

CONNECTING THE DELTASTAD

EMBRACING THE WATER

Sea level rise is a reality that will continue beyond the year 2050. The current landscape of the Netherlands is unsustainable and must be adapted to ensure a livable environment. In particular the Randstad area. The major cities in this region have formed a significant economic hub. But unfortunately, it is positioned in some of the most flood-prone zones of the country. While also being the region where most of the population resides.

New dikes are constructed around the major cities, and current ones are being upgraded. In several places new locks are built to allow ship traffic to enter cities. Between these cities, the landscape is slowly being flooded until it reaches sea level. This will allow the historic delta landscape, of which the western Netherlands mostly consists, to be restored, while preserving the economic centres. This landscape can create a varying and ecologically valuable landscape of rivers, lakes, and salt marshes, the latter of which also helps against dike erosion.

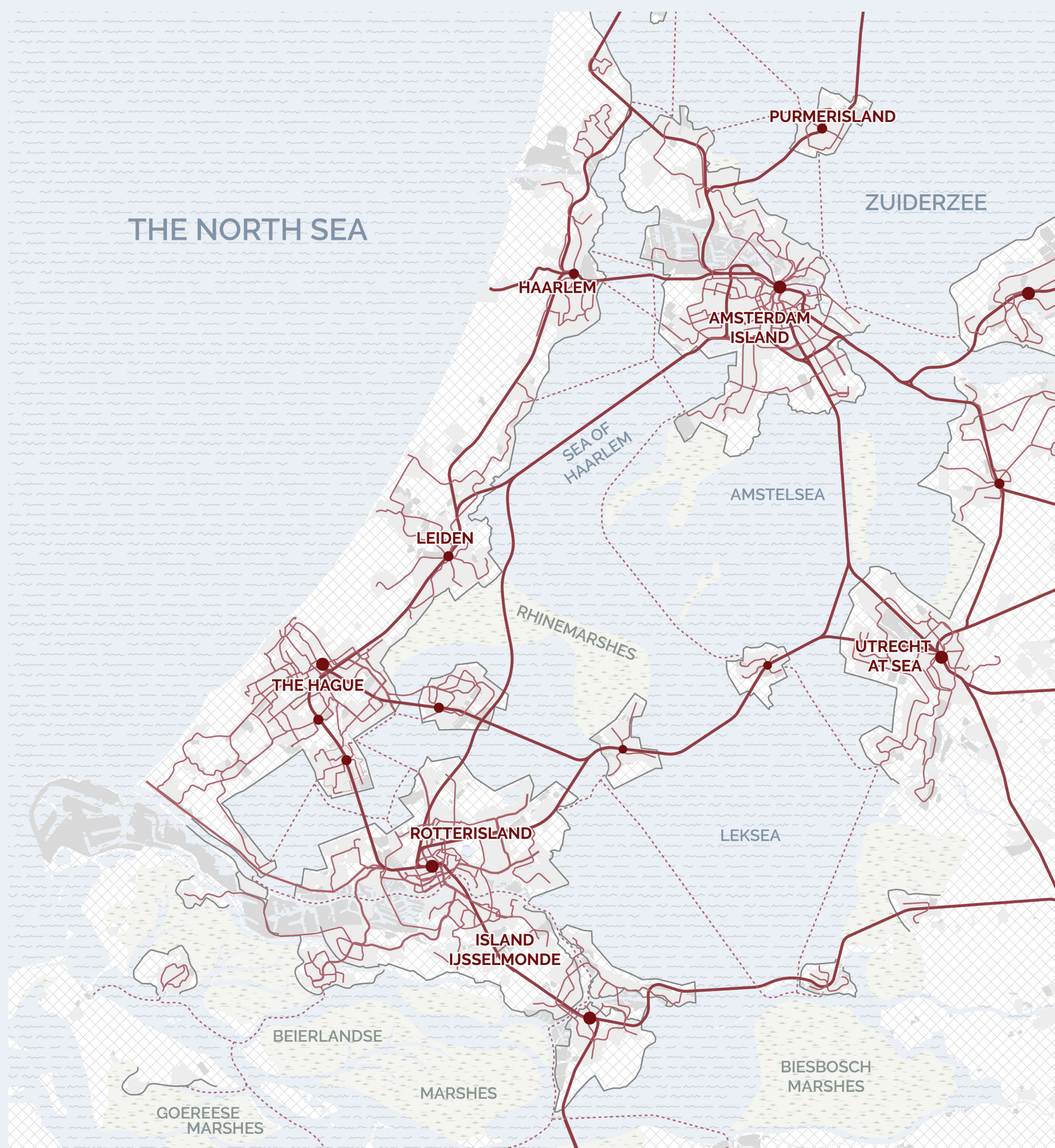
What remains can no longer be called the Randstad, but should be called the Deltastad. A collection of archipelago cities that are divided by water and marshes. These cities are linked via high-speed rail lines for rapid A to B travel. New waterbuses offer connections to smaller islands and provide different options for inter-city transport. Sometimes, it offers more direct lines between two places than the train.

