

Barcelona's next post-Olympic urban challenge:

The Universal Forum of Cultures 2004

Clusa, Joaquimⁱ; Marmolejo, Carlosⁱⁱ ¹.

Contents

Abstract.	2
1. The Forum, a propeller to renew and finish one of the most degraded areas of the city: a compensation of the social and environmental public debts.	3
2. A celebration in the service of the city.	4
3. The urban-architectonic project: challenges facing the enhancement of "La Mina", the waterfront and the River Besos.	5
4. The environmental model: advanced technologies, energetic efficiency and recycling.	11
5. The urban management model.	13
6. Forum's prospects.	13
The master plan overview.	15

¹ (i) Senior researcher of the Centre for Land Policy and Valuations (CLPV), a Specific Research Centre (*Centre Específic de Recerca*) of the Polytechnic University of Catalonia; (i) researcher of the CLPV. The CLPV has participated in the study of the financial impact on the municipal treasury that the Forum will create, also it has participated in the digital modelling through the Virtual City Modelling Laboratory (VCML) of the Barcelona School of Architecture, the Forum project has been studied by the CLPV in the frame of a more comprehensive document that includes all the major metropolitan urban operations in Barcelona. These studies have been supervised by professor Josep Roca, director of the CLPV. More information about the CLPV and the VCML is available at <http://www.upc.es/cpsv/>.

Next Barcelona post-Olympic urban challenge: The Forum Universal of Cultures 2004.

Abstract.

The 25th Olympic games held in Barcelona in 1992, were the culmination of one of the more ambitious urban transformations of the Catalonia capital in the 20th century. The Games were seen as an opportunity to pursue the objective of projecting the city internationally and, at the same time, developing the infrastructure and facilities needed to solve the inherit urban deficiencies and anticipate the future needs. Almost 10 years later a new major urban project arises in the context of another international event: The Universal Forum of Cultures, to be celebrated in the year 2004. The Forum is a gathering and opportunity to reflect on contemporary challenges facing humanity; ambassadors of all the cultures around the world will gather during 141 days to discuss the topics related to the cultural diversity, sustainable development and the conditions necessary for peace. This paper seeks to explore the urban-architectonic model, on which the project of the Forum has been based. To be developed on a site of 624 acre (252 has), the Forum involves an ambitious process of urban regeneration, a concept that looks forward to showing the project as an example of sustainable community of the XXI century. In other words a initiative to give an urban-architectonic answer not only to global, but mainly to local challenges.

Continuing a century long tradition of intense city wide planned transformations related to international events, Barcelona put itself forward to host another great event. This is not a Universal Exposition as in 1888 and 1929; nor a religious event, such as the Eucharistic Meeting in 1952; or a world wide sports event as in 1992. This initiative for this event comes from Barcelona itself, providing the spurt for a further major urban project. The Barcelona Universal Forum of Cultures 2004 (in Catalan *Forùm Universal de les Cultures*). To be located at the end of the Avenue Diagonal, a symbol of the city designed by Idelfons Cerdà. The Forum project will be the catalyst to regenerate one of the city's most degraded areas, the main social purpose is to enhance the quality of life of "La Catalana" and "La Mina", two of the most marginated areas of the metropolitan core, compensating one of the inherited public debts of the city.



1. The Forum, a propeller to renew and finish one of the most degraded areas of the city: a compensation of the social and environmental public debts.

The Forum is a local initiative of the City Councils of Barcelona and Sant Adria del Besos, with the support of the

regional government (Generalitat de Catalunya), the Spanish State, and UNESCO. The topics that will be debated at the Forum are those we face at the beginning of the 21st century: the protection of cultural diversity, of sustainability and the conditions for peace. In relation to previous events, the similarity of this event is its international scale. The media, reinforced by the Internet, will carry the programmed activities to an audience equivalent to 46% of the population of developed countries, or 9% of the world population.

