

REPORT OF THE PILOT ACTION OF URBAN ENVIRONMENTAL ACUPUNCTURE CHORZÓW CITY

D.T3.1.4

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The city of Chorzów is a city located in the centre of the Metropolis GZM, with an area of 33 km² and a population of 107,807 (2019). The city has large green areas within its borders (northern, eastern and southern part of the city). In Chorzów you can visit the largest city park in Europe. There are many attractions in the park: the Silesian Planetarium, the Silesian Zoo, the Amusement Park and the open-air museum with an area of 535 hectares. Due to the location of green areas, the functional and spatial structure determines the high population density - 3243 people / km² and the accumulation of sealed areas in the districts of Centrum, Chorzów II, and Chorzów Batory. Such a structure favours the occurrence of the surface urban heat island (SUHI) phenomenon in summer - areas with higher surface temperature in relation to the neighbouring areas. The occurrence of elevated temperatures has a negative impact on the thermal comfort of residents, therefore the investments selected for the city have been indicated within the areas with identified SUHI.

Investment locations:

1. Bankowa Street (green street),
2. Moniuszko Street (green roadside),
3. Chorzów Cultural Center (green wall),
4. Real estate area at Armii Krajowej 32 Street (green yard).

Description of the areas covered by the project before the investment:

1. Bankowa Street (area around 1600m²) GPS: 50.29482062156557, 18.95523837092394

Asphalt, sealed communication route between Dąbrowskiego Street and Chopin Street with the roadsides that is going to be developed with greenery. The site is adjacent to the Intergenerational Integration Centre. Location of Chorzów Centrum, in the area where the surface urban heat island (SHUI) phenomenon has been identified.

2. Moniuszki Street (wall area about 300m²) – GPS: 50.29924268090845, 18.953425479663146

Paved surface with a retaining wall (behind the wall there is an exit from the flyover). No greenery. Location of Chorzów Centrum, in the area where the surface urban heat island (SHUI) phenomenon has been identified.

3. Chorzów Cultural Center Sienkiewicza Street– GPS: 50.297091506850144, 18.949785539158345

The building of the Chorzów Cultural Center with an entrance located on the side of Sienkiewicza Street, (near the commercial route - Wolności Street). No greenery. Location Chorzów Centrum, in the area where the phenomenon of the urban surface heat island (SHUI) phenomenon has been identified.

4, real estate area at Armii Krajowej 32 Street (yard with area around 300 m²). GPS: 50.281169340405604, 18.940240103235244

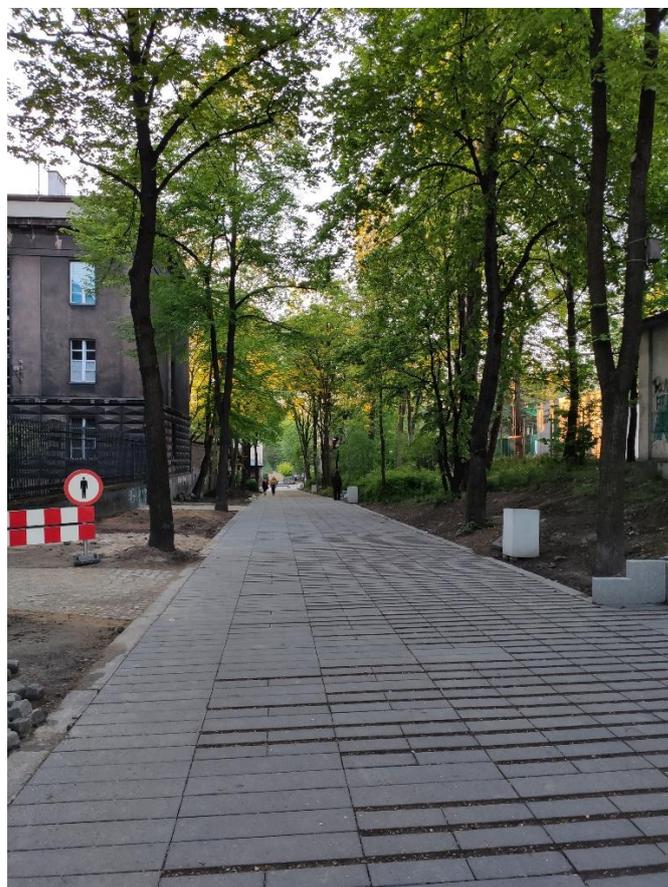
The dirt floor is used as a car park. The area is shaded and devoid of greenery, limited by a concrete retaining wall of the railway embankment, visible from the windows of the tenement house. Location in Chorzów Batory, in the area where the phenomenon of the urban surface heat island (SHUI) has been identified.

