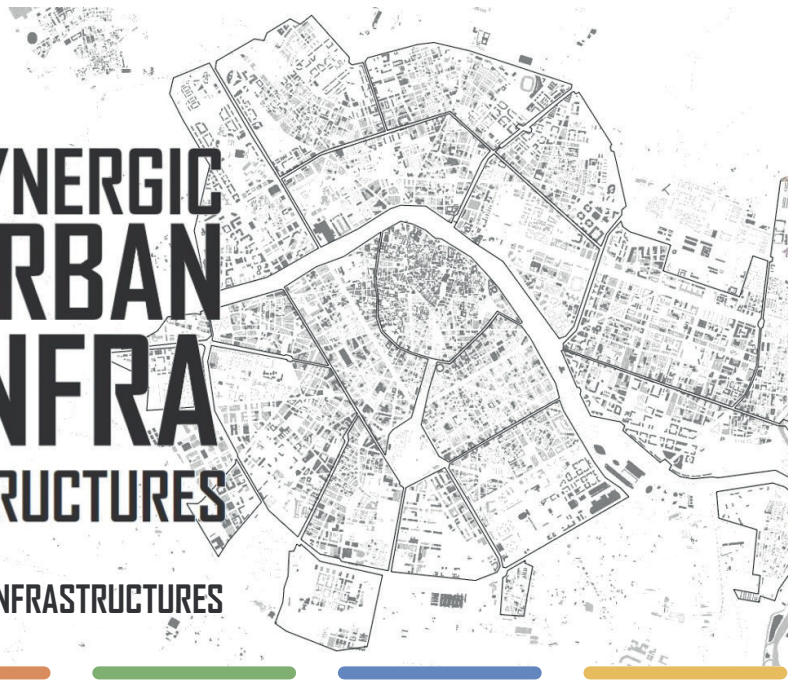
VLC SYNERGIC URBAN INFRA STRUCTURES



VALENCIA SUMMER SCHOOL ON SYNERGIC URBAN INFRASTRUCTURES

Editors: Juanjo Galan Vivas | Luis Bosch Roig

To cite this publication please use the following reference:
Galan Vivas, Juanjo and Bosch Roig, Luis (editors) (2024). *Valencia Summer School on Synergic Urban Infrastructures*. Valencia: edUPV. DOI: https://doi.org/10.4995/2024.677901

Editors
Juanjo Galan Vivas
Luis Bosch Roig

Authors
Juanjo Galan Vivas
Mrudhula Joshy
Stefano Salata
Fabio Bayro Kaiser
Christian Larisch
Alena Cohrs
Carolina Pacchi
Christoph Wessling
Maciej Lasocki
Kinga Zinowiec-Cieplik
Luis Bosch Roig
Julia Deltoro Soto
Christa Reichter
Adolfo Vigil de Insausti

Edited by: edUPV, 2024
Ref.: 6779_01_01_01

Graphic design and layout
Júlia Martínez Villaronga
Juanjo Galan Vivas

ISBN: 974-84-1396-254-2 (printed version) ISBN: 978-84-1396-255-9 (electronic version)
DOI: https://doi.org./10.4995/2024.677901

TABLE OF CONTENTS

4.1_TEAM 1. VALENCIA WATERMOSAIC: REVITALIZING ECOSYSTEM THROUGH URBAN WETLANDS

Stefano Salata | Assistant Professor, Politecnico di Milano
Carolina Pacchi | Full Professor, Politecnico di Milano

The final solution made by the multi-thematic Team 1 was built within the framework of the course, with the inclusion of Task 1 and 2 in the Online and Onsite Phase. Within the final proposal, a planning methodology was devised, centering on the concept of synergy. The spatial understanding of six infrastructural components unfolded under the guidance of goals and visions, revealed both conflicts and synergies. Noteworthy recurring relationships were identified, particularly those about social connection, accessibility, and continuity.