To be inaugurated in May of the year 2004, there will be several sessions each day throughout the 141 days of the event, such as:

- **In the context of dialogue and discussion:** 45 international congresses, with a participation of 55,000 delegates and of 100,000 at public discussions.
- **In the context of exhibitions:** 24 exhibitions in an area of 409,000 sq. ft., devoted to six million expected visitors.
- **In the context of cultural events:** 70,500 hours of civic activities such as open house interactions, meetings, workshops, street games; 109 theatre companies, 60 musical groups, 3 circuses, altogether 984 daily events.

Nevertheless, **this is only the context of the event, the object is still more ambitious**, because it aims to leave a legacy, which will improve the

quality of life the citizens. The urban project has an extension that goes beyond the administrative border of the municipality of Barcelona reaching Sant Adria, the adjacent borough, where is situated the major portion. The management model involving the participation of both municipalities is based in mutual cooperation and allocation of benefits: Barcelona will benefit of enhancement of the social cohesion, Sant Adria will experience an historical urban transformation, that will impact positively in its low quality urban fabric.

Almost the 40% of the project is orientated to improve the built and environmental quality of the social neighbourhoods of "La Catalana" and "La Mina" located at Sant Adria, this is a paramount contribution of the city to solve the social debt with these districts.

The Forum project is a response of local urban policy, to meet the challenge of transforming the metropolitan structure. In the context of intensive growth in the service sector, improvement in the wealth of the region, increment of the mobility and a general convergence of the metropolitan socio-economic standards with those Europeans.

The Forum is also a concrete answer to the non-material needs of the 'Information Society'. Through its centres of intensive exchange of knowledge (congress centres, exhibition areas, research, development and information areas) it aims to become a reference point, reinforcing the presence of Barcelona within the

network of information flows that constitute the geography of global knowledge.

The Forum's scenery is part of a process of opening up the city. This will be supported by other urban projects, intended to accommodate the activities of the "new economy", reinforced by sector initiatives focused on improving international connections (extension of the airport and port, the high speed rail system, etc.), aimed to transform Barcelona into the hub of South West Europe.

This is a local response to the increasing competition among cities and regions, brought about by the mobility of capital, knowledge, technology and, progressively, of the high skilled professionals.

2. A celebration in the service of the city.

Barcelona, compact city par excellence, is being expanded over itself. Because of the shortage of land suitable for urban purposes, sites left by the exodus of the factories in the post-industrial era are being regenerated, as well as, the poor quality residential areas, which arose during the sixties a decade of intensive immigration and low quality building boom. Following this policy, the Forum will be inserted into one of the most degraded environmentally and socially areas of the city.

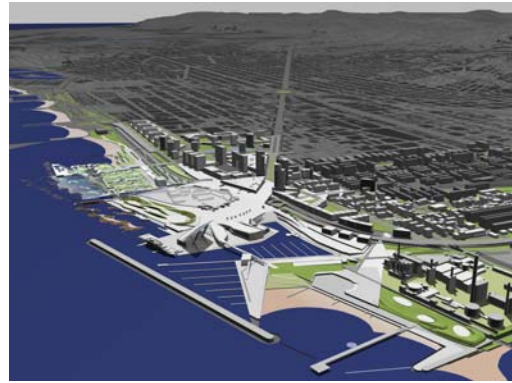
Important elements of metropolitan infrastructure, such as the power station, the waste incineration plant, and

the sewage treatment works are situated within this largely derelict area. It is also a zone of social exclusion, emerged around workers who migrated three decades ago. Until now, the site has been the backwater of the city, but in 2004 will be the main point of focus.

Considering this, the local planning agencies, and a global team of architects, started in 1995 a venture that is, potentially, an inflection point between the process of the degradation of the urban fabric and the process of convergence with the appreciated urban quality, possessed by the other areas of the city which has allowed to locate Barcelona at the first place of the ranking of the best European cities, in terms of quality of life of the employees. The project will complete a cycle of major city-planning operations linked to international events, typical of the capitalist urbanism of twentieth century.

3. The urban-architectonic project: challenges facing the enhancement of “La Mina”, the waterfront and the River Besos.

The Forum site is situated in the East of the metropolitan centre, in the municipalities of Barcelona (28%) and Sant Adria del Besos (72%). Geographically it is located in the area where the Estuary of the River Besòs reaches the Mediterranean Coast. The zone is characterized by the under utilization of the water frontage, and a river that at the 90s beginning was one of the most environmentally deteriorated.



