

THE MEGA-BLUE-GREEN NETWORK: MADRID RIVER PROJECT

GENERAL DESCRIPTION

What is Madrid Río?

On April the 15th 2011, after seven years work and a budget of 4.100 million euros (5.800 million dollars) Project Madrid Río was officially opened. The ambitious operation of environmental restoration and urban renewal in the Manzanares river banks was launched from the City Council with the ultimate purpose of achieving a new integrating urban axis for the city. (Fig.1). The main aspect of the project was the burying and enlargement of one of the belt roads in the city (M30 highway). The process of construction was marked by strong social, environmental and financial tensions.

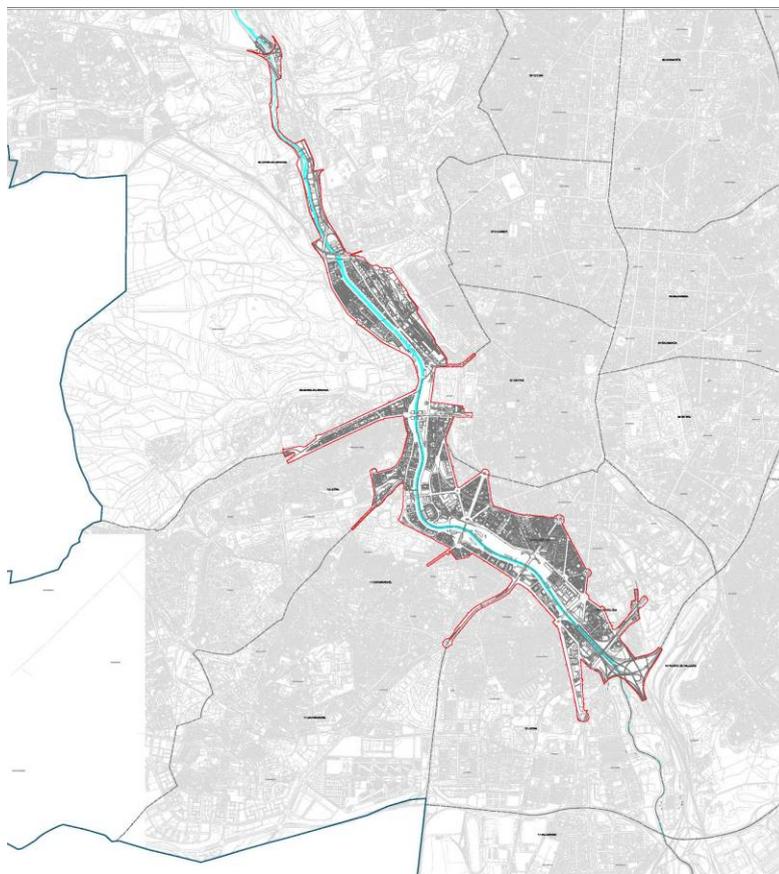


Figure 1. Plan Especial Río Manzanares

As the official website puts it: “In the place where thousands of cars were once, there is now a great lineal park” Indeed the new green corridor stretches across 8 km with a total ground surface of 1.200.000 m² connecting existing green areas including urban parks and heritage gardens. The urban operation opens up the city towards south and west and integrates the river into the urban scenery.¹

Six existing green areas are joined through a wooded walkway that runs across the project from north to south. These gardens are: Aniceto Marias, Virgen del Puerto, Puente de Segovia, Puente de Toledo, Matadero and park of Arganzuela., together with the new

boulevard of Avenida de Portugal and the space of Huerta de la Partida, which serves as connection with the natural space of Casa de Campo. (Fig.3)

The operation implements a large amount of urban facilities as 33 sporting fields, 17 children areas, 3 fitness circuits, 7 petanque games, 12 game tables, 3 cultural event platforms and an Exploration Centre of Manzanares River.

Great importance has been given to the implementation of a significant number of children playground facilities, the design of which has been specially taken care of. The contractors have been Spanish and German companies and the design quality is above Madrid standards. Three water installations have been implemented as well, officially named as Urban Beach, which has meant an attractive novelty for the city with great success among children.

