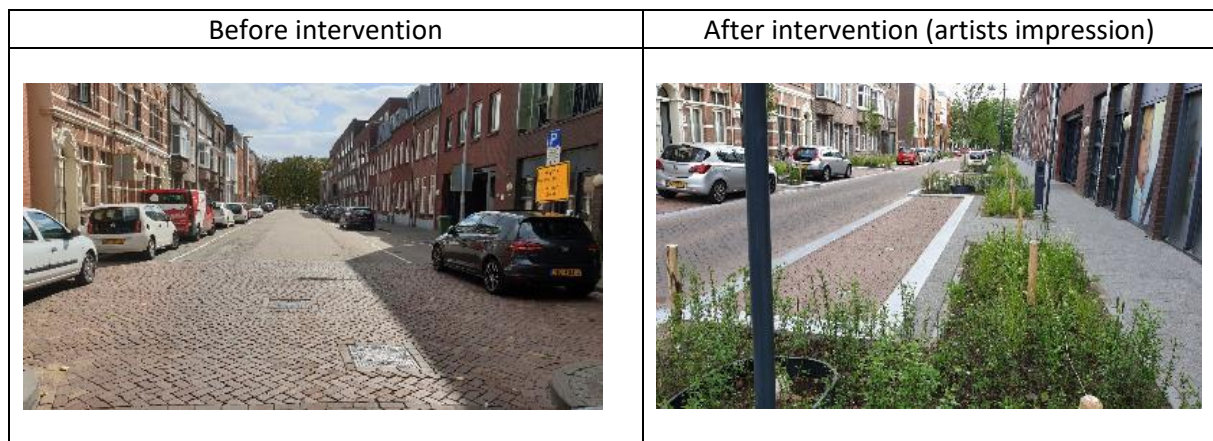




## Using trees and planting to cool a residential Street Breda – Menno van Coehoornstraat

### Summary

The Menno van Coehoornstraat is a residential street on the edge of the city center that until recently was completely hard surfaced. Through Cool Towns, the municipality in consultation with residents, has had the opportunity to green the street making it more attractive and climate-proof. Using the underground root space systems – or ‘tree pits’ – provided by the project partner Green Blue Urban, the trees have the best chance of good establishment and healthy growth.



### Location

Breda is a medium sized city in the south of the Netherlands with about 180,000 inhabitants. It is projected to experience increasing hot summers and water scarcity due to climate change and this will negatively impact on the liveability and quality of life in the city.

### Site Description

The Menno van Coehoornstraat is a residential street near the main railway station on the edge of the city centre. To the south there is a busy street and a canal; the railway line is to the north. This is one of three streets that are the only residential areas in this part of the city. A diverse group of people live here, including students, young families, and the elderly. There are no businesses.

### The decision-making journey

The street is mostly used by the residents but also by cars and pedestrians walking to and from the station. There are garages but there is a need for parking on the street. The houses have no front gardens, and the pavement goes right up to the front door. The north-south orientation and lack of shade means this street heats up particularly quickly and the residents asked the municipality to find a solution and make the road more pleasant. Meetings with residents suggested a new design with more trees and more greenery next to the parking spaces. The municipality needed funding to achieve this and the connection with Cool Towns project partner Green Blue Urban led to the contribution

root cell systems, also known as tree pits, to ensure the trees had the best possible establishment and future growth.

### Implementation

There was both political and residential support for greening this street. The location near the historic city centre required thorough research before any work to ensure the historic underground defence structures were not damaged. Funding came from the Cool Towns project combined with the existing maintenance budget. A Dutch company, [Joosten Kunststoffen BV](#), helped install the tree pits with the municipality engineering department overseeing the project.

**Indicative costs:** please note that costs have been rounded and, while accurate at the time of implementation, can only be used as an indication of cost.

Capital Cost	€	£ =1.15€
GreenBlue Urban contributed 16 ArborFlow tree pit systems	0	0
The costs for realizing the green and the root systems was 21 € 0,21 million.	210,00	18,307
The cost for constructing the root systems was € 11.100	11,100	9,675
18 x <i>Magnolia Kobus</i> trees	8,000	6,974
154 m hedge ( <i>Ligustrum vulgare</i> )	6,800	5,926
243 m <sup>2</sup> ornamental grass ( <i>Luzula sylvatica</i> )	3,000	2,615
The overall cost of this project was approximately 0.7 million <b>Total</b>	<b>700,000</b>	<b>610,135</b>

Maintenance Costs per year per unit	€	£ =1.15€
Grass m <sup>2</sup>	1.10	0.96
Tree	18.50	16.12
Planting m <sup>2</sup>	4.50	3.92
Paved areas m <sup>2</sup>	0.75	0.65
<b>Total</b>	<b>45.30</b>	<b>39.48</b>

**Reflection:** The residents are happy with the process and with their green street. They are proud to 'be part' of the Cool Towns project. Our engineering department were happy working with the Dutch company for the installation of the root systems although this was more work than anticipated.

MEASURES OF SUCCESS	Evidence
Reduction of PET value (baseline vs result values, comparison with reference point)	A reduction in PET of 6.2°C was measured under the magnolia trees
Size of the area (m <sup>2</sup> ) with improved heat resilience (the total area that benefits from the measures approximate this by using the same approach used for the initial estimation in the application)	1850 m <sup>2</sup>
Number of daily users benefitting from the intervention (if relevant/available: are there specific times of day or the year when there is heavy use?)	Around 200 each day
Co-benefits achieved (e.g. biodiversity, pollution reduction, economic benefits, influence on property value, long-term savings, aesthetic improvement, psychological impact etc.)	Quality of life, house prices, biodiversity, aesthetic improvement

**Technical and financial specifications:** Information on the ArborFlow tree pit systems with the RootSpace Soil Cell, made of 100% recycled polypropylene, is available at [Cool Towns Breda - GreenBlue Urban](#).