In the archipelago cities, public transportation is crucial for getting about. Due to the limited availability of space, private cars are no longer on the islands. Getting about is done by taking public transport, the bicycle, or walking. The public transport system in the cities consists of different types of lines. Rapid lines ensure that the city is linked to central hubs, which are connections to other cities, along with being important interchanges to other rapid lines to different locations in the city. These rapid lines allow people to travel quickly from A to B by subway, streetcar, or bus. The rapid lines cross circle lines at various points to connect the rapid lines outside the central hubs.

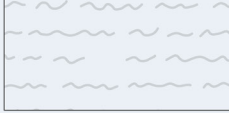
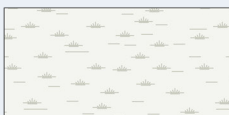
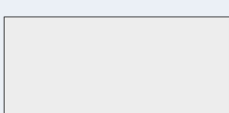


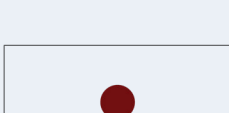
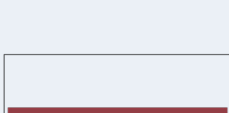

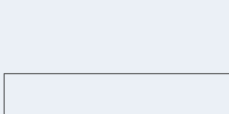
But these are not the most significant parts of the public transportation system, those are the autonomous bus zones. Zones in which automated, callable buses operate. These buses do not only connect people to rapid and circle lines but also to the neighbourhood they live in.

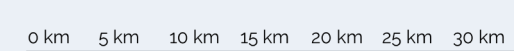
However, the mobility system of the future is more than just a public transportation network. The transfer hubs are vibrant places of activity, green spaces, and interactive art. Commuters wait to be connected in a vibrant, safe, and communal atmosphere. The lines themselves are also adapted for their specific purpose. Rapid and circle lines focus on speed and capacity, while the autonomous bus zones focus on locality, connecting people to the places where they already are. Even displaying local art or news on the vehicle itself.

With the mobility system of the future, you'll experience a new sense of life's speed on different lines. It connects the neighbourhoods and the city, creating a unified entity.

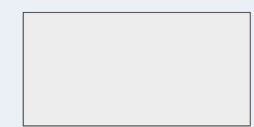


LEGEND

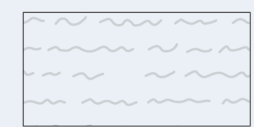
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Water
 Water dominates the Netherlands. The breached dikes have created an archipelago landscape.
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Marshlands
 Salt marshes emerge where the land partly becomes dry during low tide.
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Built up areas
 Important and dry built-up areas are preserved.
- 
Dry land
 Land above sea level remains dry.
- 
Dikes
 New and reinforced dikes protect important areas and create a dike landscape.
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Central Point
 Central public transport hubs in built-up areas.
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Intercity network
 A network of trains connect different areas directly.
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Waterbus network
 A network of water buses connect different areas where the train network does not reach or no direct connection is available.
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City Network
 The city network connects built-up areas to itself.



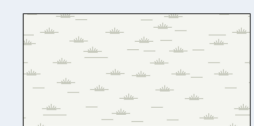
THE NORTH SEA



Built-up areas
Areas of high density, and/or high economic value will be protected from the flood.



Water
Water dominates the Netherlands. The breached dikes have created an archipelago landscape.



Marshland
Salt marshes emerge where the land partly becomes dry during low tide.



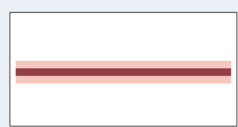
Dry land
Land that stays dry by protection through dikes or that is above sea level.



