



Research & experimentation Ricerca e sperimentazione

LARGE PROJECTS FOR SMALL BUILDING CONSTRUCTION COMPANIES: FROM THE KEY DIAGRAM, TO THE ARCHITECTURAL MODEL, TO THE LOCAL PLAN

Piero Pedrocco

Polytechnic Department of Civil Engineering and Architecture, University of Udine, IT CeNSU - National Center for Urban Studies, IT

HIGHLIGHTS

- The paper promotes new models for urban neighbourhoods, to regenerate the city after the recovery of creative inflation in the new long-term economic cycle.
- The aim is to reverse the traditional urban planning process, anticipating the Volumetric Project, to arrive at the Local Plan only at a later time.
- We try to produce educational experiments on the planning of large neighbourhoods developed at the Laboratorio Integrato di Progettazione Urbanistica of Udine University

ABSTRACT

Along 2016-2019, some educational experiments on the planning of large urban neighbourhoods were developed at the Laboratorio Integrato di Progettazione Urbanistica of Udine University, coordinated by the author with the participation of the architect Elena Olivo and the engineer Giorgio Verri. The attempt is to reverse the traditional urban planning process, anticipating the Volumetric Project, to arrive at the Local Plan only at a later time. Three cities were used: Venice, Udine and Treviso. In Venice compact forms of the lagoon settlements have been designed. Here we tried to rebalance the city with respect to the mainland districts, creating transfer opportunities for inhabitants scattered throughout the metropolitan area, and promoting a new lagoon architecture. In Udine and Treviso forms of infilling, compaction and urban regeneration were sought, with the aim of reducing the sprawl and the spread and to provide urban areas for the construction of buildings demolished in the open countryside for the purposes of landscape refurbishment. The method used is: divide the students into project groups; draw up a Key Diagram of strategies; assign an area to every group; develop analyses on the city and its historical centre and use them to design the urban areas on a 1:1000 scale; join them together in a single project and realize the volumetric model; sketch up some architectures on a 1:100 scale; finally draw up the Local Plan of the whole borough.

ARTICLE HISTORY

Received:	March 15, 2020
Reviewed:	June 12, 2020
Accepted:	July 31, 2020
On line:	November 24, 2020

Keywords

Key-Diagram Architectural-Model Local-Plan Neighbourhood Townscape [2020]

1. METHODOLOGICAL PREMISE

This essay draws on four didactic experiments at the University of Udine, conducted in the Integrated Urban Planning Laboratory by Piero Pedrocco, Elena Olivo and Giorgio Verri together with students of the various academic years. Figures and outcomes are all attributable to them. The project methodology, in 13 phases explained below, is based on a design that from the Key Diagram leads to a Volumetric Project, to end with an urban plan that interprets it. The basic idea is to regenerate the city by designing and renovating compact neighborhoods that shape it for the present and the future.

2. INTRODUCTION

Before designing new neighbourhoods or regenerating old ones we should ask ourselves some fundamental questions. For what reasons should the project be successful over time? For whom are we hypothesizing these urban renewals or these new neighbourhoods? Which kind of transport will connect these neighbourhoods to the rest of the city? The first question obviously cannot be answered with certainty. However, we can use the existing theories to find reasonable hypotheses for the transformation of the territory and of the cities in which we live. Among these hypotheses the most interesting seem to be those linked to the recurrence of economic cycles, and in particular to the repetition of long-term economic cycles. The Super cycles that Nikolai Dmyitriyevich Kondratiev invented in 1925 (Snyder, 1984), can be broken down into 4 phases. The first phase is of inflationary growth and starts from a condition of extreme poverty, resulting for example from wars or epidemics. The Government becomes a passive participant in the inflation cycle and growth expands into a spiral that produces wealth, savings, social differences and production of capital goods to be accumulated for the future. Prices increase, money circulates rapidly and there are technological innovations and claims. After about 20-25 vears the second phase starts. Growth reaches its limits and there is stagnation. The excess capital produces a shortage of raw materials and resources. Production fall down. Unemployment is rising and there is a short primary recession (3-5 years). This phase is followed by a third phase of deflationary growth. The vast accumulation of