In order to interconnect adjoining neighborhoods, 33 bridges have been established. Among them, three historic bridges have been restored and new ones have been designed by well known international firms, seeking to create new urban landmarks.

This project recovers a space for pedestrian use that was until now dominated by high speed roads. The operation relates in this sense to the Cheonggyecheon waterway restoration experience in Seoul. The Cheonggyecheon waterway was restored along 5,8 km in a benchmarking urban renewal operation, creating a new space for pedestrian activity and leisure. The works were finished in 2005 and the project involved the demolition of a previously existing elevated highway that had been built in the 1970's. The capacity of this main artery of the city was reduced but the impact on the traffic of the heavily congested city of Seoul is considered to have been overall positive.

Madrid Rio on the other hand is a project where the reform and enlargement of the belt highway have been a priority over other urban issues, increasing the capacity of the infrastructure and possibly worsening city congestion problems on the long run.ⁱⁱ



Figure 2 River banks Franchini, Teresa.



Figure 3. Image plan. Plan Especial Río Manzanares

Previous Urban Context

The surroundings of the Manzanares River have always been an unqualified area, housing industrial and railway facilities. In the 1970's the river banks were used for the M-30 highway, occupying all available space, eliminating direct access to the river and severing the historic connection between two main urban parks: La Casa de Campo and el Campo del Moro.

Besides being an important urban barrier, the highway generated high levels of acoustic and atmospheric contamination, due to traffic and congestion, affecting the residents of adjoining housing (about 30.000 people).

Furthermore, the quality of the water was a problem: the sewage system constructed with the highway was unitary, collecting rain water and waste water through two main underground collectors, parallel to the river. In the event of strong weather conditions, the collector would spill in the river causing elevated contamination levels. Aerial electrical installations were also running parallel to the river.

Due to all these factors, the river was a nonexistent urban reference for most people from Madrid and particularly for downtown residents. It was configured by discontinuous margin spaces and conveyed a negative urban identity.

¿How was the project managed?

The necessary planning management was sub divided into two plans due to technical complexity of the Project and the formidable investment required to carry it out. The two plans focused on different objectives: **Madrid Calle 30** for the burying of the M-30 highway and **Madrid Río** for the treatment of the surface liberated after such intervention.

Plan for the Integral Reform and Management of the M-30: MADRID CALLE 30

In year 2004 the city council commenced work on the Madrid Calle 30 project, involving the reform and enlargement of the belt highway, and constructing 18 km of large dimension tunnels, collectors, hydraulic installations and underground parking spaces.

In the area known as River Zone, the Plan involved the burying of 6 km of road and the liberation of 50 has for new green areas.



Figure 4 Urban Design Franchini Teresa

Special Plan Manzanares River: MADRID RÍO

An international ideas competition was launched by Madrid city council to restore the traffic liberated spaces. The winning proposal was the project submitted by the team formed by the architecture offices Burgos & Garrido, Porrás & La Casta, Rubio & Álvarez Sala and the Dutch office West 8. The winning team was commissioned the redaction of the Special Plan Manzanares River.

During the electoral term of 2007-2011, Madrid city council undertook the construction of the Special Plan, concluded on April 15th 2011, stretching over a total surface of 1.210.881 square meters, where 33.623 new trees of 47 different species have been planted and 210.898 square meters of grassland.ⁱⁱⁱ

From a metropolitan scale, the new lineal park forms part of a larger scale environmental corridor that extends North to South along the river formed by different existing green areas with a total surface of 3000 has.

Project Goals

Integration of Manzanares River to the new urban scenery

Creation of a set of green spaces with an urban scale

Establishment of a new mobility and accessibility system

Enhancement and enlargement of the facilities network promoting urban activity

Increment urban quality in the neighborhoods next to the river and integrate them in the urban context.