Dikes
New and reinforced dikes protect important areas and create a dike landscape.



Rapid line
Rapid lines get you from A to B as quickly as possible. A large network provides many different options and a connected network.



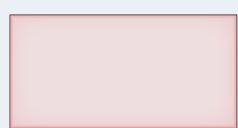
Circle line
Circle lines are continuous lines connecting different parts of the city around a central point. With this, they provide connections between rapid lines outside the central points.



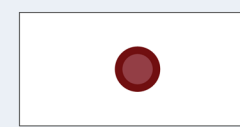
Waterbus line
The waterbuses form a secondary level of rapid transport, connecting cities over water.



Intercity line
Intercity lines are connecting the region. They connect the different archipelagos through elevated or underground lines.



Autonomous bus zone
Autonomous bus zone in which self-driving buses provide connections to the larger network and connect you to the local neighbourhood.



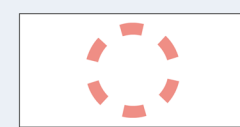
Central hub
The main station in the city. The place with the most connections, a large transfer hub.



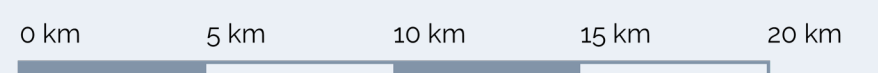
Polycentral or urban hub
A smaller connection to the intercity network and/or a medium transfer hub.



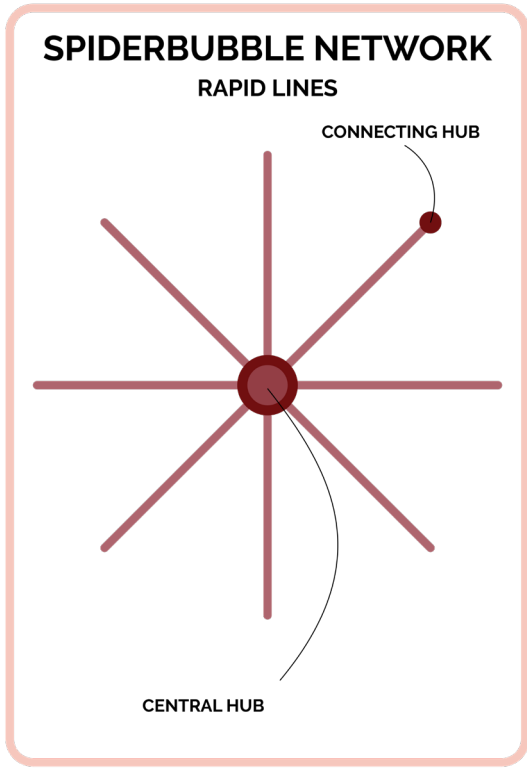
Connecting hub
Connecting stations for transferring to another rapid or circle line, a small transfer hub.



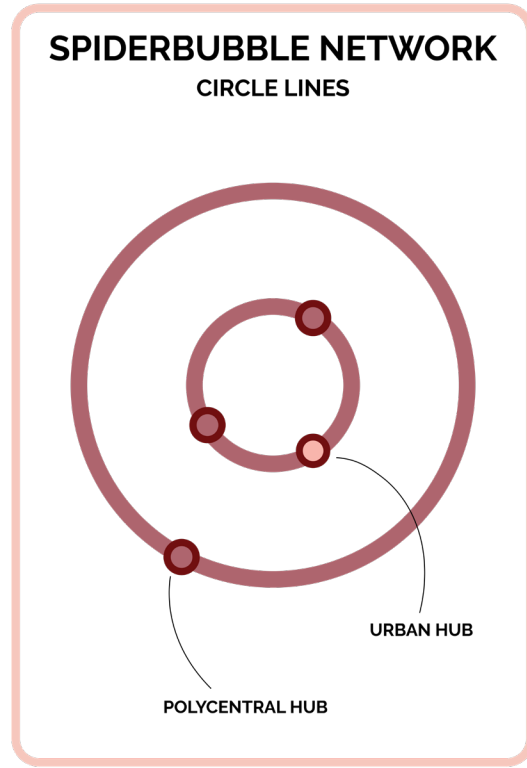
Zoom-in location
The location of where the zoom-in is made.



