

## MADRID AND ITS URBAN INTERVENTIONS FOR COMPLEX REALITIES

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### Abstract

Physical interventions to the city space have to consider different aspects of the city itself. Many cities of the world have to confront that complex reality and they do not know how to do it. We do not have to find only the administrative resources and the financial means, but also the urban mechanisms and the architectural protocols to deliver the citizen needs. We need mechanisms to manage our complex realities in a sustainable and rational manner.

Along centuries, Madrid has developed a particular city behaviour. From its Muslim settlement roots to the European capital city that we find today, this city has traditionally been immerse in a permanent evolution that transforms the city in a multitude of levels, and this is why different urban solutions have been proposed to answer the city singularities.

From the ancient city origins, to the rational town plan for the nineteenth-century expansions, or the latest infrastructures added to the city system, Madrid itself presents a Composed City with different circumstances that have been combined with urban and architectural interventions to articulate the city according to our every-day citizen's reality.

This modest study aims to present different urban solutions that have offered an answer for various social problems that have been formulated in Madrid throughout its history. This brief study tends to show some hints of these successful actions in the city in order to try to extract some of the common elements that can be founded in them. Therefore, these common guidelines can offer to us a brief sketch of the actions that have worked in the past, in order to guide us for future interventions.

**Keywords:** Urban interventions, Madrid, Complex realities, EURAU 2014 Istambul, Composite City.

## 0. INTRODUCTION

"Architecture is not so much a knowledge of form, but a form of knowledge"  
Bernard Tschumi

The future of the city of Madrid is the result of a complex system of interactions between the physical world in which it is located and the changing reality of the society that inhabits it. Its peculiar character is produced by the servitude that comes from its own process of growth and its relationship with the region, the country and even the world (in economic, representative and power terms) without discarding the individual decisions of people who acquire an unusual importance by the time.

The essence of this modest study is linked to a story that attempts to provide an integrated view in which the main connection is inevitably the time. However, the time reference allows the decomposition in some crucial moments that can be examined with particular intensity, due to its vital importance.

In fact, some of the social problems referred to in this brief study are still happening in different parts of the world. Since societies have its roots in the very nature of the human beings, in places where people are settled, there can be found some kind of problems related to organization of the territory, urban management, overcrowded cities and new challenges being introduced.

## 1. COMPLEX REALITY: ORIGINS AND RECONQUEST. THE WALL

"Architecture by definition is a chaotic adventure"  
Koolhaas

"The place is a result of nature and time"  
Kengo Kuma

The origin of the city of Madrid is linked to the elements of earth, water, air, and even fire that were favourable to the establishment of a population centre along the Manzanares River. However, other nearby places like Toledo /*Toletum*/ or Alcalá /*Complutum*/ were the major population centres in the Roman and Visigoth era, while the meadow of the River Manzanares was certainly cultivated by a dispersed population.

However, while some remains have been found that could belong to ancient visigothic houses along the river, it seems that the first urban settlement corresponds to the construction of the Muslim citadel in the ninth century on the rocky peak, overlooking the valley. Beside this fort there was an emerging population that was organized in a Muslim Medina at the east and a Christian neighbourhood at the south.

The settlement of Mayrit passed from the Caliphate of Cordoba to the Taifa of Toledo, which was defeated with no much effort on the Spanish Reconquest. During the eleventh and early twelfth century the territory was still a war zone, so that the defence of the population becomes essential. It is at this point that the first Christian wall appears, to protect the ancient suburbs. An important urban change also occurs, as Christians come to occupy the old Muslim quarter of the Medina and even installed inside the *almudaina*, where new temples were raised and the main mosque became the church of St. Mary. The Muslim population went to the south quarters and occupied part of the old Christian quarter, where old churches coexisted with the new mosques.

## 2. COMPLEX REALITY: BECOMING A CAPITAL CITY. FENCE OF PHILIP IV

“People build the house to live in, and people found the city to  
leave the house and meet others who have also leave theirs”  
Ortega y Gasset

In the beginning the court of the kingdom was a wandering court, and they were established in various locations where citizens with adequate housing were required to provide accommodation to a courtier during the time that the king remained there. The growing size of the court reduced this mobility, since such a large group could only be accommodated in a few cities of importance, so in 1561, Philip II decided to establish the court permanently in Madrid. This was necessary to create a census of the 2,500 houses that were Madrid at that time, and negotiate certain rules to aim at organize the obligation to host the court, which would end up creating the building typology of the city for several centuries (but this is another story)

The arrival of the court increased dramatically the city growing, that soon became form the 2,500 to 9,439 houses in the census conducted by D. Diego del Corral Arellano. During the seventeenth century a population decline of Spain as a result of wars, epidemics, and the conquest of America is produced, while the Madrid population continues to grow and exceeded the 140,000 inhabitants in 1650.