The project, with an investment of 2,800 million euros, seeks to transform this area into a great park, merging the ecological and cultural aspects in unpolluted green spaces, and monumental buildings, serving the entire metropolis. The project covers 624 acres (252 has), of which 443 will be from urban land, 93 to be recovered from the sea and 88 from the river estuary. 55% of the total surface area is destined for open spaces for public use (green parks, plazas, beaches, etc.). The project design has been developed by the local planning agencies and 50 architecture studies worldwide.

It is planned to build 14,991,400² sq. ft. (1,390,000 sqm) of new and renewed floor space³, of which the 38% will be allocated to housing, 27% to metropolitan facilities (university campus, congress centre, the Forum building), 27% to tertiary activities (commerce, offices, hotels) and 8% to other productive activities destined to house R&D activities. In summary, the project will create 14,500 new job

² Considering the subterranean parking, facilities and renewed dwellings.

³ The 10% of this figure is of renewed dwellings and facilities.

places, 2,896 new dwellings and 2,377 renewed dwellings.

The main contributions of the project can be summarized in three fields: socials, metropolitan and environmental.

➤ In the **social field**. The neighbourhood of “La Mina”, will be renovated opening the area up improving local facilities, accessibility and public space. The neighbourhood of “La Catalana”, will be totally re-developed, maintaining the present population. A comprehensive process that includes changing the closed nature of the zone and a reinforcement of social cohesion, in words of the Chief Architect of the Barcelona Urbanism Agency: “peace for territory”. In global figures the city will gain 2,896 dwellings, 41% of them in a program of social purchasing, as well as, other 2,377 will be improved.

➤ In the **metropolitan field**, the city will be equipped with the biggest convention centre in the South of Europe; also, new exhibition halls, theatres and open spaces, a new university campus and new hotels; a total of 1,022,571 sq. ft. In addition 1,259,377 sq. ft. of new space to house intensive knowledge activities, compatible with residential use will be created.

➤ In the **environmental field**, the public will recover the River Besos, its banks will be transformed by the recovery of 86 acres from the river estuary. A water treatment plant will purify the water, and a system of inflatable dams will help to keep a permanent level of water in the river estuary. Barcelona will complete the recovery of its water frontage with the restoration and creation of 44 acres (17.8 has) of beaches, bathing areas and leisure space. Additionally, to optimise performance, the metropolitan infrastructure will be upgraded in accordance with the latest European standards.

The urban project is divided into several areas. The most important are described below.

The Forum Building Area: This is the nerve centre of the project, extending to 79 acres. At the centre will be the “Explanada del Forum”, a great 49 acres open square. A combination of spaces, colours, textures and natural elements, internalises the semiotics of the event, and reflects the richness, the cultural complexity, and permanent social values. Notwithstanding its size, when completed it will be the largest open square in Europe, it has been designed with the human scale in mind. “The Explanada” will join the two main buildings to the water frontage: in this journey the visitor will discover, first the symbolic elements such as *the flag*

of the Forum and the dialogue space; then concepts such as the *state of the world*; and finally the descriptive elements such as the *area of temporary exhibitions*. In the construction of this space, the designers, Elias Torres and Martinez Lapeña, have exclusively allowed the use of recyclable materials in the ephemeral architectural elements, integrating energy efficient systems.

Next to the “Explanada” is the main architectonic element “The Forum Building”, which is planned to become a new city landmark, not only because of the uniqueness of the spaces, designed by Herzog & De Meuron, but also, because of the transcendence nature of the content.

The Forum Building: the building is a triangular prisma in response to the urban fabric constraints. It is composed by two volumes: the platform and the auditorium, the first is supported within the second which has the main structural function. The auditorium has a capacity of up to 3,200 and can be subdivided into four halls. The platform will be the scene of temporary exhibitions surrounded by a dramatic interplay of light and shadows, produced by skylights and asymmetrical windows. The platform and the auditorium are to be divided only by a sliding glass window, that can be darkened depending on the needs of the event.