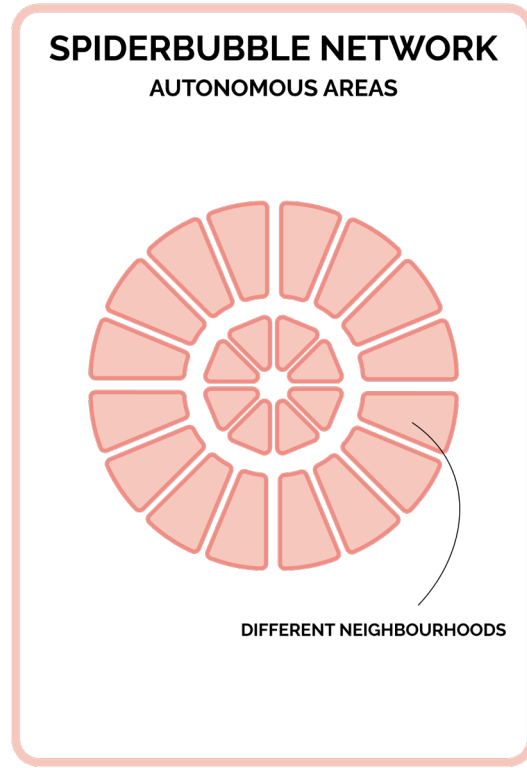
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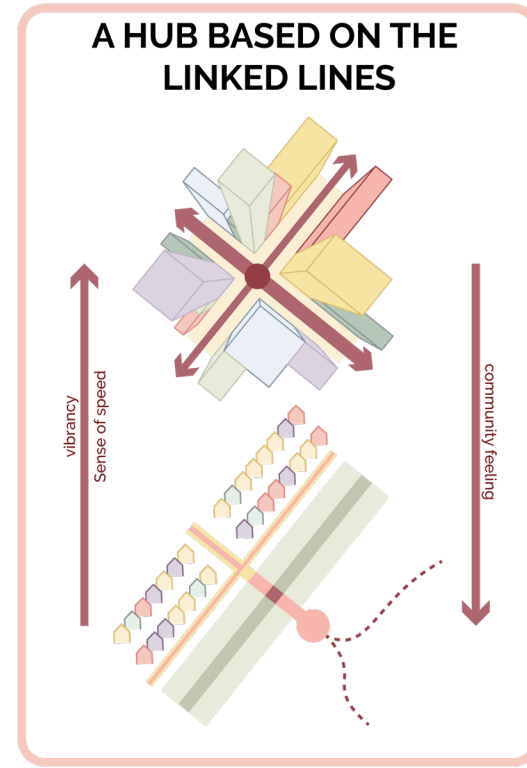
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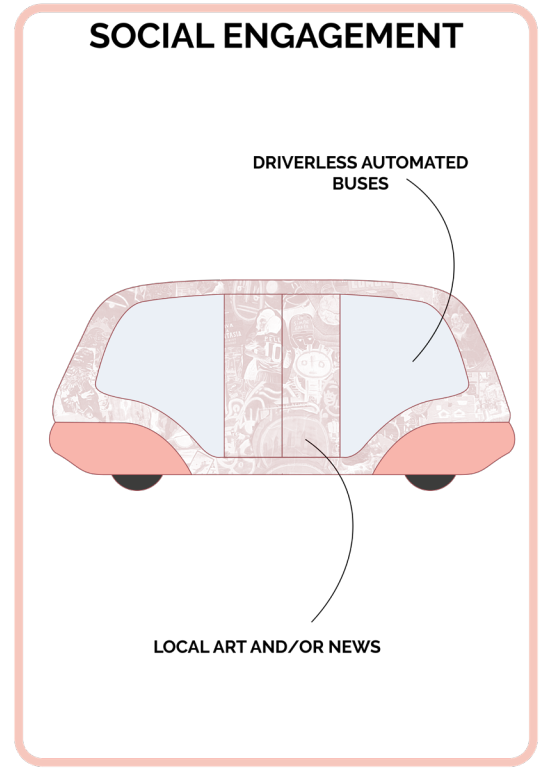
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