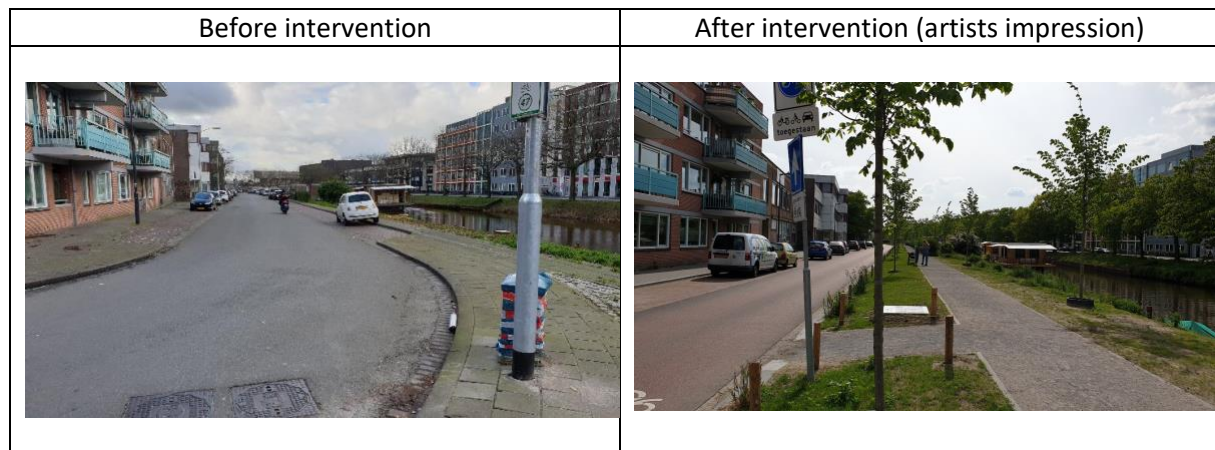




Using trees and planting to cool a residential Street Breda – Nijverheidssingel

The Nijverheidssingel is a residential street with a few businesses on the edge of the city center that until recently was extensively paved. Through the Cool Towns project the municipality has had the opportunity, in consultation with residents, to realize a double row of trees with a footpath between them by making the roadway narrower and reducing parking spaces. The street is now a bicycle street where cyclists have priority over cars. This made the street more attractive and climate-proof.



Location

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

Site Description

The Nijverheidssingel is a residential street on the edge of the center. On one side there are low rise flats and some commercial buildings; on the other are parking spaces and a green bank. The road is used fairly intensively by cars. It is part of the structure called the Singel, which consists of a canal, a green, ecological, bank and a road, and encircles the historic center of Breda.

The decision-making journey

The municipality has an ambition to realize a double row of trees, to either side of a pedestrian pathway, and to reduce vehicular traffic as much as possible. The regional energy supplier also had plans to install large heat pipes in this street so there was a clear reason to talk to the residents about a new design and to develop this project. The process has transformed this street from a two lane to a one-way street, with cyclists the main users, a so-called “bicycle street”.

Implementation

The need to combine the redesign with the installation of the heat pipeline, carrying out both activities at the same time, there was urgency. It was challenging to fit the heat pipe and plant the trees alongside the existing services, the pipes for sewage, gas, and water.

In consultation with residents, the street has been narrowed and only the parking spaces on the side of the street with flats have been retained. The Cool Towns project has provided the budget for greening the street.

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 €
The costs for realizing the greening was € 0,14 million.	140,000	122,124
310 m ² ornamental plants (<i>Mahonia aquifolium</i> 'Apollo', 75m hedge (<i>Fagus sylvatica</i>) 105m hedge (<i>Fagus sylvatica</i>) 10m hedge (<i>Ligustrum ovalifolium</i>)		
The overall cost of this project was approximately 1.9 million Total	1,900,000	1,656,892

Maintenance Costs per year per unit	€	£ =1.15 €
Grass m ²	1.10	0.96
Tree st	18.50	16.13
Planting m ²	4.50	3.92
Paved areas m ²	0.75	0.65

Reflection: what went well/what could have gone better?

The residents are happy with the process and with their green street with less traffic. They are proud to 'be part' of the Cool Towns project.

MEASURE OF SUCCESS	EVIDENCE
reduction of PET value (baseline vs result values, comparison with reference point)	An indication of the expected PET reduction can be derived from measurements on the nearby Mauritssingel in Breda, that has a similar double treeline with mature Silver Lime trees. A PET reduction of 13,4 – 14,8 °C was measured there (09/2021).
size of the area (m2) 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 form)	2915 m2
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 1000 each day
co-benefits achieved (e.g. biodiversity, pollution reduction, economic benefits, influence on property value, long-term savings, aesthetic improvement, psychological impact etc.)	Less traffic, 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](#).