The main structure of the platform is the roof, a 3.5m height macro-structure based on a grid built of steel girders and covered by two pos-tensed concrete flagstones. The platform's façades are actually structural beams, supporting the lower flagstone in order to keep it free of columns, generating a diaphanous space in the interior of the platform as well as at ground level.



The assimilation of this building into the landscape will be based on the horizontal orientation of its volume. The façades will be 590 ft. wide by 82 ft. in height. This design opens the view, allowing the appreciation of the marine horizon. The roof is covered by a sheet of water, extending the sea to the land. This spectacular element is designed to refrigerate the building during the summer months, the water falls into the building forming cascades through the skylights.



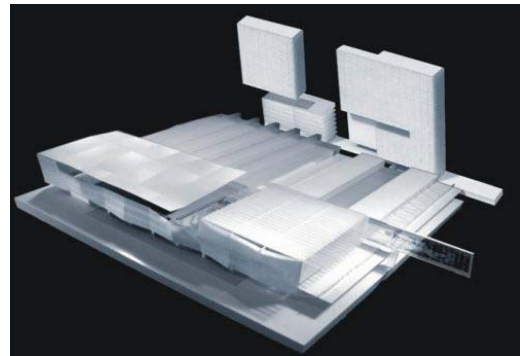
Across the square is the “**Barcelona International Congress Centre**”. The centre with a build area of 72,181 sq. ft. will have a simultaneously capacity for 26,000 participants. When finished, it will be the largest convention centre in the South of Europe. Nowadays Barcelona is restricted in its ability to hold events of more than 4,000 participants⁴. Nevertheless these activities represent 25% of revenues from tourism, and accounts for 20% of the demand for hotel accommodation. These activities situate Barcelona in 13th place amongst world congress cities. This position will be improved with the construction of the new centre which will increase the supply six-fold.

The project, inspired by motifs of the Mediterranean, has been designed by the Catalan architect Josep Lluís Mateo, who has proposed a plain program, made up of three spaces: the main hall, the administrative offices, and the complementary area (meeting rooms, foyer, and restaurant). The main hall will be a huge space, with 262 ft. clear without columns, this will be faced by a glass façade, opening the interior perspectives to the water front.

⁴ Considering only the capacity of the actual congress centre.



One of the most interesting places in the building will be the interior garden. A space of 16,145 sq. ft., planted with indigenous vegetation and shapes emulating the local mountainous landscape will be featured. The Forum Building and the Congress Centre will be linked by a subterranean passageway, to allow transit in all weathers.

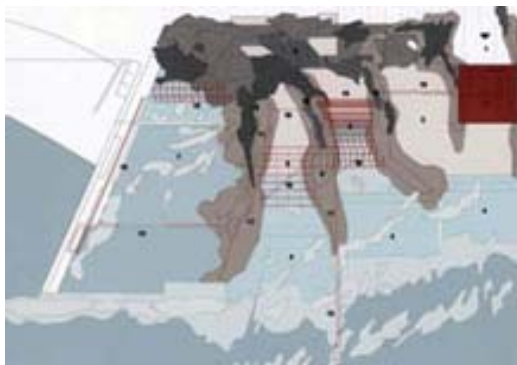


Water Front: The water frontage of the Forum extends to 1.2 miles. With this environmental improvement the recovery initiated by the Olympics will be concluded. When finished, all of Barcelona’s coastline will have been restored for collective enjoyment.

The sea front features coastal parks, beach areas, open-air theatres, a sports marina, bathing areas, and a marine zoo which includes a terrarium and an aviary. All of these will be built on the coast extended by 93 acres recovered from the sea. The main challenge faced by planners of this area has been the integration of the colossal metropolitan

infrastructures into the project: sewage treatment plant, thermoelectric power station, and waste incineration plant. Toning down their basic functions, to make them compatible with the leisure spaces and merging them into a vast ecological park.

