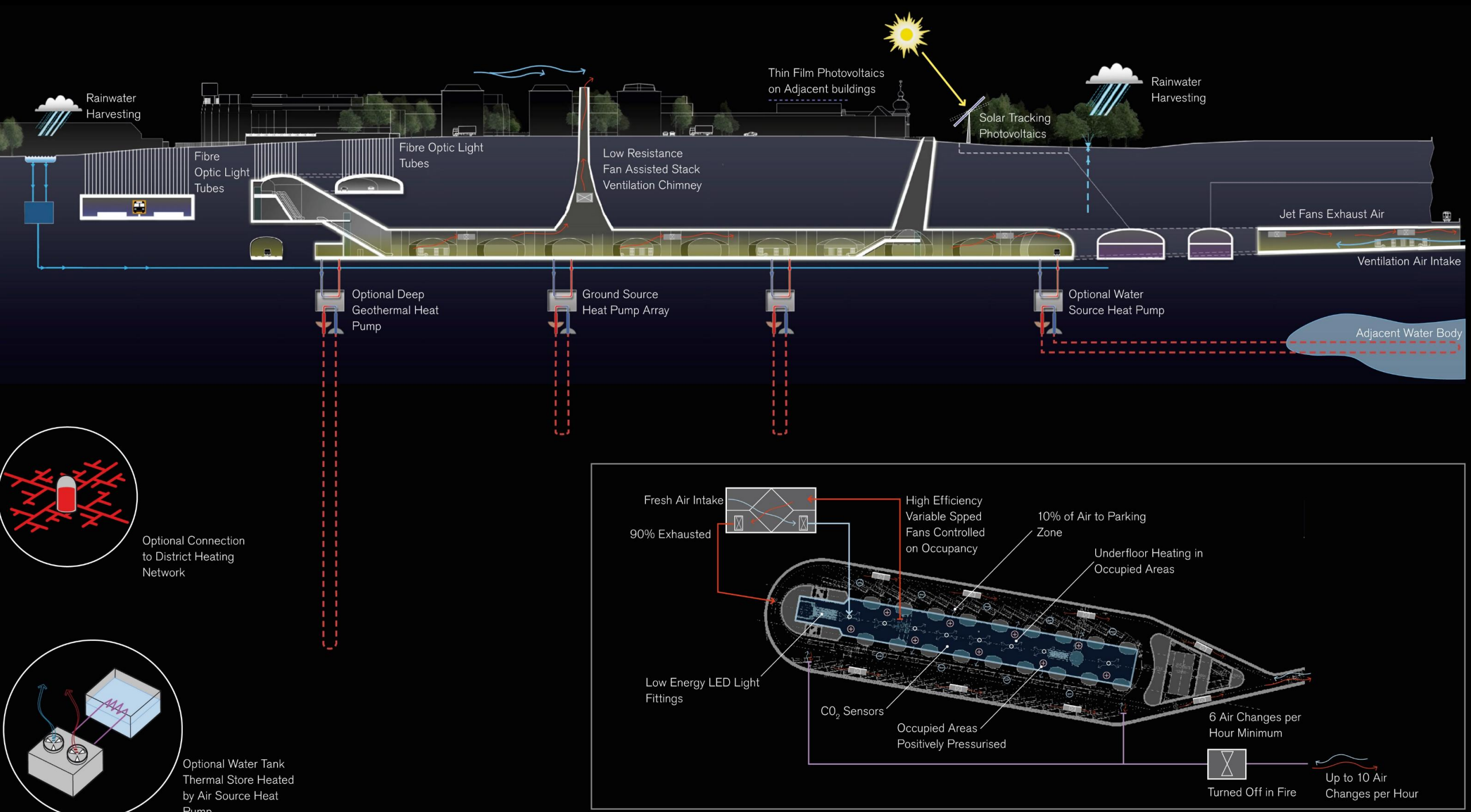


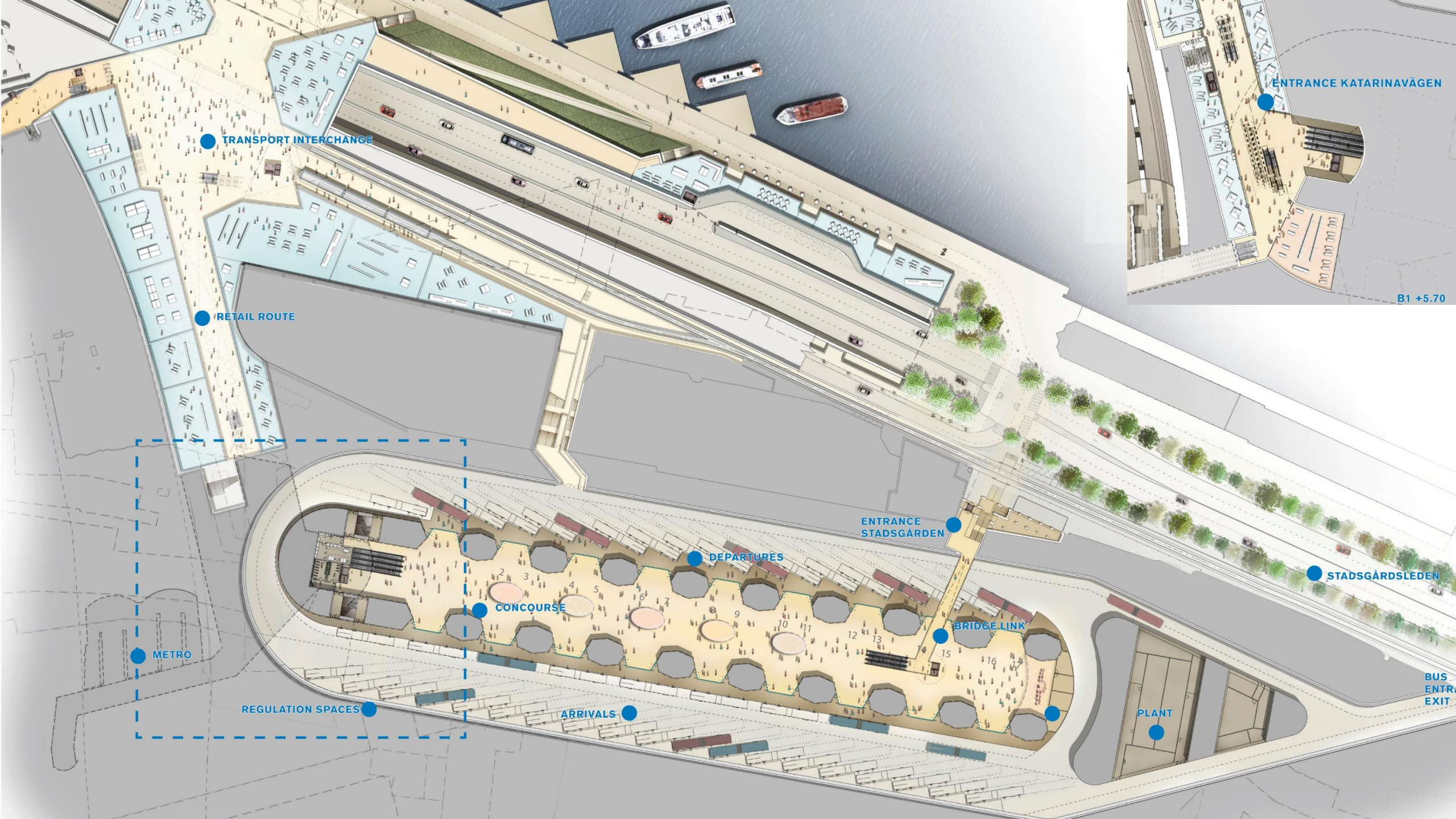
3 Elements of the Project - Mountain






AIR EXHAUST
DEPARTURES
AIR SUPPLY
AT LOW
CONCOURSE
ARRIVALS


Rainwater Harvesting
Fibre Optic Light Tubes
Fibre Optic Light Tubes
Thin Film Photovoltaics on Adjacent buildings
Low Resistance Fan Assisted Stack Ventilation Chimney
Solar Tracking Photovoltaics
Rainwater Harvesting
Jet Fans Exhaust Air
Ventilation Air Intake
Optional Deep Geothermal Heat Pump
Ground Source Heat Pump Array
Optional Water Source Heat Pump
Adjacent Water Body
Optional Connection to District Heating Network
Optional Water Tank Thermal Store Heated by Air Source Heat Pump
Fresh Air Intake
90% Exhausted
High Efficiency Variable Spped Fans Controlled on Occupancy
10% of Air to Parking Zone
Underfloor Heating in Occupied Areas
Low Energy LED Light Fittings
CO_2 Sensors
Occupied Areas Positively Pressurised
6 Air Changes per Hour Minimum
Turned Off in Fire
Up to 10 Air Changes per Hour


TRANSPORT INTERCHANGE
RETAIL ROUTE
METRO
REGULATION SPACES
ARRIVALS
CONCOURSE
DEPARTURES
ENTRANCE STADSGÅRDEN
BRIDGE LINK
PLANT
STADSGÅRDSLEDEN
BUS ENTRA EXIT
ENTRANCE KATARINAVÄGEN
B1 +5.70