2. Summary description of the pilot action (including investment, if applicable) explaining its experimental nature and demonstration character, investment cost

Range of investment:

1. Bankowa Street

- replacement of the street pavement from asphalt with concrete slabs with slots filled with grass,
- execution of a pavement with a mineral-resin surface,
- making entrances made of granite cubes,
- setting up a lawn on the side of the street,
- planting shrubs and perennials,
- equipping the area with litter bins.



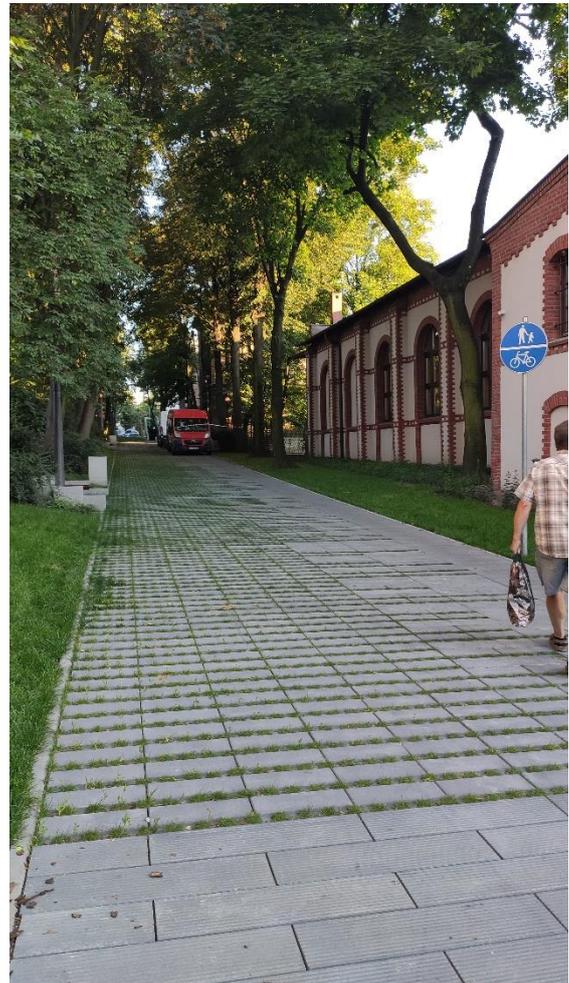


Photo:: UM Chorzów, M.Fudala (IETU)

2. Moniuszki Street

- modernization of small architecture elements (stairs),
- separation of a green belt along the side of the street,
- construction and assembly of a structure supporting vines on the retaining wall,
- greening the retaining wall and the separated strip by introducing vines (common hop) and setting up a lawn.