wealth over the past 30 years is spent. There is mild consumption-oriented prosperity. This phase lasts 7-10 years and is characterized by selective growth, the development of technological and social new ideas and a feeling of well-being. In the end wealth consumption expands. The result is a fourth phase, of depression, with high debts, real estate and equity speculative bubbles followed by a collapse in interest rates and low inflation with a subsequent fall in raw material prices. Secondary depression involves a collapse of about 3 years, followed by a deflationary-depressive period of about 15-30 years. Interest rates and the purchasing power of wages are lowered. The economic contraction and the devaluation and downgrading that derives from it represents the crisis, which is necessary to "purify" the system of all its excesses and through innovation, restart. Joseph Alois Schumpeter (1911, 2002) spoke of a period of creative destruction, when, through war events or other strong instabilities, chains of inventions are activated capable of reviving the economy towards a new cycle of growth. Well, we would be right at the end of the fourth phase. So, this should be the right time to ask us a fundamental question: what are the models of cities that we would like to see in the next cycle?

To the second question we should respond even in a more uncertain way. At a time when forma urbis seems controversial between localism and globalization, who really are the city users, or users of our urbanized areas, able to modify their future assets? Where could they agglomerate into complex and unexpected shapes? What are the tools that urban planning has or should have at its disposal to guide the development of new centralities and new territorial transformations that these new and old users generate and will generate? The answers to these questions are not easy (Pedrocco, 2017). I start from a previous consideration, on tourism, which I had drawn up in 2012 (Pedrocco, 2013), and which had led me to identify at the beginning 29 types of tourists, to then add others 4. These groups can dictate rules to cities and undermine their administrations. They will also come into conflict with other categories of city users. And these categories of city users are also many, and they are also increasing. I identified 22 categories of city users, but there could be many others that I cannot recognize at the moment, and tourism, for example, is just a voice among them. Certainly, we will build the cities of tomorrow and we will modify those of today for all these users.

What spaces do these people require with their activities? What spaces will the new production models require, which will be characterized by personalized products and globalized local units? Surely, we should answer these questions with a certain flexibility of the designed spaces, because they look to be critical (Virilio, 1988) from a long time (Jacobs, 1961).

Finally, at the third question, we could try to give The more and more required separation of the pea more convincing answer. Cities throughout destrian from the traffic should not then be traced the world are evolving according to increasingback to the considerations, although interesting, ly polycentric forms, in many cases dissolving in of the Modern Movement. It rather derives from the regional space (Desideri, 2001), where netthe natural propensity for slow self-organization works grown their importance (Castells, 2004). of urban centres or neighbourhood that agglom-Metropolitan areas turn into clusters of relatively erate, as was often the case in the larger medieval independent districts, where visions of cities are cities and as seems to happen in many contempotraces that persist in the collective memory, like rary metropolis, but with greater naturalness than remnants escaped from the dissolution of pre-inin industrial and modern city, which are too rigid and defined in size and too studied in the dimendustrial society (Perulli, 2009). We find urban boroughs, as in the best tradition of London, also sional and transport relationships between home in the ancient history of many medieval cities. In and work, as if nothing else existed in human life. Venice, as an example, the various islands have Thus, the imagined dimension for pedestrian arfunctioned for centuries as settlements of a comeas tends to surpass the concept of the periphery. plex and polycentric system. Every Island gath-And the periphery is what almost happens to be ered around a *campo*, originally space of the mararound and out from something that matters. This ket. If we want to summarize, by exaggerating the externality of the peripheries and suburbs (Unwin, very reason for the formation of Venice, we could 1909) depended on the speed of development of say that the city was formed in the High Middle the industrial society, which did not allow any oth-Ages, in a long time. The early Venetians had not er form of agglomeration if not the accumulation wanted to mix nor with Latins nor with Barbariof individuals to be transported to the production an peoples. They retreated towards the marshy areas. With a rationality and rigidity of the social territories of the coast, where probably there was housing districts that often recalls the military still no real lagoon, and maintained their original type, for the foundation of colonies. differences between sub-tribes. When the lagoon Along 2016-2019, with these problematic premwas formed, with medieval marine transgressions, ises, four didactic experiments on the planning of large urban neighbourhoods were developed these groups gathered on nearby islands, looking like a set of separate island villages keeping their at the Laboratorio Integrato di Progettazione Urdominant aristocratic families in an almost Greekbanistica of the University of Udine, coordinated type social structure. These different islands will and conducted for the teaching of Urban Planning have had their centre of trade (the current *campi*) by me, conducted for the teaching of Architecture and power (the *fondaco*-palace). Thus, the city that by the architect Elena Olivo and for the teaching of formed could only be polycentric, oligarchic and Hydraulics by the engineer Giorgio Verri. We dedense, due to the lagoon waters that lapped the veloped projects for large urban districts destined many *insulae* of the settlements. At that time the to rebalance distorted settlements or to mend mobility between the various islands was aquatup little or badly developed parts of cities, along ic rather than pedestrian. But it was certainly peperipheral axes poorly integrated with each othdestrian within each island. The polycentrism of er. And we did it with regard to the specific forms Venice, born in critical conditions, seems incrediof architecture (Zumthor, 2003; Gregotti, 1993, bly to respond to some needs of the contemporary 2011), the problematic shapes of nowadays towncity. And we could have a similar approach to the scape (Zardini, 2002), the hydraulic invariance of Rome development at the beginning, for the recipurban transformations (Pistocchi & Zani, 2004) rocal threating of different villages on hills. This and the recovery of rainwater from both green division in boroughs happen today in medium or roofs and numerous other devices (Rimoli, 2010).