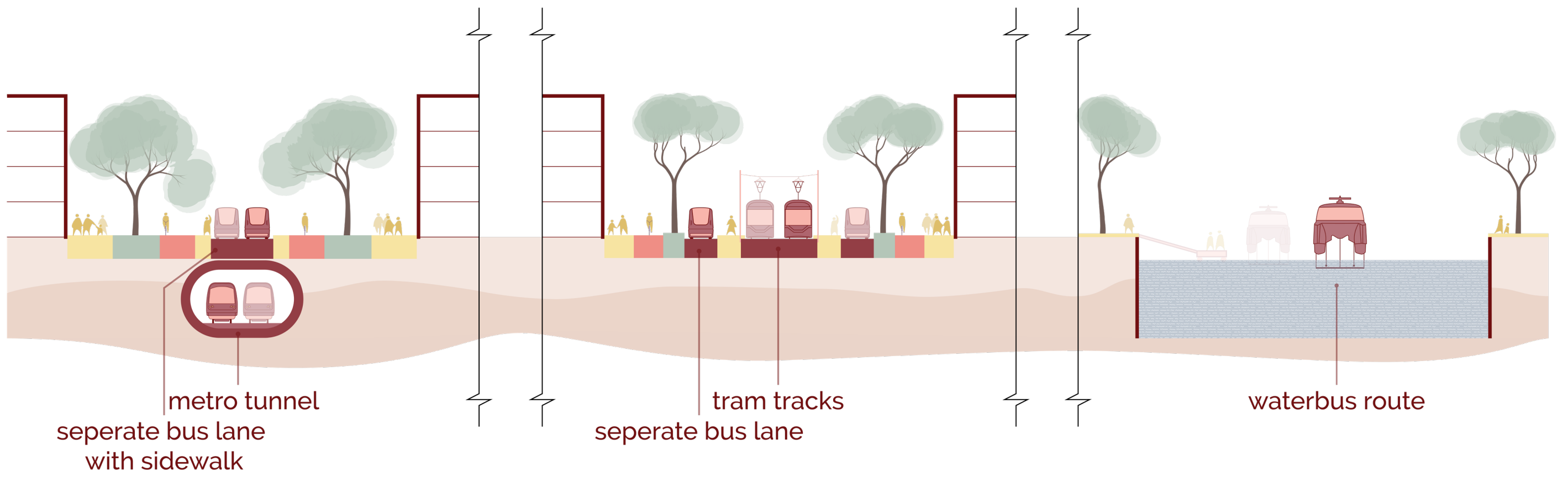
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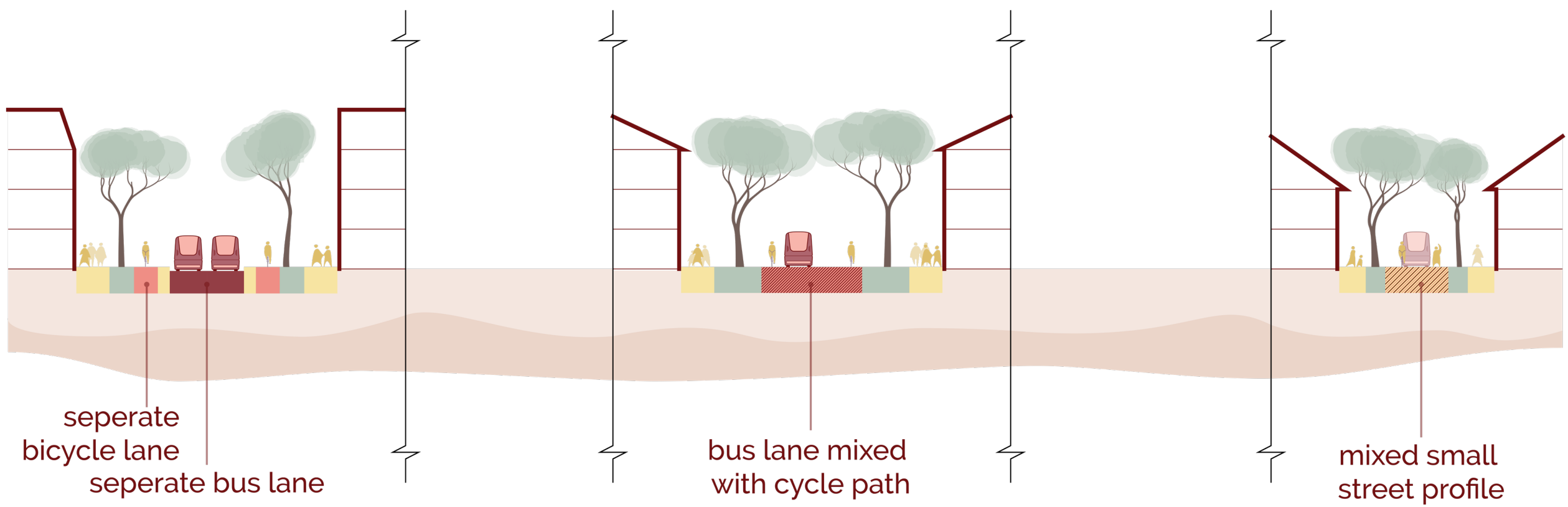
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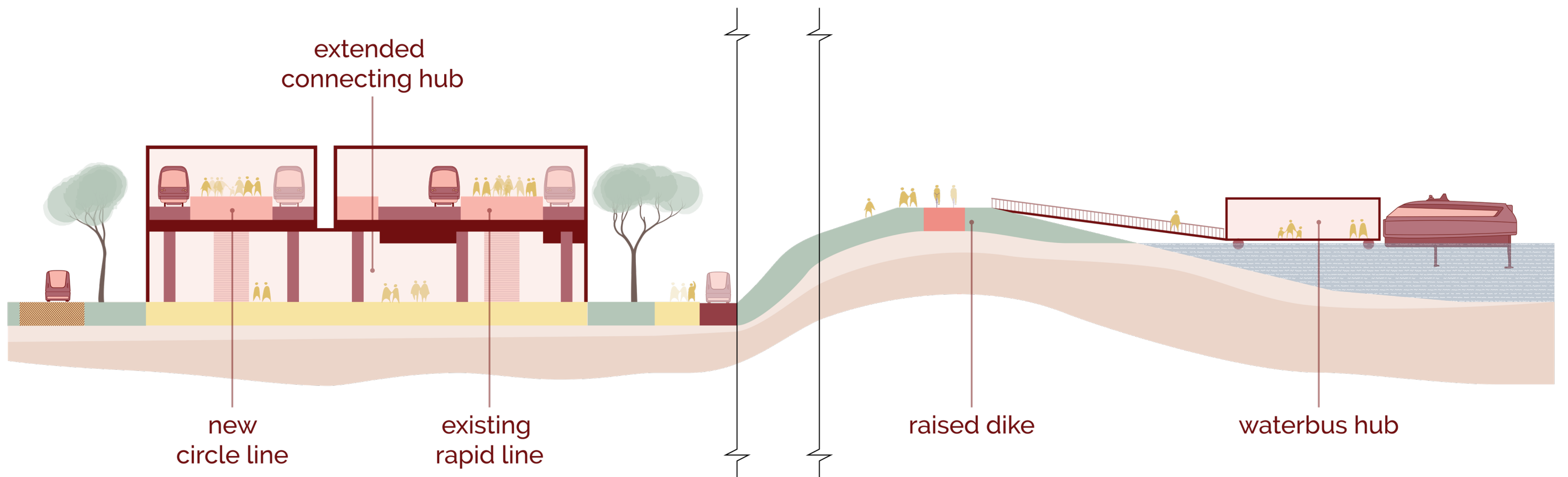
BUILDING BLOCKS - NETWORK RAPID AND CIRCLE LINES