2008

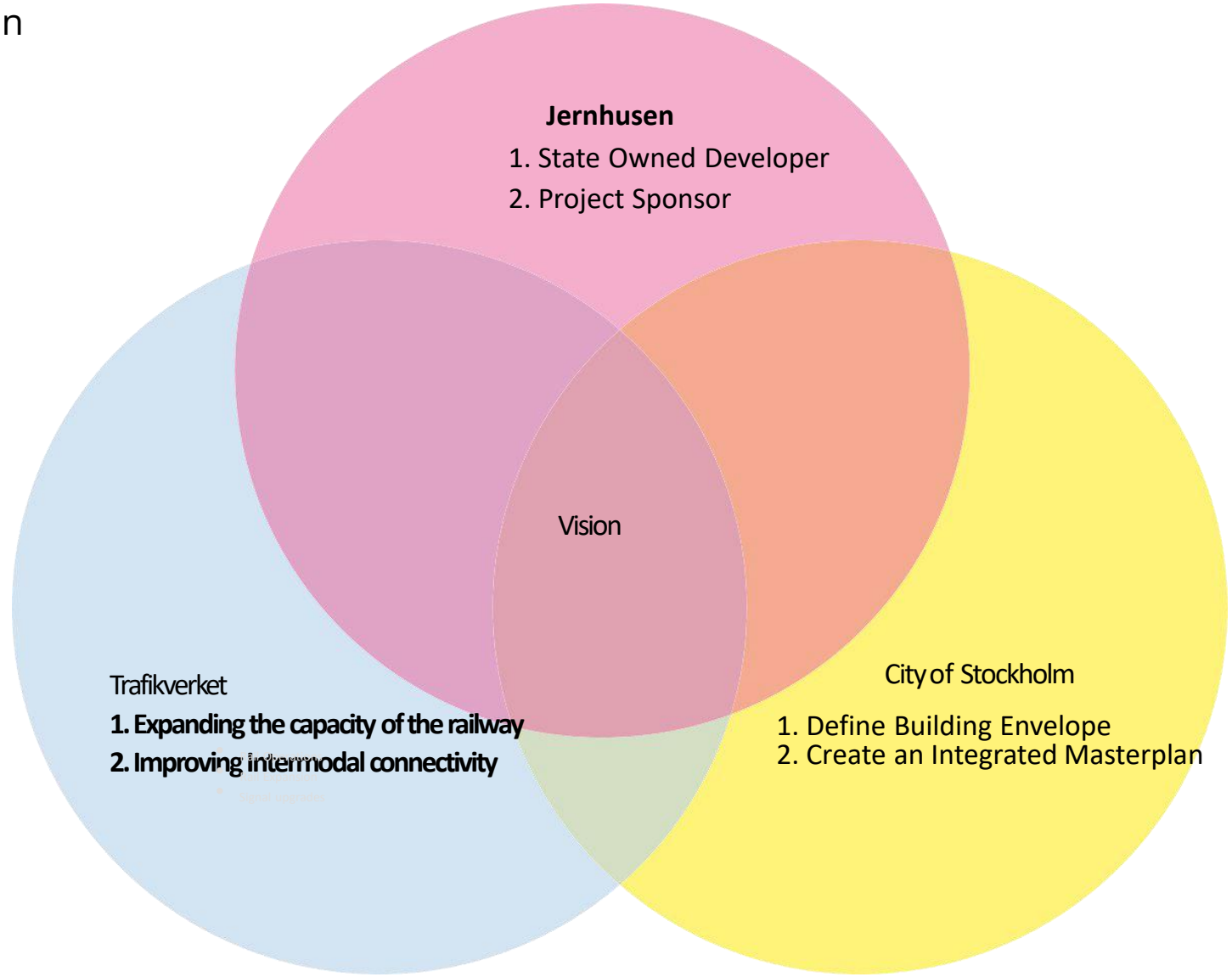

2028


DAGENS NYHETER
MELIMELI

Stockholm Central Station
Sweden

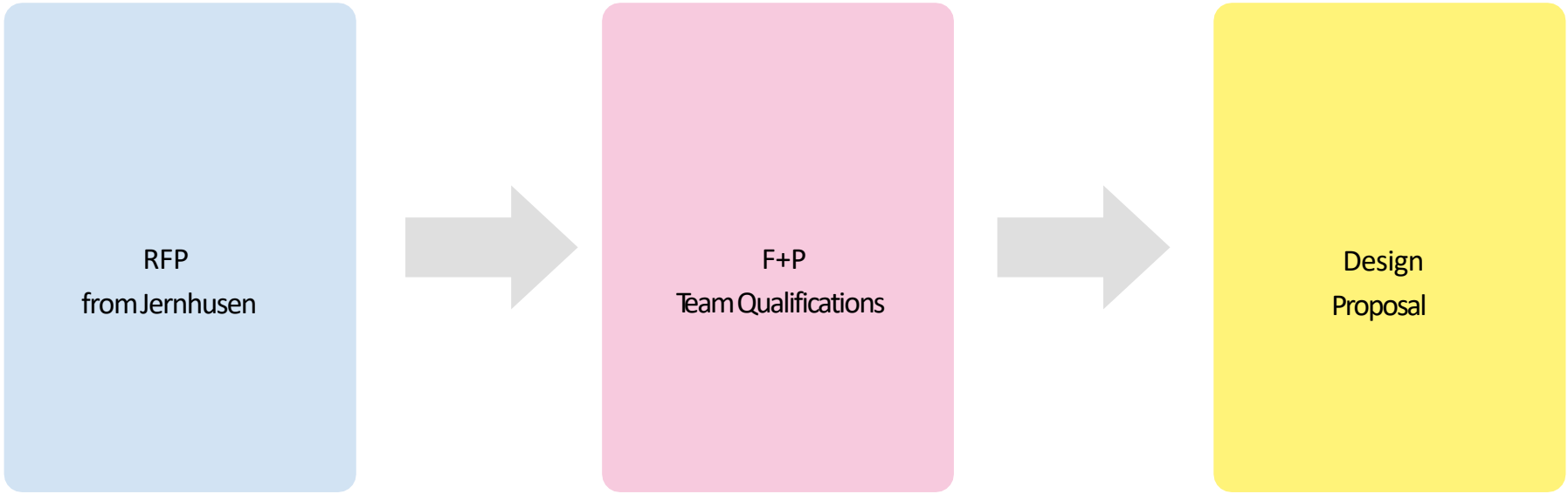
Team Structure

Creating a Shared Vision



Shared Goals and Objectives