Task 2 fostered the introduction of an innovative technique designed to generate super synergies in spatial strategic planning, effectively pushing the conventional boundaries of urban planning. What has been determined as a key aspect in that phase, was that the super-synergistic approach was based on a spatial definition of conflicts and potentialities in the study area. This new perspective led to significant advancements in the way Team 1 approached spatial constraints while designing their solutions. In fact, despite the goal of Task 2 was apparently simple - to develop a theoretical operational framework (tool) to understand how the different infrastructures generate trade-offs or synergies between them – the methodologies to define a super-synergic approach were many, ranging from matrices of binary correlations between design alternatives to the creation of expert focus groups with open discussions. To speed-up the process and develop more concrete and grounded solutions, Team 1 developed a “simplified” method based on a spatial definition in the study area of the “problems and possibilities” intended as a representation of hot and cold spots where multiple solutions were not conflictual in space (possibility) or, on the contrary, where solutions were clashing due to trade-offs. That mid-term task was developed in a slightly different way to other teams, but this difference was key to understanding better the space and the constraints of the proposed solutions (see Figure 4.1.1). With that delivery, then Team 1 jumped immediately into a concrete definition of the Masterplan structure, highlighting the pillars of the design project (Task 3).

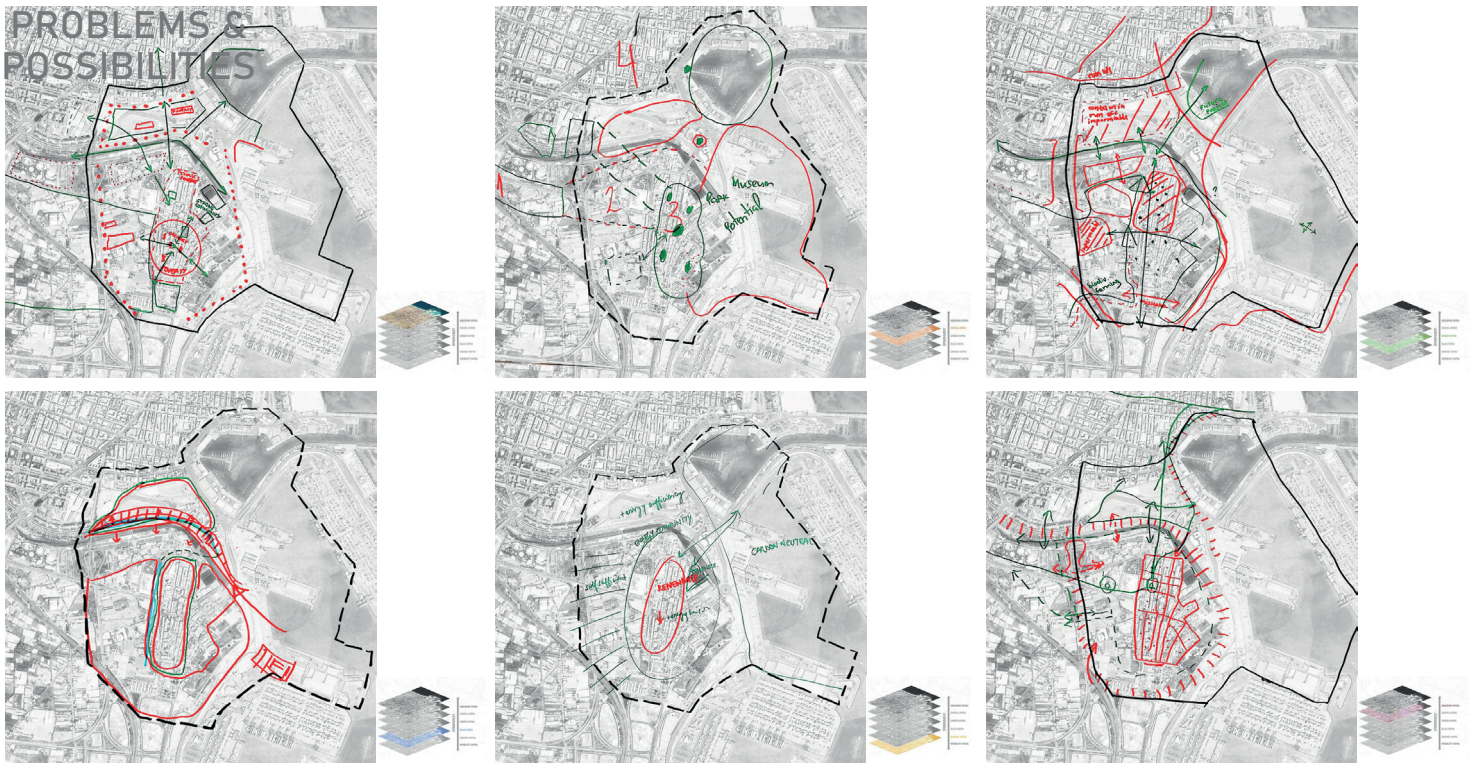


Figure 4.1.1. Spatial definition of the problems and potential in the study area (source: TEAM1: Berner, Szymanski, Rameika, Schulz, Kannampallil, Zhu, 2023)