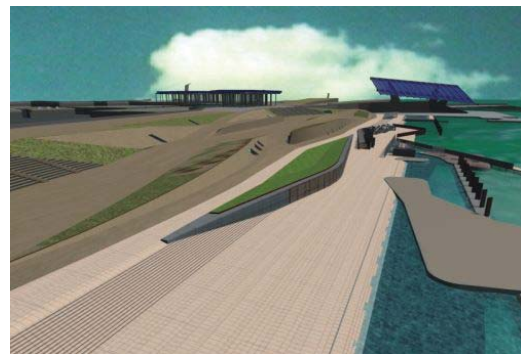
The marine zoo: the marine zoo sector with an extent of 49 acres, is made up of three areas, one dedicated to aquatic species, one designed to house terrestrial animals and one for birds. The zoo will be divided into three levels, the first for the maintenance galleries, the second will house the flora and fauna on view, and the third will be a network of corridors provided for visitors. The marine front will emulate a system of salty inlets and artificial reefs.



The aviary is an original structure supported by a 131 ft. high structural tree, that lets down a net holding 550,000 m³ of air for marine birds to fly freely in. The concept of this space goes beyond the traditional exhibition zoo, pursuing a more educational and research based model in accordance with the philosophy of the twenty first century.

Open theatre and bathing area: in front of the sewage treatment plant

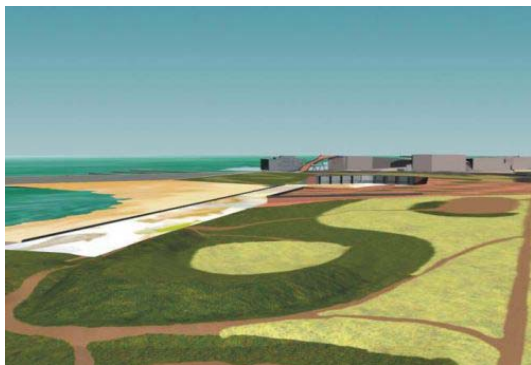
there is an urban park, its design emulates a system of dunes, the spaces created by these concave surfaces will be used for two open air theatres with tiers of seats facing the sea and capacity for 12,000 spectators. The project has been designed by the young Spanish architect Alejandro Zaera. It comprises several natural elements, that contrast with the colour range of the Mediterranean Coast, and protect the paces from the gusty sea breezes. Next to this park, is the bathing area: a 1,213 ft. wide platform that submerges into the sea like a continental shelf. The 3 bathing areas will be supplied with temperate water, warmed by using residual heat from the thermoelectric power station. In order to protect the bathing area and swimmers from the sea swell, a little island system will be constructed. Being covered by sand, this will become a beach on which swimmers can rest.



The Marina: together with the Olympic and Old Port, this facility will be the third in the city. This marina will be able to provide up to 1,000 moorings. It will be surrounded by shopping, dining and leisure areas, as well as, spaces specially designed for ship maintenance, sailing schools and navigation training. Next to the marina

a hotel complex complementing the tertiary services of the zone will be built.

Beaches: Until 1992, the residents of Barcelona had lived ‘back to the sea’. In the past they had to travel to other municipalities in the holiday months in order to enjoy the coast. This situation started to change when the Olympic Villa was constructed. This Trend will continue with the incorporation of 44 acres of new artificial beaches. This area will form two coastal parks, and represent a paramount contribution to the collective use of public space.



Areas of economic activities: In the surroundings of the Forum a new university campus will be established. This project that is currently being finished, will be a 18.5 acres site. The 645,800 sq. ft. of buildings will house a complex of research centres, oriented towards R&D activities. Additionally, an area of 613,540 sq. ft. designated to house firms dedicated to technology transfer, associated with the Polytechnic University of Catalonia, is projected.

Other commercial property proposals are the hotel zone, which will help to cure the existing shortage of hotel

accommodation in the city, as well as demand generated by the new Congress Centre. Also the business centre which will provide 559,700 sq. ft. office space.

La Catalana: after several frustrated intents to regenerate this marginal area, arises this new proposal. The site occupied by “La Catalana” is situated in the area where Ildefons Cerda planned the famous Fluvial Park of the project of extension of Barcelona in 1859. Nevertheless that the Park was never forgotten, even recovered in the second major urban project of Leon Jaussely in 1907, the area was occupied by low quality housing emerged around the power plant. This new proposal has the main objective of relocate in the area the inhabitants living there in this moment and to provide new dwellings, in the context of a Lineal Park along the River Besos. Also it will provide economic activities in a mix land use urban schema.