Overbuild will pay for the Deck Structure

Appointment
Stockholm Central Station



Defining Common Goals and Objectives

50 Different teams submitted qualifications

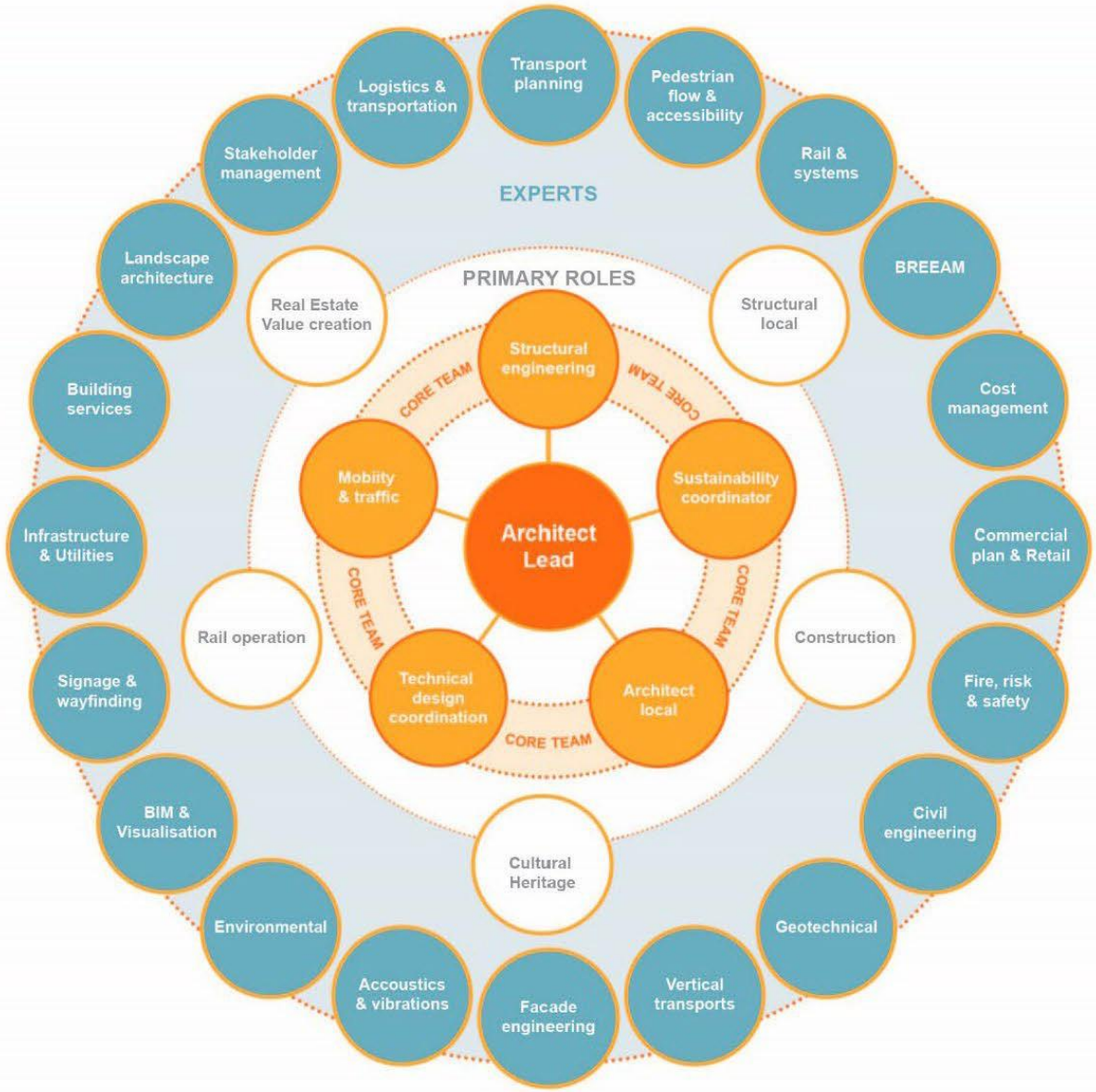
4 teams selected take part in a 6 month Assignment