large cities, where Transit Oriented Development (Calthorpe, 1993) can serve the movement of people between different districts or cities, which together generate a polycentric system. In it the various poles or centres, can more or less respond to different specializations, and within them people move on foot, by bicycle or with a typical local collective transport (buses, funiculars, ...).

2. PROJECT AREAS: AS LARGE URBAN RENEWAL DISTRICTS

Behind our experiments there are some attempts and hypotheses that can be briefly summarized as follows: a) to find urban development models coherent with the history of our Country and of the European context of the compact city, b) to hypothesize to reduce the consumption of soil not only through constraints of difficult application but through a new culture of the city that attracts the dispersions of twentieth-century urbanism with long transmigration, c) to provide useful models for good practices, in the case of restart of inflationary development, d) to rethink Italian urbanism starting from a volumetric project that guides the entire borough on which to superimpose a Local Plan, e) use the methods of integrated public-private planning to implement both recovery and expansion (Ministero dei Lavori Pubblici, 1997, 1999), for regeneration and reconfiguration of settlements, parts of the city, or the entire city. Until now we have operated on three cities: Venice. Udine and Treviso with utopian tones in the first two, but necessary for teaching and to overturn stale visions of apparently unchangeable situations. The fourth experiment was carried out on the peripheral North-West quadrant of Treviso, precisely to verify the feasibility of our methods even with respect to the current legislation. In this case there is the purpose of verifying the law and finding solutions to the long-standing issue of the landing of volumetric "credits", promoted by authority to improve urban refurbishment and reduce sprawl and the sprinkling of buildings. This should derive from good practices of re-naturalization of extra-urban areas. In the while a fifth experiment is imagined on Chioggia for the Laboratory of 2020 (Vazzoler, 2019).

On Venice the 2015-2016 and 2017-2018 laboratories were dedicated, seeking new equilibriums in its urban layout, now unbalanced towards the new "mainland" neighbourhoods (Mestre, Marghera and the Hinterland), with slow abandonment of the islands and lagoon parts. In the first experiment a large neighbourhood was hypothesized on the island of Sant'Erasmo, precisely to rebalance the urban masses compared to mainland districts and bring residents back to the Lagoon, regenerating habitability even for the northern part of it, so to involve historical sites like Burano, Tre Porti and Lido, as well as join better the city and the Cavallino peninsula, which in summer has 6 million tourist presences. The textures of the insular city and the typical dimensions of its palaces, of its streets, of its bridges and of its canals have been at the centre of the students' design attention (Cullen, 1961, 1978), for a contemporary borough made up of multiple parts, 15 as the groups of students involved, so with different patterns and shapes, as was the case for traditional cities over time (Piroddi, 2000). This borough is intended as entirely pedestrian and served by water buses and a subway that connects it to the rest of the city. Also the third experiment, on the Porto Marghera Waterfront, has investigated the theme of the lagoon settlements, but has placed itself in relation with the large dimensions of the Venetian mainland, the industries and the commercial port, almost wanting to surround them and mitigate, to reduce them to healthy industries, of future generation, inside the vast city straddling land and sea. A phenomenon that we imagine, however, that should take place in the coming decades. Here the waterfront is played as a new architectural backdrop of the old city of Venice, which overlooks the Lagoon from a perspective now considered by numerous movies, documentaries and various kinds of exhibitions for its state of industrial area with a very high visual and environmental impact. It is assumed that there are numerous tower buildings, such as gothic cathedrals of a city in formation, capable of reproducing pieces of Venetian fabric at high altitudes, on terraces, and relating, overcoming them, to the size of the large chimneys of chemical pole and to the large engineering and naval structures, which insist on the largest concentrated industrial area of the Country with its 2200 hectares. But it is the urban fabric that in reality is at the centre of the greatest attention of the project. Divided into 12 areas straddling the new artificial Grand Canal, for water buses, built parallel to the Malamocco-Marghera Industrial Canal, the urban fabric shows different structural choices, assigned to different groups of students. It presents 6 peninsular areas, which originate from the railway bridge that crosses the Lagoon and 6 insular and entirely pedestrian areas, on the Petroli island and on the Tresse island. The project is conceived with a dimensional progression from land to water. This dimensional progression leads from higher densities to houses on stilts and on floating barges. And this means the transition between land and water, of which Venice, as a whole, has represented a formidable filter for centuries.