Promote conditions for a better environmental quality in the area

Protect and give value to the heritage assets

Detect opportunity areas that complete the development of the area



Figure 5 Construction Works. Ecologistas en Acción

MAIN CRITIQUES TO THE PROJECT

Absence of Environmental Evaluation Report

The Reform and Integral Management Plan for the M-30 has suffered an arduous battle in the judicial courts that has lasted 7 years. The reason for the litigation was the absence of compulsory Environmental Evaluation Report established in the European directives 85/337/CEE and 97/11/CEE and integrated in the member states laws.

Facing complaints from political opposition and the ecological groups, the City Council argued that the M-30 highway was an urban road which excluded it from the cases specified in the Directive. And as such, it was argued, did not need an environment evaluation report.

To support this urban character, the Reform Plan was officially named *Madrid Calle 30* (Madrid Street 30) The project was also divided into 15 different sub projects of a smaller size than 5 km which arguably would not compulsory need a report.

After presentation of a query by the political opposition to the European Commission in 2005 and a long process of sentences and applications to court, the Court of Justice of the European Union ruled on July the 25th 2008 against the City Council, not accepting the thesis argued by the Council and deeming the evaluation report as mandatory for a project of those characteristics.

Using that basis, Madrid Superior Court of Justice sentenced in March of 2011 that the environment evaluation was necessary and the projects were declared invalid. The sentence requests the corresponding environment reports. The matter is open now, expecting that the Council will apply to court or will submit at some point the evaluation reports 4 years after the completion of the project.

As the new Madrid Río Project is presented in 2005 every effort is made to clearly differentiate this project from the previous reform of the highway, as if the burying of the infrastructure and the treatment of the resulting grounds were two differentiable objects. The Special Plan includes an Environmental Incidence Study, redacted by the authors of the proposal which is deemed insufficient by the political opposition of the Mayor. In the Study the original stage used is the state after the burying, with the paradox that the Special Plan is partially justified as solution to the problems generated by the burying works that made it possible.

For these and other reasons the ecologist group Ecologistas en Acción has denounced the Madrid Río operation as being “no more than a costly make up for the reform of the M 30”



Figure 6. River banks. Franchini, Teresa.

Denaturation of Manzanares river

Environmental organizations have denounced the artificial nature of the treatment of the riverside in the entire operation. In the phase of allegations to the Special Plan, the environmentalists lamented the lost opportunity for a restoration of the river and its biophysical characteristics.

The river banks started transformation into a concrete channel in the early 1910's. At the time the goal was to improve hygienic conditions and implement a sewage system parallel to the river. With the situation now, the river waters engulfed between two buried traffic tunnels, the artificial nature of the Manzanares is even more clear.

Environmentalists have called the proposal a theme park and a gross simulation of a riverside. The faint stream of water seems to have more of decorative meaning and actual access to the banks of the Manzanares has been eliminated. The opposition group in the City Council proposed the recovery of the riverside through the formation of a breakwater and the use of appropriate vegetation.

The requirements imposed by the geometry of the tunnels, ventilation shafts and maintenance accesses have led to the creation of an artificial ground that negotiates with the new landscape often modifying quite a lot the previous ground levels. Below the park the abrupt changes in the installations geometry have to be softened and disguised as a pedestrian environment. This can not be done with regular soil for it would overload the structure of the tunnels, so blocks of polystyrene have been used. The question has been raised, whether this environment will be good for the trees necessities.

For the same reason, the distance of the pedestrian to the river water has been increased in some cases, in opposition to the goals of the project. The upper level of the highway tunnels was sometimes above the previously existing ground level, so the height of the channel walls had to be raised a couple of meters at some points.

Environmentalists have also raised concern about the possible impact of the project on the lower course of the river. They claim that there are gray areas as those referred to the provision of water required or the study of the impact on communities of flora and fauna in the lower river.

The Manzanares is a river with a high hydrological variability that is considered necessary for the maintenance of ecosystems in its lower course, outside the city. In order to maintain a constant flow in the water stream, the natural river flow must be supplemented with water inputs from process plants elsewhere in the city and those inputs can affect lower course ecosystems.