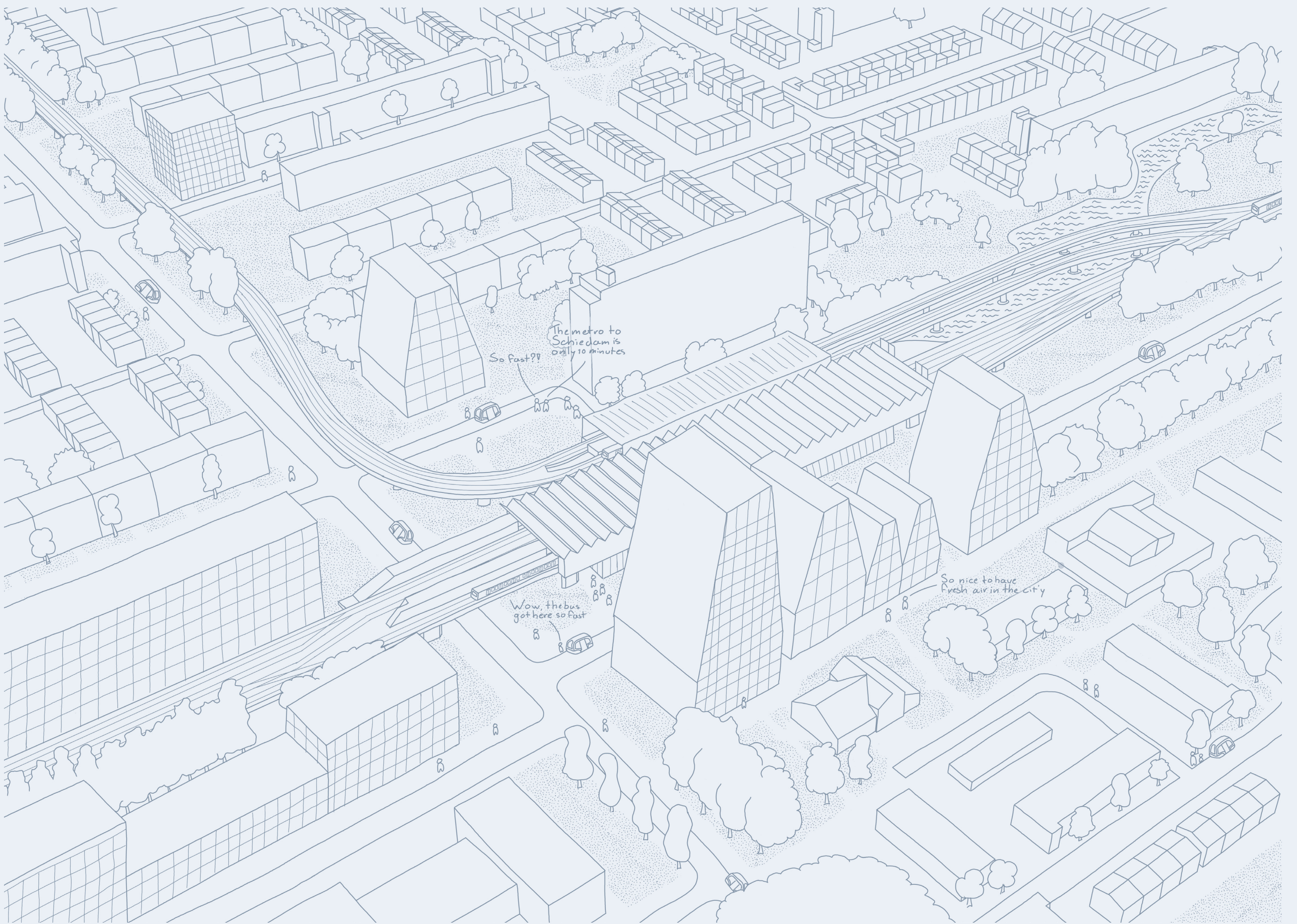