Subsequently, Task 3.1 witnessed the development of a spatial strategy map for the designated pilot site. This map seamlessly integrated elements such as tram line extensions, connectivity enhancements, green infrastructure, and options for social housing. Task 3.2 delved into the intricacies of the El Grao neighborhood, addressing aspects of accessibility, social rejuvenation, and continuity. The resultant proposal of Team 1 was named "Valencia Watermosaic: Revitalizing Ecosystem through Urban Wetlands" (Vamos a mar), and, synergistically, amalgamated the methodology from Task 2 and the lines of action from Task 3.1. The proposal articulated four overarching strategies: "Sea to City," "Social Rejuvenation," "Accessibility," and "Continuity" (Figure 4.1.2). These strategies not only promoted the generation of super synergies within the intervention area but also significantly enhanced the overall functionality of the locale and its broader urban surroundings.

The design process has been mainly incremental and iterative. Team 1 worked immediately on sketching up the first ideas while sharing their thoughts during the first round of debate. The result of this was the generation of different alternatives that were discussed critically. Once a couple of design alternatives were discussed, the Team had a brainstorming to jot down a final comprehensive solution that amalgamated the different proposals and finally reached the main design solution.

The main idea of the design solution was to bring the sea to the city again, without touching the port area, which remains one of the most challenging and controversial decisions since it depends on the willingness to open a way to the sea in the commercial port area (which seemed to be unreasonable due to the freight transportation that cross all the port area and the intense utilization of the port).

Besides, another important factor drove the decision to create an internal wetland: the simulations made with the digital elevation model of the sea level rise clearly demonstrated that a 1m scenario of seal level rise was enough to have part of the port mouth flooded by sea intrusion. Therefore, while the majority of the design proposals were extending the ex-Turia River park to the sea, Team 1 critically discussed the importance of understanding that the natural dynamic was the opposite: not forcing the extension of the green into the blue but gradually design and plan the intrusion of the blue into the green. This intuition led to a significantly different concept: to use Valencia as a pioneer case of study where the first climate-adaptive neighborhood was designed to regenerate the space while giving the city a significantly different image where the seawater was contaminating the inland areas (Figure 4.1.3).