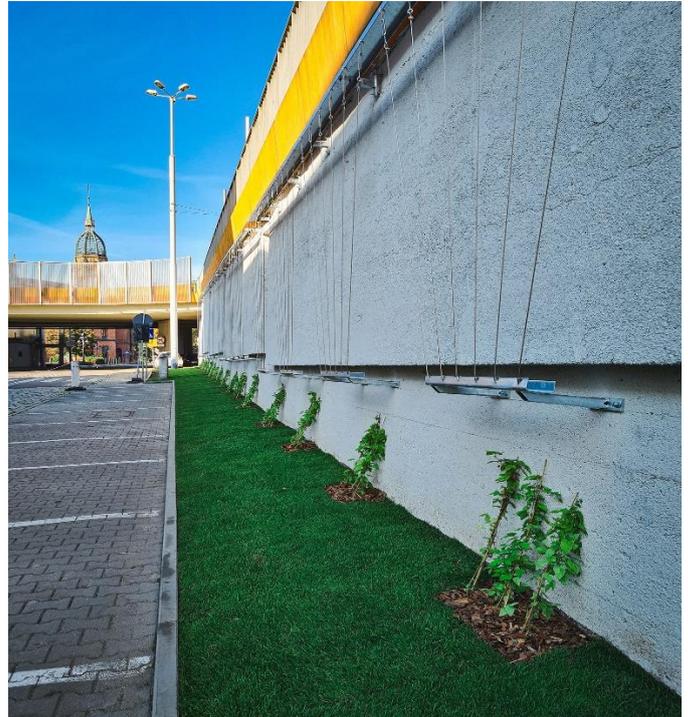


Photo: Chorzów

3. Chorzów Cultural Center

- implementation of a green wall, it covers the area around 50m² with irrigation system and lighting

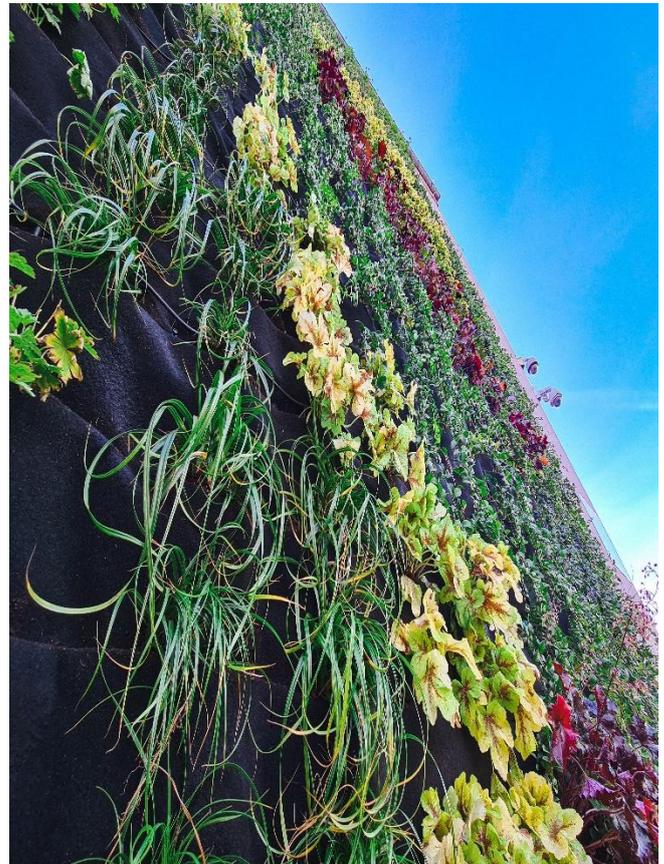


Photo: Chorzów

4. Real estate area at Armii Krajowej 32 Street (green yard).

- separation of a communication zone and a green zone,
- making the pavement of concrete slabs with gaps filled with grass communication zone,
- making a mini playground area from concrete slabs,
- development of green areas along the retaining wall based on plantings shade-tolerant plant species (hornbeam) in a row order,
- separation of lawns at the entrance to the building with hedge bushes,
- greening the concrete fence by introducing vines, -
- equipping the yard with benches and pots with herbs.



Photo: Chorzów

3. Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

Results and planned benefits from the investment implementation:

1. Bankowa Street



- reducing negative impact of the surface urban heat island phenomenon, improving thermal comfort,
- improvement of water retention by unsealing the bituminous surface,
- introduction of greenery, in particular native species,
- improving the image of the street, aesthetic aspect,
- increasing the share of green areas in the very centre,
- green corridor between city parks (Park pod Kasztanami and Park Hutników), as a communication route to the City Hall (Market Square),
- a new place of recreation / rest, functional connection with green spaces in this area.