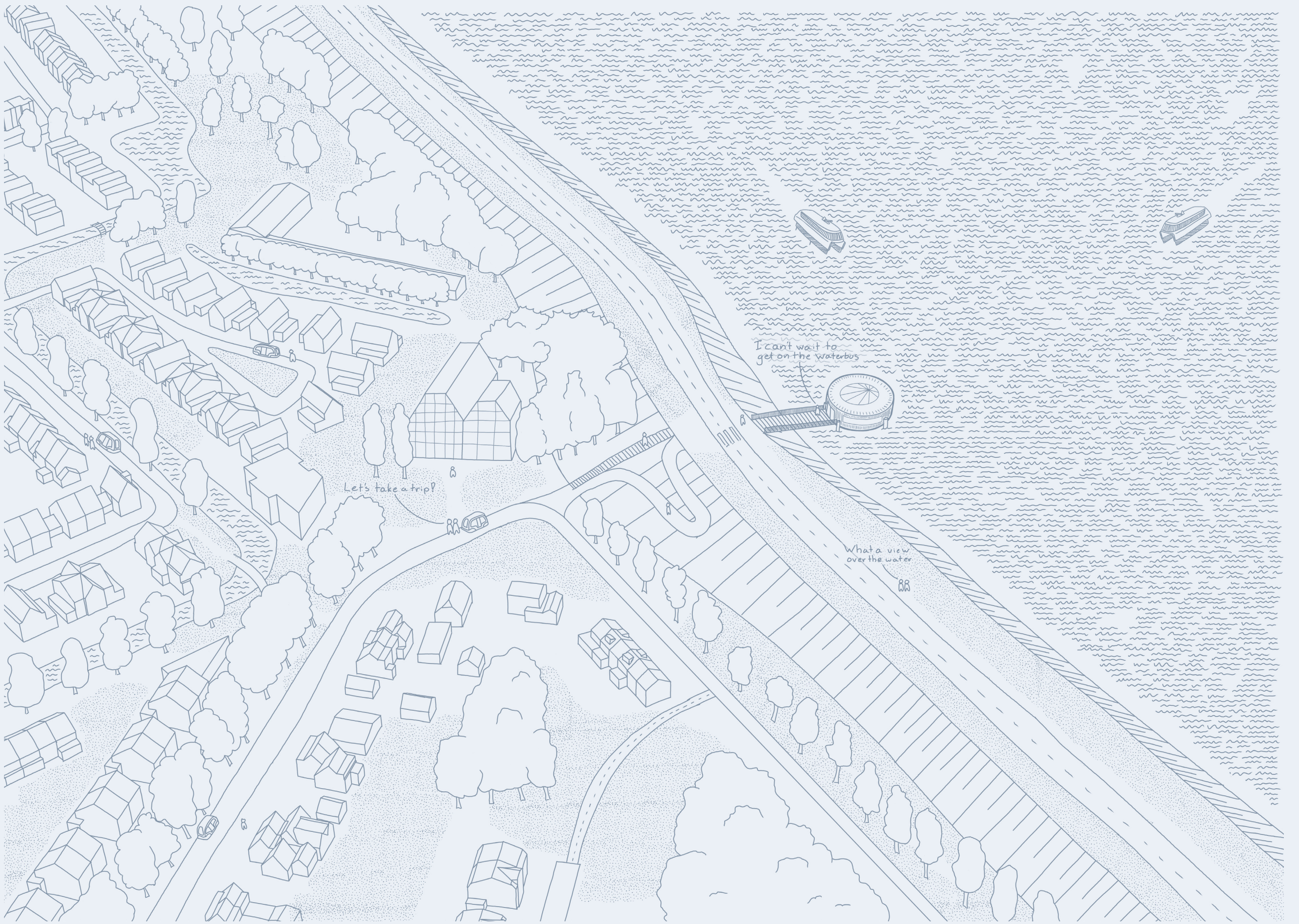