The 2016-2017 Laboratory was dedicated to



a) Inclusion of the Sant'Erasmo urban district in the Northern Lagoon (Pedrocco, Olivo, & Verri, 2017). Step 2. b) Treviso, abacus of the size of the Historic Centre, Canal of Buranelli, (G. Boel, M. Casonato, C. Monculli). Step 4. c) Treviso N-W, neighbourhood traffic analysis, (V. Bisiacchi, F. Bonanni, I. Mansi, O. Blyzniuk, S. Magris, M. Merlini). Step 5.

Udine, with the typical problems of urban voids and brown-fields, in a medium-sized city, also in need of finding new balance between the centre and the suburbs and above all new connections and relations between East and West through the southern suburbs. Here it was fundamental the problem of join the periphery with the historical centre of the city and with other peripheral districts, through the pedestrian crossing of bundles of railway tracks and high-speed roads. Together with this it was the problem of regenerating the contact between the southern industrial periphery of the city and the green areas of the district. The theme of rainwater recovery, of their conduction in aquifer to reduce the waterproofing of urban surfaces, and of their general use, has been treated both in this case and in the Venetian ones. In the case of Udine the problem of the limit, which in the Venetian islands is evident and natural, has been faced thanks to the introduction of an intermediate ring road, necessary to pass from east to west but also to limit the spread and create greater social density and housing continuity in the neighbourhoods. The breaking of the limit, on the contrary, takes place not only in the pedestrian and bicycle bypasses of the streets, but also in the suspended commercial department stores on the railway and even in the gradual introduction of a market from the centre of the district towards the historical centre passing under the railway station. The project for Udine Sud certainly does not lack the techniques of urban densification, from infilling to the completion of frayed edges of the city, from the redevelopment of brownfields, to compaction after demolition and reconstruction, up to the restoration and renovation of existing buildings of residences and services. The result was a model, with a 1:1000 scale of four meters by three, a design that precedes the Local Plan, able to combine public and private efforts.

The course of 2018-2019 was aimed at Treviso, where we tried to tackle the rebalancing of some areas of the periphery with the city centre. Even in the case of Treviso, more realistic than the others, the design had an unprofessional character, but aimed at teaching. It acted through the introduction of pedestrian paths and traditional urban textures, which can, however, host a contemporary architecture. Cycle and pedestrian paths for "green" infrastructures are imagined together with dense urban areas, with traditional spaces, as a borough, to mend popular districts of the second half of the twentieth century, characterized mostly by dwell-

ings of social housing, with the presence of few

public utilities and poor trade and crafts. These

new boroughs are also hypothesized as possible

landing areas for building credits introduced since

the law (act) 11/2004 in the planning legislation

of the Veneto Region, a very delicate passage to

be verified also with the most recent laws (acts)