Lack of Transparency

The opposition groups allege the Special Plan does not contemplate participative mechanism of management and control. There is little information even as to what administration organs are ultimately responsible for the project.

But more importantly there is not a previous debate concerning what is the urban model. The city lacks a global project for the future. The project of Madrid Rio involves crucial decisions for the city, in terms of urban space, mobility and financial cost that are completely opaque to the citizen.

Bicycle lanes

Users' main complain in the first months of the Park concerns the lack of a segregated bicycle lane. Pedestrians complain of coexistence with bicycles on the same path and bikers complain against speed restrictions. The original project specifies that certain paths will be exclusive for bicycles but the council had reports indicating segregated circulation in the Park wasn't safe.^{iv}

Madrid is quite behind in non motorized mobility compared to other European cities and bicycles are seen rather as a leisure resource than a real transport alternative. In cases like this, it seems unfortunate that bicycles should compete with pedestrians instead of cars for space in the city.



Figure 7 Arganzuela's bridge by Architect Dominique Perrault. Franchini, Teresa.

Financial aspects

The cost of the Madrid Río operation is officially estimated in 4.100 million euros, of which a 10% would correspond to ground surface operation and a 90% to the reform and burying of the infrastructure in the Madrid Río area.

The total cost of the Madrid Calle 30 project (the reform of the M-30 highway) has raised from an initial budget of 1700 million euros to an estimated final cost of 6000 million, with payment in 30 years. For the construction, maintenance and financial operation a new company was created, Madrid Calle 30, with an 80% public and 20% private participation. The investment in maintenance for the next 35 years is 3.200 million euros.

In the construction of the last phase of Madrid Río, an important role was played by the anti crisis fund deployed by the state for public works, which financed 235 million euros.^v

The final cost of the Arganzuela bridge, one of the new foot bridges, designed by the architect Dominique Perrault was 13.6 million euros.

The city's public debt at the end of 2010 is estimated in 6.453 million euros: 1.972 euros per inhabitant.^{vi}

CONCLUSSIONS

The Project of urban renewal and river restoration Madrid Río seems to be socially very successful regarding its capacity to convey an urban identity and to structure a big area critical to the city.

It presents nevertheless rather problematic aspects relating to sustainability concerns.

It seems that sustainability issues relate not only to environmental improvements or urban scenery but very importantly, in this case, to financial sustainability and economic feasibility of the proposal. The pricey budget of this project and its interests will have to be paid by Madrid citizens for a long period of time and will hinder future projects of the city, drastically reducing any margin for action.

In relation to this last point, the decision process for such an investment should have a considerably greater transparency and involvement of the citizens in a global project for their city's future.

It is unfortunate that such an important operation should lack a proper environmental evaluation and that the impression should be given to the citizens that there are gray areas concerning these matters.

Technically, the reform of the highway raises issues concerning the convenience of enlarging traffic capacity to enter and exit the centre of the city with the danger of increasing city's congestion problems in the future.

Lastly, the design of the riverside lineal park is heavily conditioned by the underground tunnels, missing the opportunity to restore a truly natural space.

Franchini, Teresa. Arana, Juan. Spain.

ⁱ Ayto. de Madrid. <http://www.munimadrid.es>

ⁱⁱ López de Lucio, Ramón. (2004) "La reforma de la M-30: ¿Qué oculta la retórica del verde?" CF+S 2004. Oct. <http://habitat.aq.upm.es/boletin/n28/arlop.html>

ⁱⁱⁱ Borasteros, D., (2011) "Fin de una pesadilla líquida" El País Madrid 17 Apr. p2.

^{iv} El País, (2011) "Ciclistas y peatones, a la greña" El País Madrid, 13 Jun. p.4.

^v López, V., (2011) "Cifras millonarias en la M-30 y el río" El País Madrid, 10 Apr. p.3c.

^{vi} Doncel, L., (2011) "Más de la mitad de las capitales reducen la deuda" El País, 3 Jun.p.12b