Client interactions every 2 weeks

Final presentation with x4 HR... 250 stakeholders... unanimous Winner

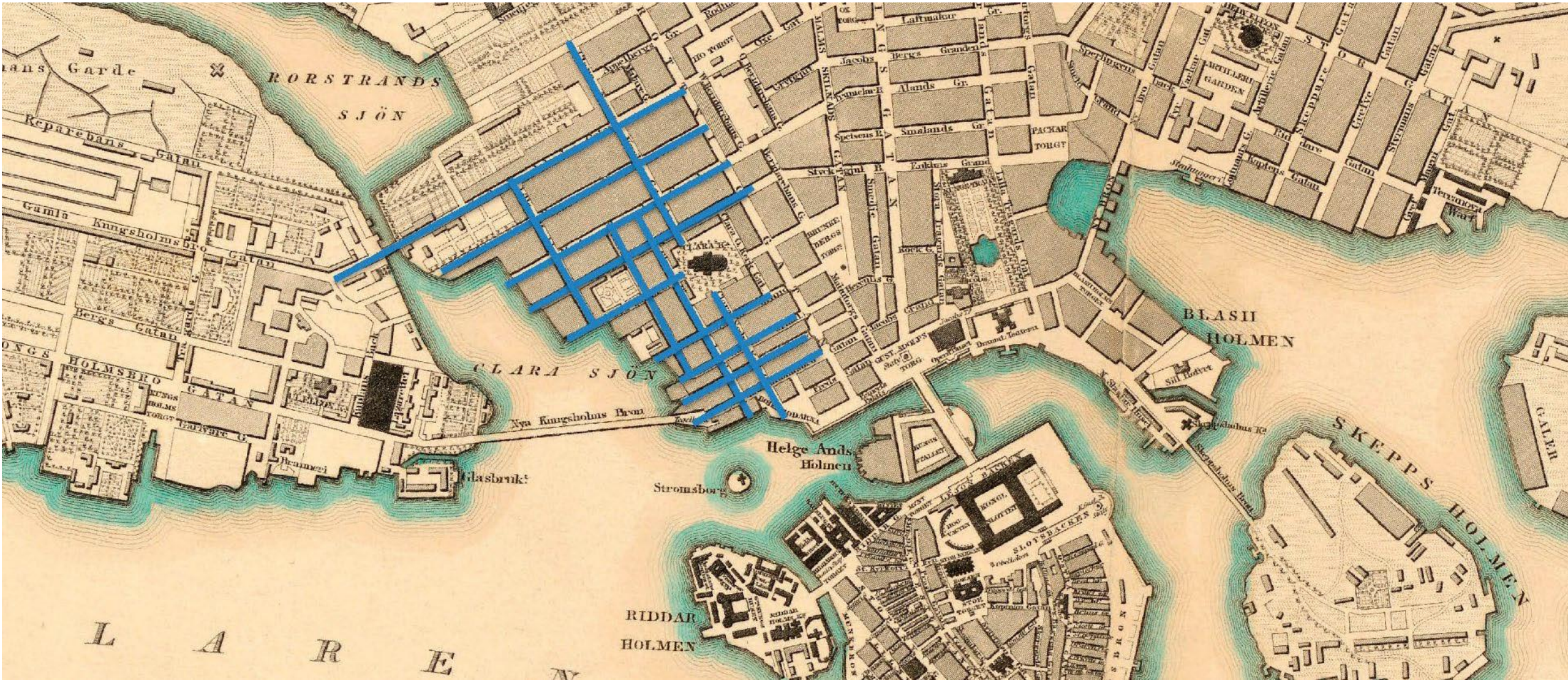
One Team: Creating a Common Vision

50 Disciplines



Urban Design

The Historical Urban Fabric



Urban Design

The Station Fractured the Urban Fabric

The same problems still exist today

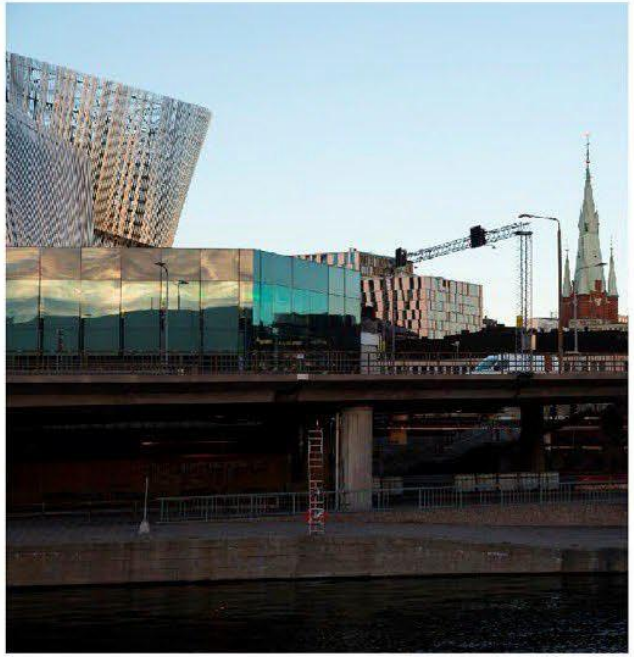
150 Years later

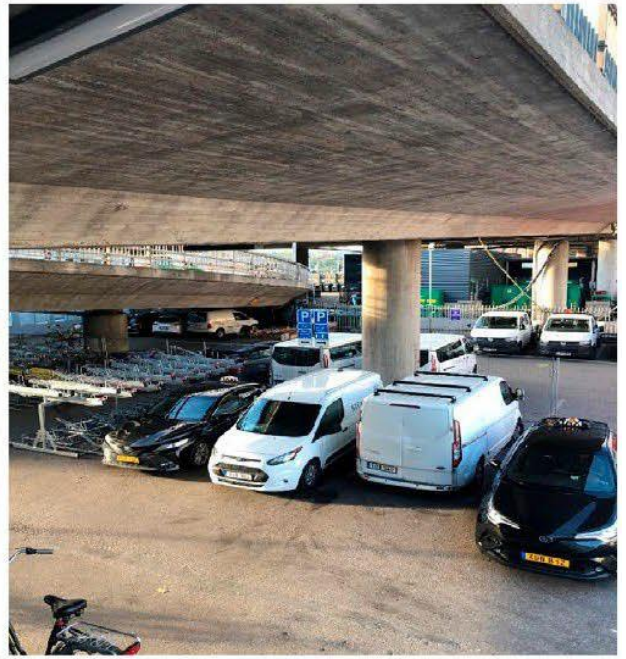
We don’t want to make the same mistake as the previous generations