14/2017 and 14/2019. Here the choice to gener-

ate a compact city through the "densification" of

free areas goes hand in hand with the hypothesis

we formulated, even in other cases, of an increase

in the mixture of functions and building types, just

like in the historical city, for a better urban and so-

cial variability of the area. In this case, moreover,

the involvement of the City Council, thanks to the

presence of the new Councillor (Assessore) for Ur-

ban Planning, engineer Linda Tassinari, who is a

very active member of the Centro Regionale di Stu-

di Urbanistici in the Veneto region, appears funda-

mental to verify the same potential of the method

adopted. And this in relation to both the current

planning, recently developed by a professional of great fame and respect as the national President

of the Council of Architects, Planners, Landscapers

and Conservatives, architect Giuseppe Cappochin,

both in relation to the Venetian laws. This, finally,

we hope will satisfy the expectations of the new

Mayor of the Municipality of Treviso, Mario Conte

who, besides being a technician himself, was born

in San Paolo, which is one of the districts on which

we base the educational experiment. On April 12,

2019, together with other members of the coun-

cil and the municipality, including members of the

opposition, the Mayor personally accompanied us

on an inspection with the students, to expound

some of his interpretations of the area and fol-

lowed us in the first debate on setting the theme at

In all the cases, with small variations, we followed

the same method. The projects have in common an experimental approach that we could describe

Step 1) At the beginning of the course groups of

students are formed, containing at least one per-

Step 2) To produce territorial and urban analysis,

Step 3) In parallel or through another course (Ter-

THE APPLIED METHOD

the municipal office.

3.

step by step.

son, at most, five or six.

groups are joined in larger groups.



Figure 2:

Udine, Key Diagram for Udine South, (A. Driza, S. Mattioni, G. Franzolini, N. Turbian, L. Gressani, A. Olivier, G. Venturini, C. Madrisotti, E. Kresina, L. Tomadin, L. Vazzoler, E. Marcon, G. De Negri, G. Pantò, M. Cremona, G. Petozzi, S. Murello, L. Gaio, E. Cifliku, K. Vishkaei, M. Varutti, F. Di Donna. Drafting: C. Madrisotti), (Pedrocco, Olivo & Verri, 2019). Step 6.

ritorial Engineering), a group is entrusted with dealing with the Theory of the Economic Base and searching for rare and basic functions to be included in the project.

Step 4) In order to analyse the historical centres and the traditional ancient architecture the groups are kept divided and each of them is entrusted with a task, generally the same for all the groups but carried out on different areas (Treviso was acted differently, on choice of students, by topic). In particular, the following are measured: a) the dimensions of the squares, of the *campi* and *campielli* (typical of Venice), of the streets, of the *calli* (small streets typical of Venice), of the *salizade* (areas of Venice recently paved, in an open space), of the canals, of the arcades, of the loggias, of the gates, of the windows, of the balconies, of the buildings in height, length and width, of closed gardens, etc., b) types of windows, doors, balconies, mullioned windows, three-light windows,... etc., c) residential building types, d) public building types, e) the building types for worship, f) water routes, g) vertical paths, h) particular visual cones, i) prospects, l) the building masses and their distribution.

Step 5) We analyse, all together or in groups, the area of intervention, like: roads, canals, squares, public and private green, pedestrian paths, agricultural green, etc.

Step 6) A Key Diagram of the intervention area is drawn up. This Diagram will contain the Urban Planning Areas in which the district (neighbourhood) is divided, the primary and secondary roads, the main pedestrian and cycle paths, the central pedestrian areas (shaded and to be specified in the detailed project), possible channels as general indications (blurred), some urban park areas and the main historical-architectural and environmental-naturalistic invariants, as well as some areas indicative of densification of the district or remodelling. The diagram shows the fundamental functions that, based on the analysis of the entire city, the province and the region, will be introduced in the neighbourhood.

Step 7) Then are written the Technical Regulations to develop the projects of the Key Diagram on the Urban Planning Areas.

Step 8) The Urban Planning Areas of the Diagram are drawn by lot among the groups of students.

Step 9) The groups begin to develop the Urban Planning Area of the district that was assigned to them on a 1:1000 scale. First in plan and then also in volume. Colours and symbols are standardized. All groups are forced to work alongside groups that design neighbouring areas, in order to integrate their projects and match squares, streets and canals that are in common.

Step 10) As soon as the drafts of the plans of the ambits are developed on a scale of 1:1000, the students begin to design some buildings or some public and private areas in larger scales, 1:200, 1:100, from the plan till the perspective and the sections of the same. Naturally they cannot design architecturally the whole project area.

Step 11) The project areas are brought together in a unique project of the district, on a scale of 1:1000 and 1:5000. Some renderings of this are also realized.

Step 12) At this point each group builds its own part of the architectural model, which is assembled on a scale of 1:1000.

Step 13) The terminal phase of the "Tibetan mandala" is triggered: each group, comparing itself with the others, draws its part of the Local Plan that will question much of the entire project, making it compulsory and respectful of state and regional laws. But a large part of it, the one for which it is believed that it has reached a sufficient design, will be implemented directly, without the need for further plans.