La Mina: La mina is one of the most degraded neighbourhoods that emerged in the periphery of the Barcelona municipality three decades ago. In this moment the site is a pole of social tension that has derived in a drug distribution centre. The social exclusion, the low quality of both public spaces and houses, and the inaccessibility are deficiencies to solve. Considering this an innovative urban management model has been launched, it consists in a confabulation of the public and private property of the land, that with a densification aims to absorb the costs of the transformation. The main proposals include: the construction of 1,097 new dwellings,

the rehabilitation of other 2,377, the aperture of pedestrian and vehicular passages, the improvement of public transportation through the introduction of a tramway line connected with the major transport system, as well as, a improvement in the quality of the local facilities. Municipal facilities will be installed in order to break the autarchy of the zone up, and induce the flow of people of other areas.

4. The environmental model: advanced technologies, energetic efficiency and recycling.

The Agenda of Principles and Values of the urban-architectonic project, requires responsible use of resources, favouring the design of energy efficient systems, potentially recyclable building materials, and methods that minimize negative environmental impact. With this goals, the aim the Forum project pursues is to become a model for the community of the twenty first century.

The criteria underlying the Urban-architectonic project can be summarized in three objectives:

- Use of the compact city model.
- Optimise the new and existing facilities.
- Application of the Agenda of Principles and Values to the design and construction of the buildings.

The compact city model is one of the three urban planning schools of the end of the twentieth century, it is characterized by a mix of land uses, including

residential and economic activities. Its supporters argue that it contributes to shorten the patterns of commuting as a result of putting together places for living, working, entertainment, and shopping, in opposition to the zoned city. In this last model the land uses are segregated, a philosophy promoted by the functional movement and stated at the Charter of Athens. As a consequence of the transformation of the old productive system into a cleaner and safer process, today the co-existence of economic and residential activities in one locality is possible. This avoids economic disadvantages that once induced segregated zoning. This is a “24 hour” city model, which makes intensive and efficient use of public and private urban investment. Nevertheless, the efficiency of this model is still being discussed, especially in regards to metropolitan areas with intense mobility patterns produced by reasons other than the legitimate use of the land. For this reason the model chosen for the Forum project goes beyond complex zoning, as the base of the compact city, integrating new public transport facilities: a new metro station will be opened, 2 tramway lines, 3.4 miles long in total, will be incorporated and, in the future, a monorail system along the coast, will link the site of the Forum with the traditional Port of Barcelona.

The integration of the technical metropolitan facilities into the Forum site occurs at both spatial and environmental level. The power station, with an installed capacity of 788 megawatts, has been upgraded in order to replace the traditional thermo-electric

generation process by a combined cycle, using natural gas instead of conventional fuel. With this new system, that allows the partial recovery of the residual heat, energy efficiency has increased from 27% to 60%; producing a positive impact in the reduction of atmospheric emissions, as well as, a save in combustible and carburant consumption.

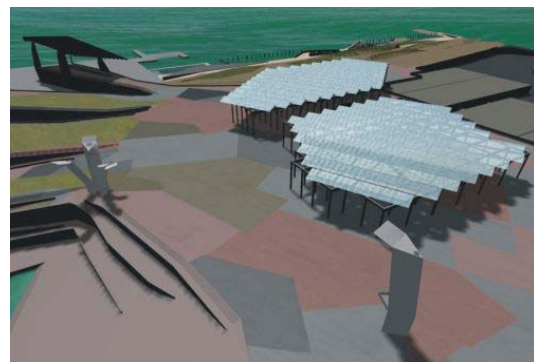
The technology of the sewage treatment plant is being modified from a system based on the primary cycle (physical decantation) to a more comprehensive one, including three cycles (physical, biological and chemical) according to the latest European recommendations. In conjunction with the mud treatment plant, the complex will purify 390,000 m³ daily, a service that benefits 63% of the metropolitan population. The inodorous and cleaner water vented on the coast, will help to recover the marine biotope

The large facilities, the Forum and Congress buildings, as well as the commercial and residential ones such as hotels, offices, and shopping areas, will be provided with a pneumatic waste collection system. The system will separate the organic from the inorganic residue, and carry it into a treatment plant. This facility follows the specifications of the eco-parks, when completed it will be the third in the Barcelona area. The plant with a installed capacity to treat 430,000 tons per year uses the incineration process, the residual heat will be utilized by an electrical generator, to produce six megawatts per hour. The final residues

will be used to produce building materials. With this equipment it will be possible to recycle per annum: 36,000 tons of organic waste, 8,400 tons of paper, 5.600 tons of glass and 5.600 tons of metallic materials.