2. Moniuszki Street

- reducing negative impact of the surface urban heat island phenomenon, improving thermal comfort,
- improving the image of the place, aesthetic aspect,
- introduction of greenery, in particular native species,
- increasing the share of green areas in the very centre,
- people-friendly because the green part of the road is located near the market square in Chorzów, creating a kind of functional connection with green spaces in this area

3. Chorzów Cultural Center

- reducing negative impact of the surface urban heat island phenomenon, improving thermal comfort,
- improving the image of the place, aesthetic aspect,
- introduction of greenery, in particular native species,
- increasing the share of green areas in the very centre,

4. Real estate area at Armii Krajowej 32 Street (green yard).

- reducing the adverse impact of the surface urban heat island phenomenon, improving thermal comfort,
- improving the image of the place, aesthetic aspect,
- introduction of greenery, in particular native species,
- creating a friendly resting place for the local community.

4. Sustainability of the pilot action results and transferability to other territories and stakeholders.

Pilot activities carried out in the project on the basis of the developed methodology ensure sustainable implementation and the possibility of replication in other areas and among other stakeholders. The method of introducing urban green acupuncture is based on the well-known method developed by Jamie Lerner. In addition, the inclusion of stakeholders, e.g. residents, representatives of public administration, NGOs at all stages of the project implementation, allows for constant interaction and possible correction of interventions dedicated to a given area. Such an approach makes the stakeholders more aware of what is happening in a given area, but also



makes them jointly responsible for the results of the implementation. In this way, they have an impact on shaping the space in their neighbourhood.





Photo: Chorzów, Silesia Events; M. Fudała (IETU)



5. Lessons learned and added value of transnational cooperation of the pilot action implementation (including investment, if applicable)

- _ Investments implementation in the framework of urban environmental acupuncture has given a good example of how small nature based solutions can improve a local climate conditions and also can contribute to better living standards of the inhabitants. The initial ideas of the investments have been discussed within the project partnership and the final transnationally accepted pilot action was formulated for further proceeding.
- _ It was also important to get suggestions during public consultation of the investments design concerning the final solutions which could then get a positive adoption of the users. The visible results of acupuncture implementation will contribute to promotion of this idea and better understanding of importance of even small interventions aiming at improving local climate.
- _ Practical comments:
 - Action plans should take into account activities / tasks of other projects of a similar nature - compatibility of action plans - this gives a greater chance for implementation;
 - The restrictions related to COVID-19 have certainly had a negative impact on the implementation of the project. Online meetings, both with stakeholders and other project partners, are not comparable to "physical" meetings. "Physical" meetings attract the attention of the listener better, it is easier to engage him, and there is better interaction.
 - Large bureaucracy associated with the "processing" of the project (the preparation of the budget and its changes very complicated procedure, similarly complicated method of settling the costs incurred in the project with the supervising unit (CPE))
 - More flexible shifting of funds between budget lines (it is especially felt in a pandemic situation, where expenses for travel and events were practically unrealized)
 - An increase in costs, unpredictable at the time of drawing up the tender documentation, resulting in the inability to settle the costs actually incurred for the project

6. Contribution to/ compliance with:

- relevant regulatory requirements
- sustainable development - environmental effects. In case of risk of negative effects, mitigation measures introduced
- _ D.T1.1.1 Methodology of selection of spots for urban environmental acupuncture (UEA)
- _ D.T1.2.1 Report on principles for selection of interventions
- _ D.T2.2.1 Action plan for UEA for Chorzów FUA (PL)
- _ D.T3.1.1 Assessment of soil and climate conditions for 4 small spots with recommendation of plants
- _ D.T3.1.2 The investment preparation documentation for pilot action in Chorzów