At present, the experiments and method described here have been published in two books, with Aracne Editrice in Rome (Pedrocco, Olivo & Verri, 2017, 2019). They are also touted in some Conferences. However, none of these experiments can be considered conclusive of a process and a planning method that we are looking for and elaborating. Also, the conclusions of this contribution will require checks and adjustments. It is not even certain that, to act through this method, the Italian urban planning regulations and land use laws must undergo profound changes.

However, in all these writings it seems important to overturn the traditional urban planning process, bringing urban design to the forefront of the urban plan.

3. CONCLUSIONS

Obviously, in a period like the one we are going through, with a long economic cycle still stalled (phenomenon further accentuated by the Covid-19 pandemic crisis) and with low inflation, projects such as those experimentally sketched by us cannot be implemented in short time. Today,



Figure 3: Sant'Erasmo, Venice, simulation of the aggregation of urban areas on a 1:1000 scale that make up the overall planimetry of the project starting from Urban Planning Area 1 (Area 1: J. Nicoli, E. Trevisan, S. Zambon). Step 9 and step 11.

UPLanD - Journal of Urban Planning, Landscape & Environmental Design, 5(2) http://upland.it



Examples of details: a) Section of residences with gardens surrounded by canals, Sant'Eras-Figure 4: mo, Venice, (S. Florio, M. Gasparini, E. Gullion, E. Zampa), (Pedrocco et al., 2017). b) Theater in Marghera Waterfront, Venice, (F. Brancaleone, J. Caissutti, V. Ciroi, C. Marzullo, A. P. Rocca Vera), c) The square of religions, in Marghera Waterfront, Venice, (G. B. Bilancia, G. Cuffolo, N. Masuli, D. Mesaglio, J. Ponte, C. Tonizzo), d) The Spritzeria square, in Sant'Erasmo, Ven-ice, (N. De Odorico, A. Pecile, S. M. Verderame), (Pedrocco et al., 2017). Step 10.



Figure 5:

Waterfront of Porto Marghera, Venice, 2018, a) general planimetry of the urban district. Step 11. b) rendering towards Venice Centre, (C. Burelli, M. Campagnol, G. Menardi), c) architectural model on a 1:1000 scale. (Pedrocco, 2019). Step 12.

UPLanD - Journal of Urban Planning, Landscape & Environmental Design, 5(2) http://upland.it





scala 1 : 5000

neither investors nor public administrations can venture into such enterprises in Italy, in a society in total contraction, both economic and social, and with the pyramids of age that are reduced in size for the younger age groups.

The fact remains that in a certain future, that we don't know how far it is in time, in the absence of full correspondence. Also in this sense, the idea of credible development models and that they mainproducing or regenerating and restoring large or tain compact cities, we may find ourselves in great medium-sized neighbourhoods, which in itself can difficulty. This is why, by studying the ancient citbe modified gradually by the needs of the market, ies, we aim to find useful models for the cities of through the work of small and medium-sized enthe future, trying to find a typically Italian dimenterprises, would perhaps find good correspondsion of space and environment for them, without ence not only in our major cities, all characterized betraying the experimentations of architecture by the massive presence of historical centres and in progress and trying to link old historical cenvillages incorporated by the industrial city, but tres together with peripheral parts or with new also in the cities of medium and small dimensions, neighbourhoods. In fact this type of experimentavariously scattered throughout the country. Our tion, with the hypothesis of long implementation cities all seem in need of an integration with the times, mostly implemented by multiple subjects new forms of recent urbanism. and not homogeneous in terms of spending ca-They require a compaction of contemporary dispacity and intervention, follows typical patterns persions and recent textures: spread, sprawl or of urban development traditionally occurred for sprinkling, universally so defined with usual English-speaking diction. To start with a new urban centuries. Moreover, given the reduced and fragmentary dimension of the settlement components morphogenesis (Capuccitti & Piroddi, 2004) you that derives from these design experiments, both do not need large planning deeds from a single in space and in the time of realization, it is behand, but precisely, as also happened in the past lieved that models like this can well respond to with perhaps less awareness, "big projects" for the application of enterprises of small size, char-"small building enterprises".

References

Calthorpe, P. (1993). The Next American Metropolis: Ecology, Community, and the American Drem. New York, NY: Princeton Architectural Press.