BUILDING BLOCKS - NETWORK AUTONOMOUS AREA



BUILDING BLOCKS - NETWORK HUBS





CURRENT TRIPS AROUND THE RANDSTAD

My personal trips around the Randstad mostly involve going to work, visiting my parental home, visiting friends, and going around in Rotterdam. For this, I have multiple modes of transport at my disposal. These are my motorcycle, public transport, cycling, and walking.

When going to work there are multiple options. By train, by metro, and by motorcycle (when the weather is nice enough). The cheapest of these is going with the motorcycle (when only calculating the fuel), followed by the metro and the train. The cheapest is only €2,50, with the metro and train being €5,41 and €7,66 respectively. In case of the time that it takes, the motorcycle also comes out on top, with only 30 minutes. Hereinafter come the train and the metro, with 1 hour and 1 hour and 15 minutes.

When going back to my hometown there are only two options, by motorcycle and by bus. Taking the bus is in this case twice as expensive and takes twice as long as going by motorcycle.

Moving around in Rotterdam, I almost always take my bicycle. When comparing the prices of the trips itself you can see that the public transport is considerably more expensive.



CURRENT TRIPS IN THE FUTURE DELTASTAD

When comparing the current trips around the Randstad to the same trips in the future Deltastad, some of the trips themselves are not all that different. Of course, no more personal vehicles means that

The public transport system is more than just a viable option for the same destinations. Due to the roads not being there anymore, the personal vehicle is not used.

Of course, the landscape that is currently visible will change. A lot more water will be visible when traveling between cities. New connecting stations will also improve the accessibility of the public transport system as a whole. Due to the amount of people now using the public transport system costs have come down, and costs €1,- per 10 minutes of travel on the intercity, rapid, and circle lines, while the use of the bus is free.