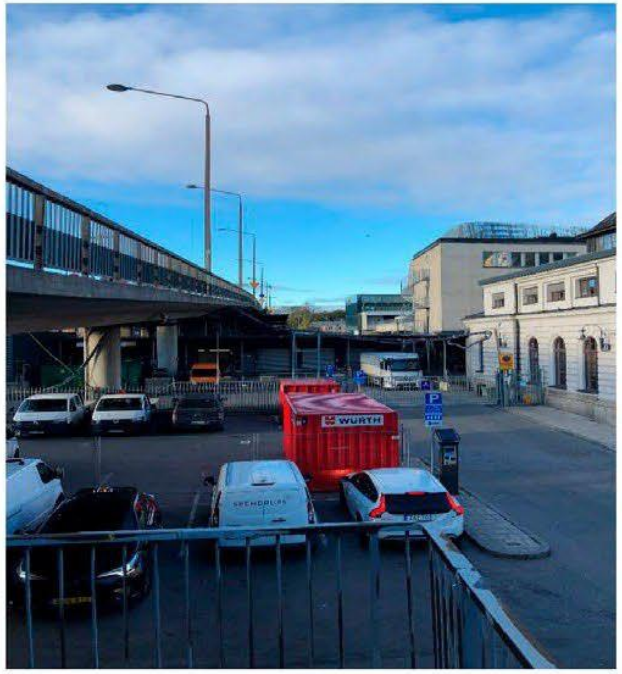
The Oversized Infrastructure of 1960

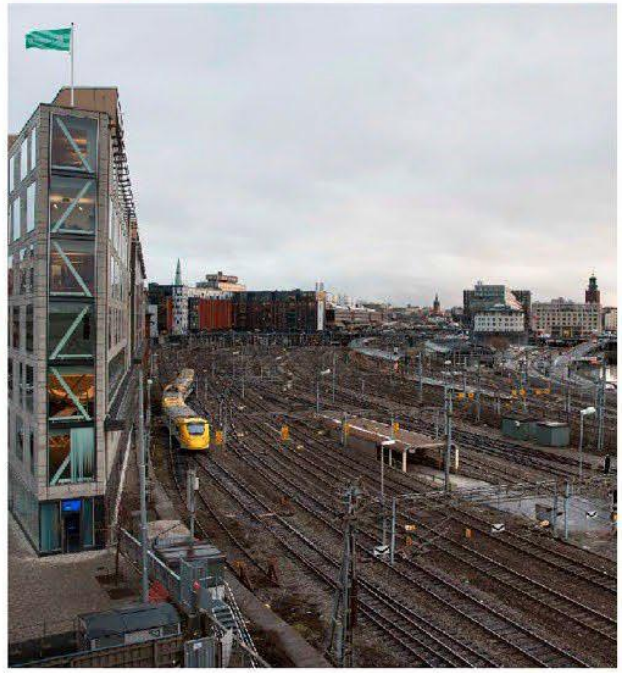
What’s left is.