Capuccitti, A., & Piroddi, E. (2004). Morfogenesi dello spazio urbano: profilo di una ricerca. Urbanistica, Rome, Italy: INU Edizioni, 123, 42-53.

Castells, M. (2004). La città delle reti. Venice, Italy: Marsilio.

Cullen, G. (1961). The Concise Townscape. London & New York: Routledge, Architectural Press.

Cullen, G. (1978). Paesaggio urbano. Bologna, Italy: Calderini.

Desideri, P. (2001). ExCity: spazi esterni e reti della nuova metropoli. Rome, Italy: Meltemi Editore.

Gregotti, V. (1993). La città visibile. Turin, Italy: Einaudi.

Gregotti, V. (2011). Architettura e postmetropoli. Turin, Italy: Einaudi. Jacobs, J. (1961). The Death and Life of Great American Cities. New York, NY: Random House.

Figure 6: Waterfront of Porto Marghera, Venice, 2018, Local Plan (Piano Operativo) deriving from the planimetry and from the volumetric model of the urban district. Step 13.

acteristic of our country and of our lifestyle. And this without disturbing phantasmagorical promoters, stakeholders, industrialized construction and anything else that could reasonably belong to a logic of rapid expansion and undifferentiated space condition, which in our society does not find

Ministero dei Lavori Pubblici. (1997). I Programmi di riqualificazione urbana. Rome, Italy: INU Edizioni.

Ministero dei Lavori Pubblici, & Di.CoTer. (1999). Programmi di riqualificazione urbana. Azioni di programmazione integrata nelle città italiane. (vol. I e II). Rome, Italy: INU Edizioni.

Pedrocco, P. (2013). Riqualificazione urbana e territoriale attraverso la conservazione dinamica degli ambiti sanmicheliani. In Custoza G. C. (Ed.), *Giornate di studi sanmicheliani* (pp. 205-227). Verona, Italy: Knemesi.

Pedrocco, P. (2017). Utilizzatori urbani erratici e stanziali e conformazione della città contemporanea. Agribusiness Paesaggio & Ambiente, XX, 1, June 2017, 57-66.

Pedrocco, P. (2019), Grandi progetti per piccole imprese. In I Quaderni del CeNSU, Vol.2. Italy.

Pedrocco, P., Olivo, E., & Verri, G. (2017). Un quartiere sperimentale a Sant'Erasmo. Studi per una progettazione integrata. Rome, Italy: Aracne Editrice.

Pedrocco, P., Olivo, E., & Verri, G. (2019). Dal Diagramma al Progetto, dal Progetto al Piano. Studi metodologici per Udine Sud. Rome, Italy: Aracne Editrice.

Perulli, P. (2009). Visioni di città. Le forme del mondo spaziale. Turin, Italy: Giulio Einaudi.

Piroddi, E. (2000). Le regole della ricomposizione urbana. Milan, Italy: Franco Angeli.

Pistocchi, A., & Zani, O. (2004). L'invarianza idraulica delle trasformazioni urbanistiche: il metodo dell'Autorità dei bacini romagnoli. In *Atti del XXIX Convegno nazionale di idraulica e costruzioni idrauliche*. Trento, Italy.

Rimoli, P. (2010). Ingegneria idraulica urbana. Santarcangelo di Romagna (Rimini), Italy: Maggioli Editore.

Schumpeter, J. A. (1911). Theorie der wirtschaftlichen Entwicklung.

Schumpeter, J. A. (2002). Teoria dello sviluppo economico. Milan, Italy: Etas.

Snyder, J. M. (Ed.). (1984). The Long Wave Cycles. Nikolai Kondratieff. New York, NY: Richardson & Snyder.

Unwin, R. (1909). Town planning in practice. An Introduction to the art of designing cities and suburbs. London & Leipsic, UK: Fisher Unwin.

Vazzoler, L. (2019). *Progetto per la riqualificazione dell'Isola dei Saloni – Chioggia*. Università degli Studi di Udine, Dipartimento Politecnico di Ingegneria e Architettura, Master's Degree Thesis in Architecture, Udine, Italy.

Virilio, P. (1988). Lo spazio critico. Bari, Italy: Dedalo.

Zardini, M. (2002). Paesaggi ibridi, un viaggio nella città contemporanea. Milano, Italy: Skira.

Zumthor, P. (2003). Pensare architettura. Firenze, Italy: Electa.