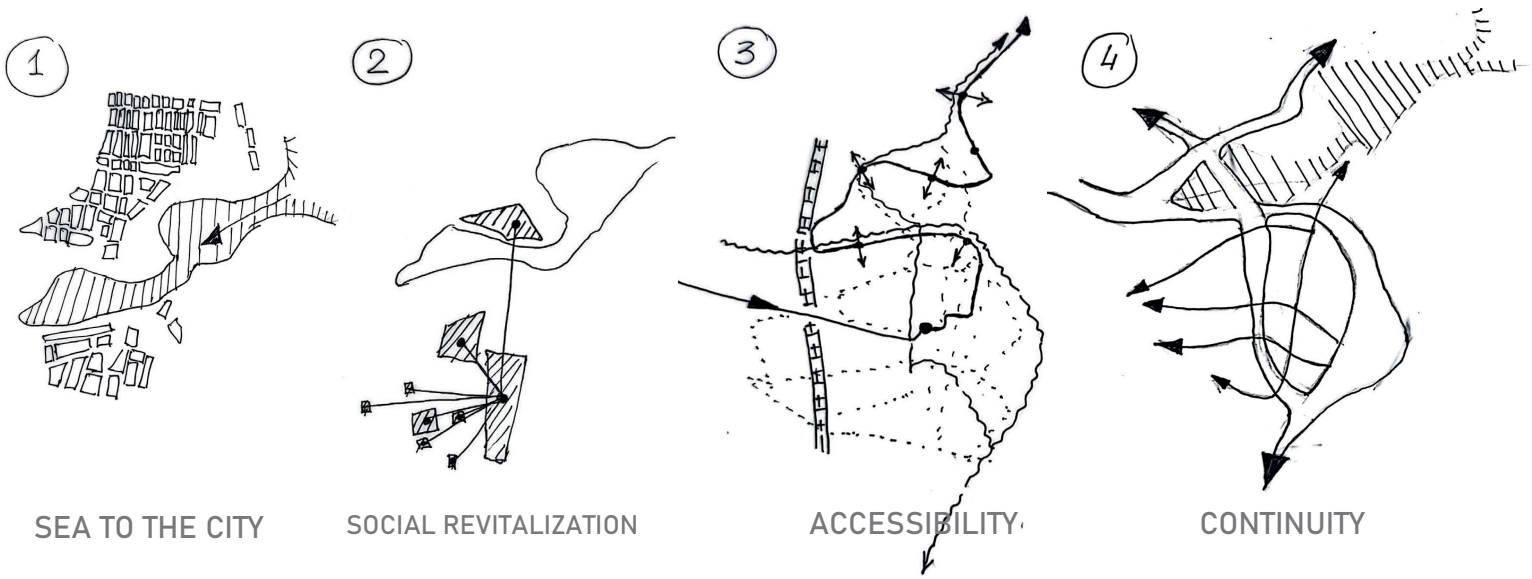


Figure 4.1.2. Conceptualization of the spatial strategy concepts (source: TEAM1: Berner, Szymanski, Rameika, Schulz, Kannampallil, Zhu, 2023)

A critical analysis of the collective experiences within the course, reveal that students' approaches have been transformative. As the course approached its conclusion, anticipation grew for the final task - an open presentation to synthesize the collaborative efforts of the multi-thematic teams throughout our tenure in Valencia. Through "Valencia Watermosaic: Reviving Ecosystem through Urban Wetlands," the objective was to disseminate the successes of the synergic approach to planning and underscore the groundbreaking potential inherent in defining synergy-based design strategies. The insights gained from Task 2, Task 3, and the entirety of the course have equipped the students with a profound comprehension of the transformative influence wielded by the synergy concept in shaping future cities. These valuable lessons and insights extend beyond the confines of Valencia, holding the promise of broader application and transferability in the realm of global urban planning and development.

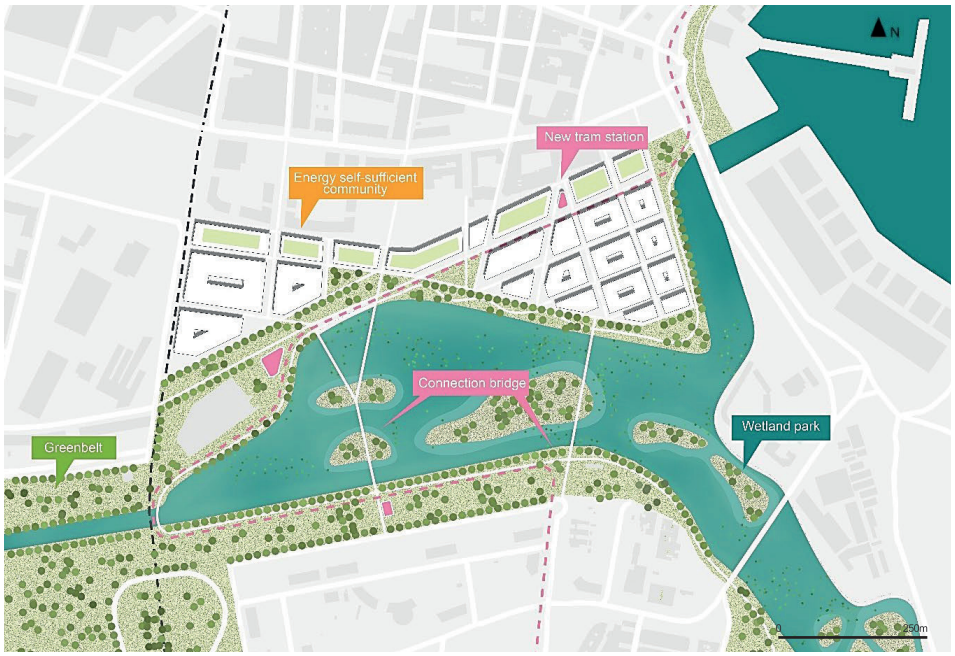


Figure 4.1.3. Detailed representation of the masterplan (source: TEAM1: Berner, Szymanski, Rameika, Schulz, Kannampallil, Zhu, 2023)