The Urbanscape Suffocated by Infrastructures





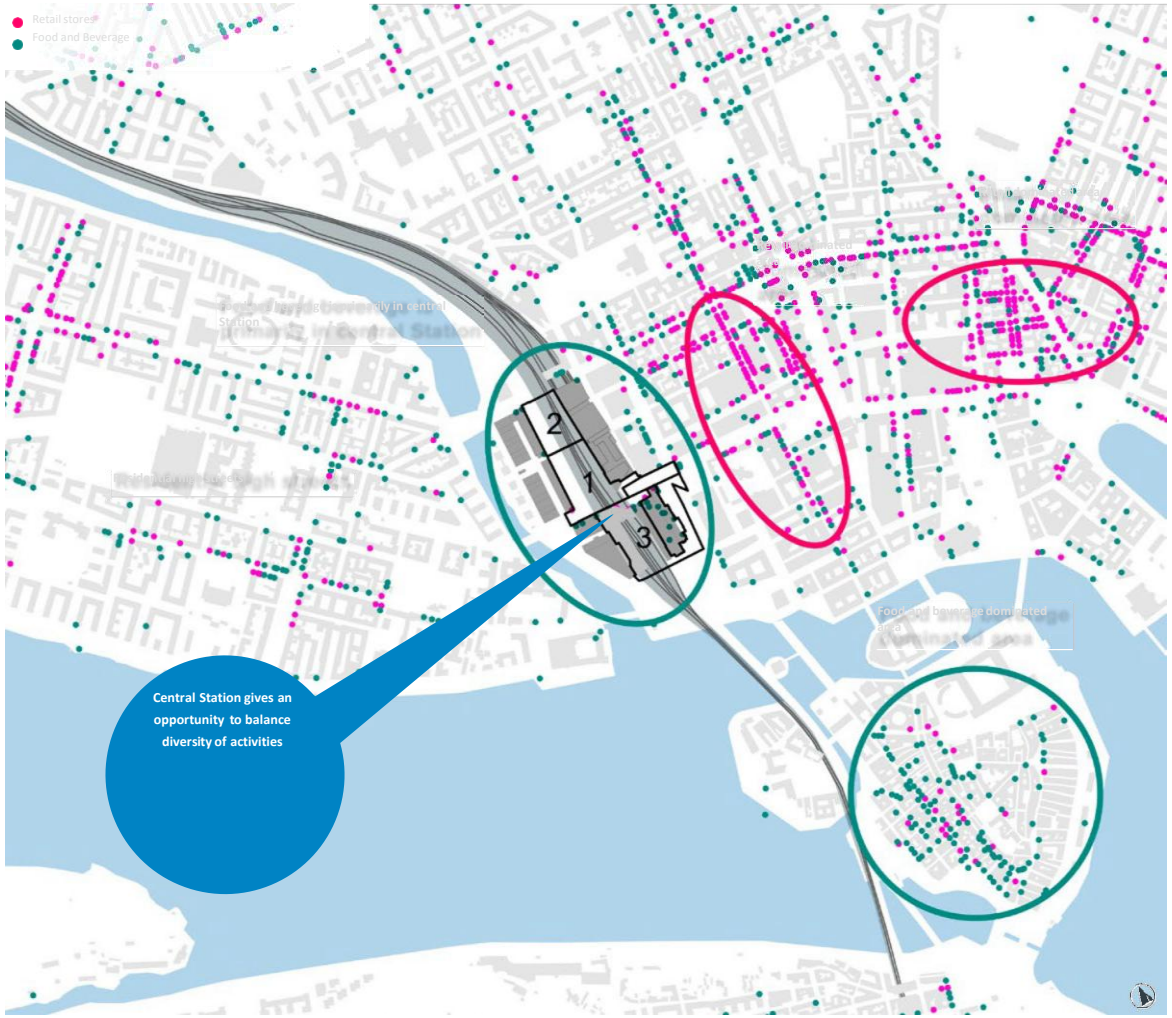




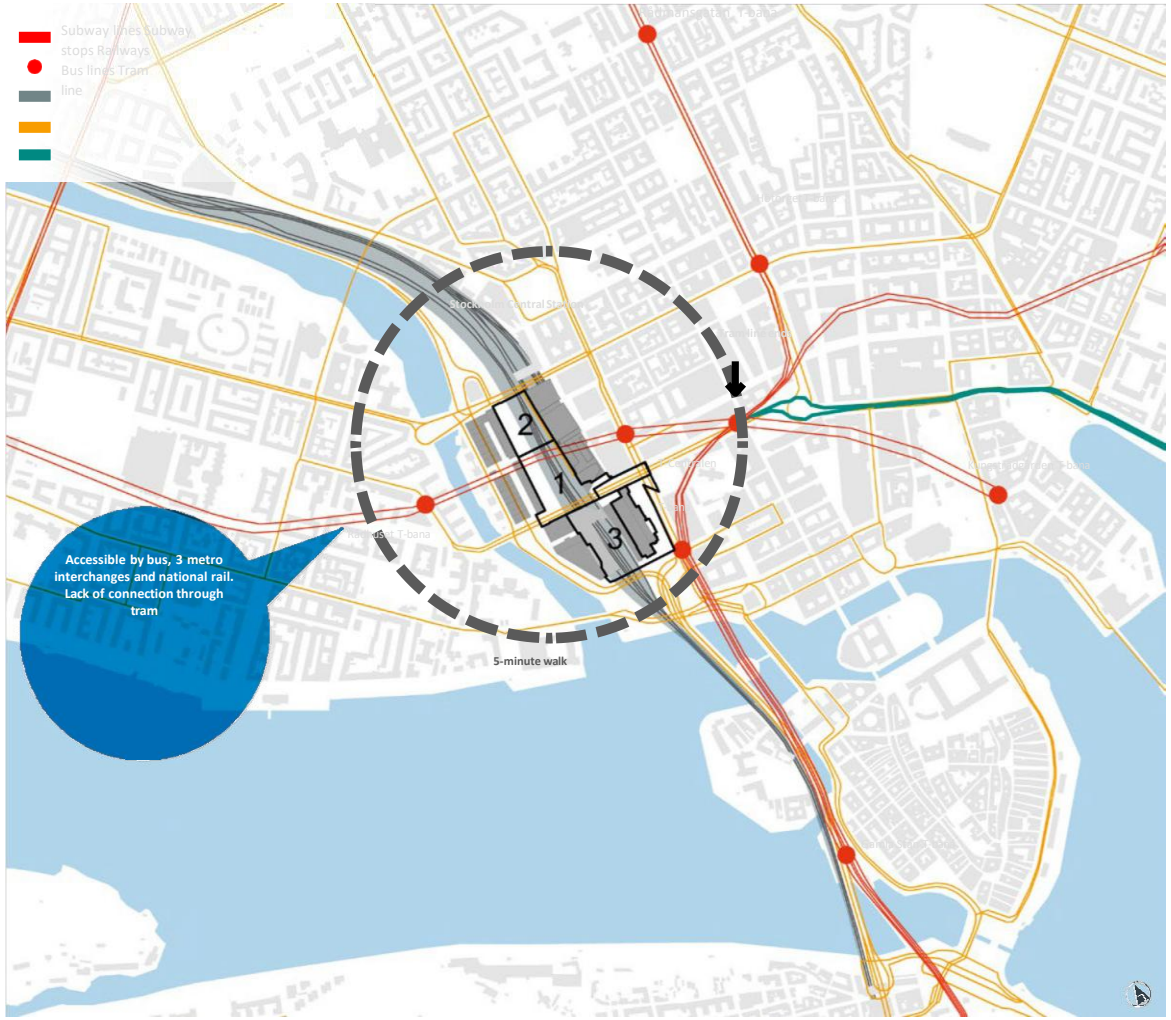
Urban Design
Current Condition

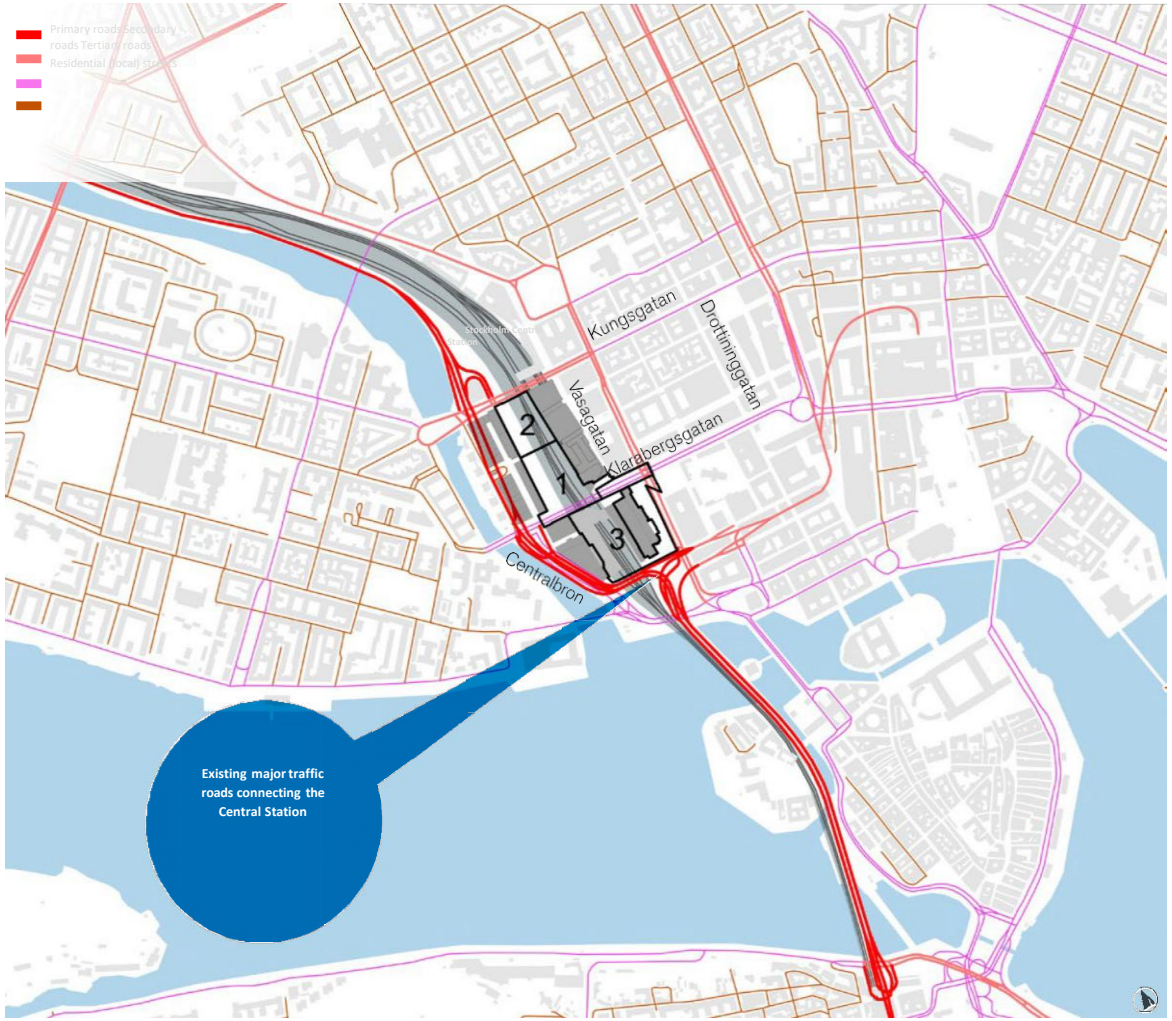