It is in this situation when Philip IV decided to build the fence, when the main reason was the need to guard the people against epidemics, but it also was a very important element to collect taxes from the supplies and public safety for the population. The north fence traversed the current boulevards, while the south side went across the rounds that we have today, and so the Manzanares River and the Retiro Park bordered the city in both sides east and west. This enclosure covered less than 800 hectares, of which almost 300 were royal properties.

This fence was not exactly a wall, as the situation at that time didn't need to strengthen the defensive aspect, but it was rather a fence that was slowly built with the expenses of landlords which in turn affected the population payments of taxes (with considerable added margins, presumably) This fence had a limited number of doors and gates with fixed opening and closing times, and we also know of certain guardians of these accesses by the documents claiming his wages.

Moreover, there are also edicts threatening all kinds of penalties on those who do not respect the physical entity of the fence (for those who have used it as a wall o created voids on it) and even for those who do not respect the ban of entering or leaving only by the doors and the established

schedules. There are also abundant prescriptions on how to avoid that people and even letters crossed the fence from outbreaks of epidemics (usually in port cities) that could spread pests inside the city, endangering the people and even the Royal family.

### **3. COMPLEX REALITY: INDUSTRIAL REVOLUTION AND DEMOGRAPHIC EXPLOSION. CASTRO MASTERPLAN**

“Space and light and order. Those are the things that humans need  
just as much as they need bread or a place to sleep.”  
Le Corbusier

First of all, although nowadays it seems incredible, in 1857 the city of Madrid had 271,254 inhabitants, it had increased its population by 65,000 in the last ten years, but yet they still inside the fence built by Philip IV two centuries before. That fence enclosed an area of only 778 hectares, 270 of them were Royal possessions, in a country whose population exceeded 15 million inhabitants.

In Europe, the city of Paris had already approved its extension, and Haussmann was beginning to reshape the city, increasing its area from 3,288,000 to 7,088,000 hectares for a population of 1 million and a half inhabitants. In Barcelona they were also beginning to draft the plan of the extension, since their situation was even worse than Madrid.

However, not everyone agreed on the idea of expanding the city, because inside the fence there was a known controlled space, giving a sense of security to the population. Nevertheless, the 8<sup>th</sup> of April of 1857 the Royal Decree formalized the assignment, accurately pointing seven sections:

1. Demarcate the outside area to be added to the city.
2. Define the main road system including the railway line and the river Manzanares channel.
3. Define green areas
4. Define the supplies of land for public buildings
5. Draw the back streets
6. Distribute the land for housing blocks "where possible seeking insulating houses and provide small parks and gardens"
7. Define the "system to be adopted, either by walls or any other enclosure of the town", to verify "the register and perception of all doors fees"

This decree delimits the request to the drawing of the Masterplan, which is called "General Plan" and delayed the necessary measures for its implementation, such as the economic plan, until the project is known. It also states that the government should pay for public buildings and contribute to the purchase of the land required for new streets and parks. The architect Carlos María de Castro along with some officials drew up in four months the topography of the land adjacent to Madrid, in order to determine the most suitable place to carry out the expansion. The Plan also included detailed information on barometric pressure and humidity, temperature, rainfall, wind, etc. from which concludes that climate conditions can be relieved by avoiding the most damaging winds in the streets, planted trees in the streets and squares, and not giving high-rise buildings.

By that time, Architect Castro makes the following comparison with other cities:

Table 1. Compared Cities

	Area (Ha.)	Habitants	Habitants/Ha	m <sup>2</sup> /habitant
Madrid 1857	778	271.254	384	28,68
London	31.576	2.720.607	86	112,57
Paris (before expansion)	3.288	1.174.346	356	28,00
Paris (after expansion)	7.088	1.525.942	215	46,45

Moreover, it could also have been included:

Barcelona 1857	200	190.000	950	10,50
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The study of Carlos María de Castro also predicted a population growth of 1,500 people per year, which allowed him to conclude that the extension of the city's 2,025hectares will be enough for the development of the city for a whole century. However, the growth accelerated so that after a hundred years, instead of the expected 450.00 inhabitants, it reached the 2,260,000 inhabitants in the city. Although some hard work with inaccurate data, Castro Masterplan also included several studies such as the volume of air needed for each person or traffic measurements to determine the number of carriages of the population.

Besides all this, the custom Decree also specified that the extension should have a defined perimeter and even closed with a wall or similar to delimit the access to a certain controllable points. At that point, growing towards the west or south was impeded by the river and the royal possessions, and steep slopes limited it to the east, so the easiest option was to design a growing area to the north and northeast. Also the river limit eludes to build an important part of the perimeter, so that thus designed only an edge 19 085 m, with eight gates and six lower order doors. According to the author, that line was drawn when possible from high points to facilitate the defence if necessary.