Urban Design
An Opportunity to Heal

Urban Design
Analysis of the Existing

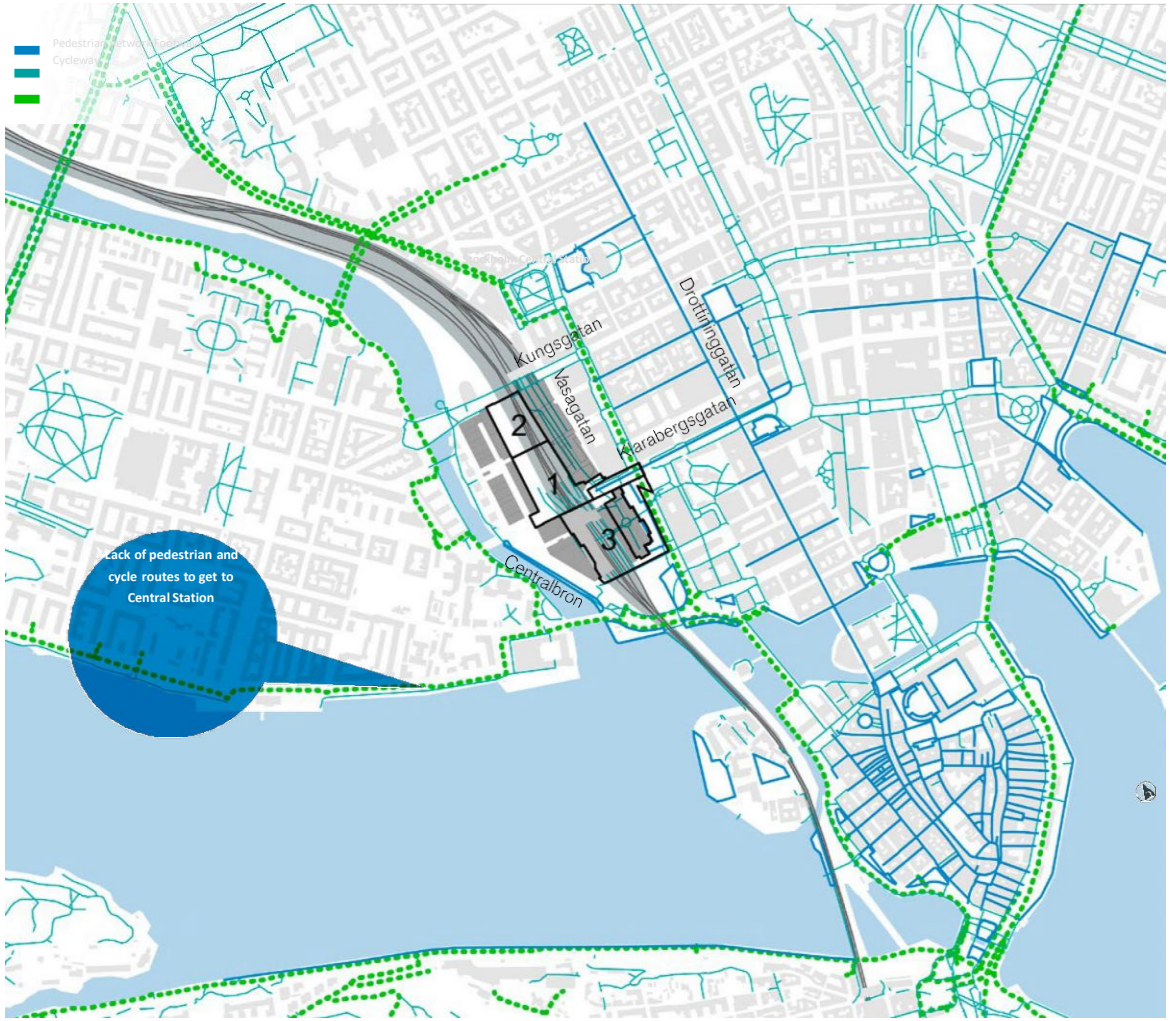


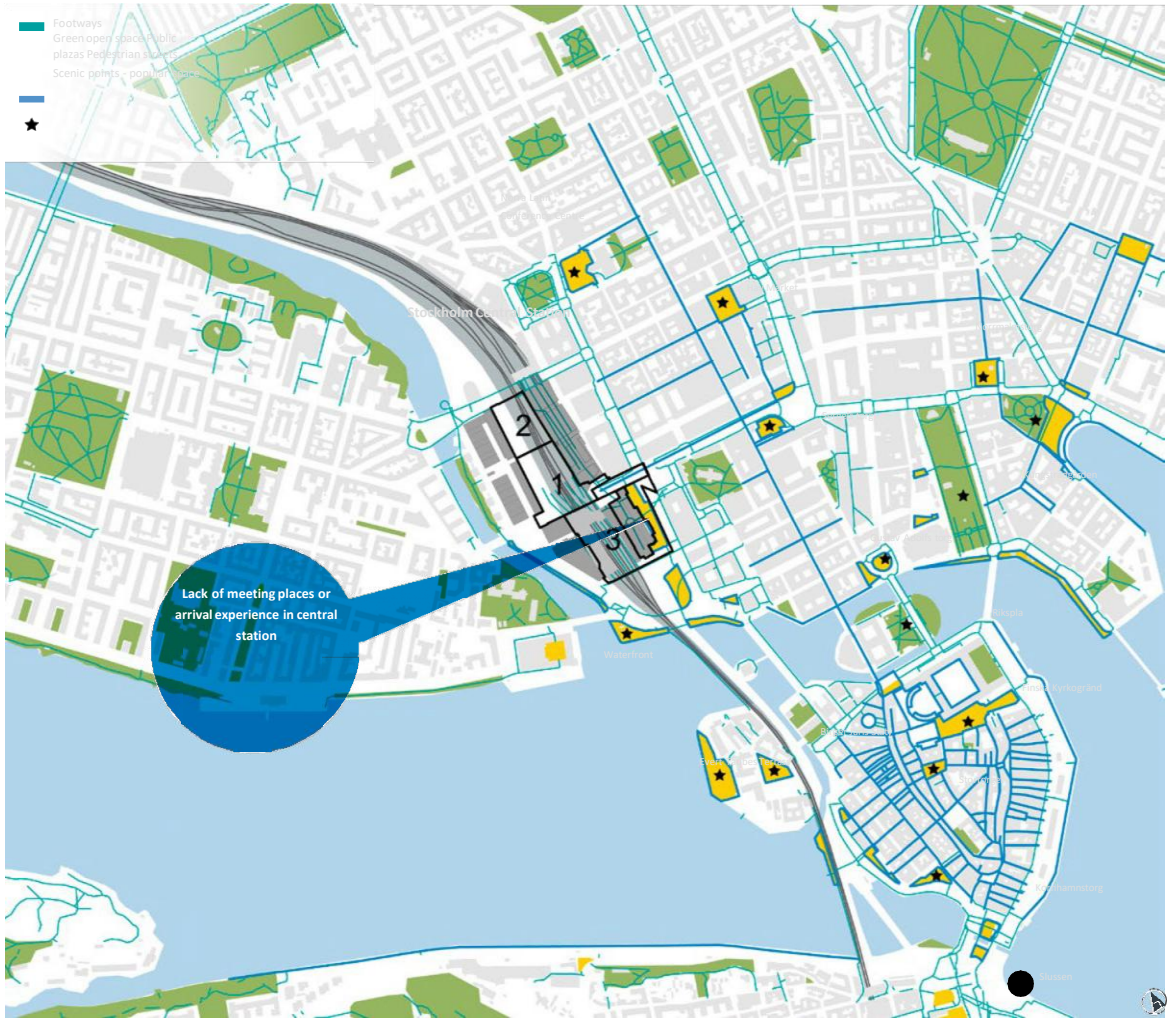
Urban Design
Analysis of the Existing





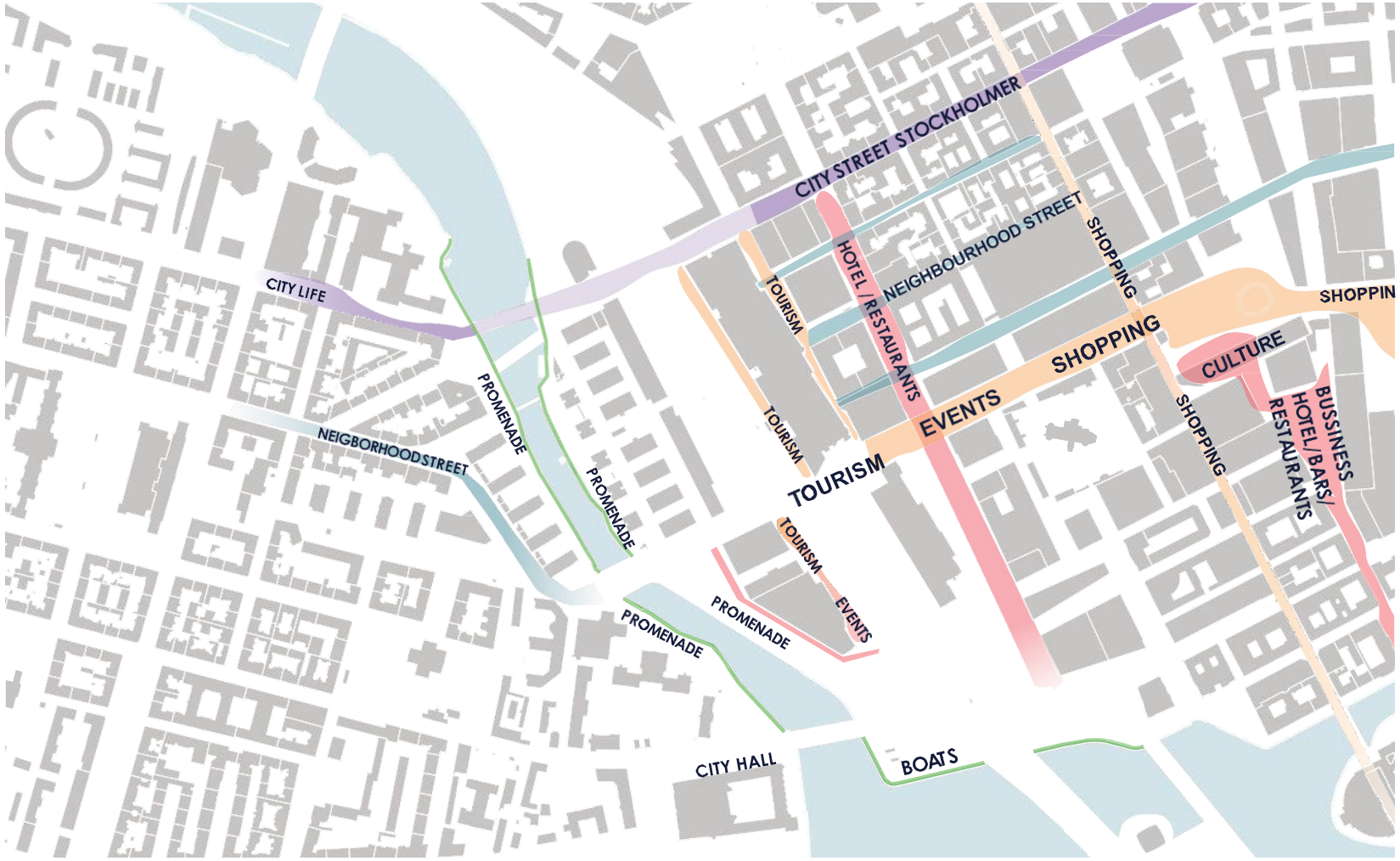
Urban Design
Analysis of the Existing





Urban Design

Existing street Character



Urban Design
Future Street Character