Then the space between the new and the existing urban perimeter is filled with a grid of blocks of approximately 100m of side and separated by streets of 15m, 18m, 25m and 30 m, oriented in directions east-west and north-south. A grid of small scale secondary streets of 15m is established next to other major streets distant two to four blocks, ending in a walkway, 50m wide and including a 2.5m deep trench (considered more hygienic than a wall because it allows the passage of the wind)

Regarding to land uses, Castro Masterplan only pointed a few ideas:

- On the north land that had some factories, the settlement of the industry is proposed.
- A large tree-lined avenue from north to south appears over the stream of Fuente de la Castellana, which will become the main axis of the future urban planning.
- At the east of Castellana it is assumed that the middle classes would stay, within the actual district of Salamanca.
- To the southeast, with the complex topography and steep slopes, there would be the working neighbourhoods, located near the fields of the army.

The Castro Masterplan imposes no building typologies, but express that isolated buildings with gardens will be built (like Castro home designed by himself). However, Castro is more specific regarding to the construction of the streets, in which mentions up to four different types of traffic: cars and carriages with four wheels, two-wheeled light carriage, loading areas, and pedestrian walkways.

Table 2. Streets organization

3 <sup>rd</sup> order street	15m wide	no trees	carriages and pedestrians
2 <sup>nd</sup> order street	25m wide	2 lines of trees	carriages, loading areas, and pedestrians
1 <sup>st</sup> order street	30m wide	4 lines of trees	carriages, loading areas, and pedestrians
Camino de Ronda	50m wide	7 lines of trees	outer edge with trench and slope

Despite the changes undergone with the Masterplan, generally unfavourable for the welfare of citizens, it has remained largely unchanged the orthogonal trace the streets, although its rigidity was softened to make it more respectful with some particular existing paths.

The Castro Masterplan had serious defects, such as trying to maintain Madrid as an enclosed city without any provision for expansion, so it did not serve as an order germ for extramural developments that occurred chaotically. However, despite all its shortcomings, the Castro Masterplan has the fundamental virtue of producing about 1,500 ha of town land with a simple and easily readable order, considering the needs to be a city designed for everyone, and not only for the inhabitants of each neighbourhood within.

#### 4. COMPLEX REALITY: CHALLENGES FOR A NEW MILLENIUM. URBAN RENOVATION

“Recognizing the need is the primary condition for design”

Charles Eames

"The city is like a human being, it has to learn to age"

Ricardo Legorreta

At the beginning of the new century, the city of Madrid raised in 2003 the restructuring of the M30 ring road which had been built by the central government and still was a national highway in charge of the State. To carry out the remodelling pathway, an assignment was obtained for the City Hall, which achieved the work with the expense of the residents of the capital.

This railway was renamed 30th Street and was remodelled with some success for the accesses and miles of highway were buried along the Manzanares River, in order to recover its banks for a linear park where they will reside some architectural elements designed by large global architecture firms. The intervention is getting greatly improve into the city's relationship with the river, that was always present in urban development, first as a defensive boundary, then as a place of recreation, and even as an old collector sewer in some sanitation plans.

Despite the topographical situation of the river, far below the city, and its irregular flow that reached even to disappear in summer, predicted a relationship like that of Paris with the Seine or London with the Thames.

However, the work of the international practice West 8, together with MRIO Arquitectos, brought to light the design of a master plan for a new urban area. The plan was developed by dividing it into different individual components:

- The Salón de Pinos was designed as a linear green space that connects the new spaces with the existing ones along the Manzanares River.
- The Portugal Avenue is one important road into the city centre that was covered to transform the space into a garden for the local residents.
- In Huerta de la Partida, the old Royal Palace garden was actualized with a wide variety of fruit trees.
- The Arganzuela Park, where the ancient pastures were located, is now a landscape area where the dominating motive is the water.
- Finally, the Cascara Bridges are serving as bridges and iconic landmarks that create different spaces to be in contact with the river.

Nowadays, with the underground highway and new parks, the city of Madrid is building a positive relationship with its river that is becoming a linear park for the enjoyment of their citizens. This hope of reconciliation of Madrid with its water seems like a proper end to this story.

## 5. CONCLUSIONS

“Our obligation as architects is to contribute to the happiness of men”  
Toyo Ito

Sometimes we tend to think that absolutely new and different dilemmas arise in our time, and we can even forget that the true essence of a city is the people who inhabit it. Often we build the city thinking that "I have come here and I have to put something on it" when in fact this creative process is not momentary, but comes from the symbiosis that a good intervention is able to generate. In my opinion, the city has plenty complex realities of all scales, since the human being is deeply complex itself, and naturally conveys this complexity to the inhabited environment.

No doubt there are interventions that are sensitive to this human complexity, and still manage to insert the new actions in a way that creates a new urban identification. This is kind of a new sign, and something that reacts positively, actively and passively, with what is already existing. So, when this is accurately done, it's then when the new has the ability to retrain the old and intensify the experience of what already existed. This is the most difficult urban intervention, but in a sense it is also the most valuable. Good planning should always go with the forces that are not directed to that fossilized nostalgia, but with the challenge of turning these existing things into something else.

Finally, this could be summarized in a few words of William Curtis in a discussion about the city of Madrid: "Cities are always getting older, being reformulated and growing, but this process needs clear lines and time, as the small manoeuvres are the ones that create a true city"



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## BIOGRAPHY

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