The buildings in the complex have been designed to be served by a central heating and cooling system. The generator will take advantage of the residual heat produced by the incineration of the solid residue, and the steam released by the combined cycle power plant. With this integration, a pioneer system in Spain, carbon dioxide emissions will be reduced by 25% compared with that produced by individual units.

In the urban park_a 113,021 sq. ft. photovoltaic plant, has been designed, this installation will produce enough energy to cover the needs of 161,458 sq. ft. of office space. The Agenda of Principles and Values states the basic criteria to be observed when specifying the materials and methods to be used in the building process. Basically the goal, is to avoid the use of non-recyclable materials and methods that give rise to a high degree of environmental damage.



5. The urban management model.

To accomplish efficiently a project of this magnitude, it has been necessary to create three governmental agencies with specific attributes, in accordance to the urban management model of Barcelona based in the public-private partnerships.

The City Council of Barcelona and Sant Adria have set up the Besos Town Planning Consortium. This Consortium coordinates and assists the planning and approbation of the urban-architectonic proposals, as well as, coordinates the administrative affairs related with the urban project.

A second administrative Body called “Infraestructures de Llevant” has the responsibility of the technical management, as well as, planning attributions of the area, this organization has the direct support of the Agency of Regional Development of Barcelona.

A third management agency has been set up exclusively to assist the issues related with the neighbourhood of “La Mina”. The “Consorti del Barri de la Mina” it is supported by the regional government and both municipalities and involves the participation of the local community.

6. Forum’s prospects.

The project’s detractors, groups of local activist and critics, have taken a sceptical posture over the contents and

the diffusion of the program, as well as underlining the social cost implied in the realization of the project. Claiming a great “real estate speculation” to be hidden in a ephemeral “cultural show”, a business venture valued at 1,500 million euros (569,400 sq. ft. of office area, 706,758 sq. ft. of scientific park area, 1,023,443 sq. ft. of hotel space and 2,812,093 sq. ft. for housing purposes). But without this project, it would not be possible to digest the local urbanisation costs paid by private land owners.

Architectonic criticisms refuse the *vedette* character of the project as each space and building has been designed by world wide prestige firms. Arguing that it represents a potential threat to the conceptual and formal integrity of the complex. That could precipitate it into a trivial juxtaposition of spaces, as a consequence of the exacerbation of the individual creation in detriment to the collective one.

In any case, by late September 2004, we will be in a better position to evaluate the results objectively. It is hoped that, by then, solid contributions from the project will refute what could sound purely rhetorical, in support of an illusion and the self esteem not only of the Catalan people, but also of the citizens of the world.

The Forum will have the opportunity to become, if not a model, an example of good practice. Contributing to consolidate the urban paradigm of the twenty first century: culturally diverse, environmental sustainable, and socially integrated.

Furthermore, it will provide a chance to study in depth the improvement of the quality of life generated by the enhancement of the competitiveness of the cities. This collective improvement should be the main aspiration of all projects involving public funding, that constitutes the real urban challenge to the 2004, post-Olympic, Barcelona.⁵

Electronic resources :

- An electronic model of the Forums site is available at:
<http://www.upc.es/cpsv/>
- Information about the logistics of the event, is available at:
<http://www.barcelona2004.org>
- Information about the aspects involving the administrative management of the urban transformation is available at:
<http://www.consorci-besos.com>
- Urban information about the individual projects is available at:
http://www.bcn.es/urbanisme/catala/forum_2004/forum.htm
- Information about the comprehensive city planning, is available at:
<http://www.bcnregional.com/barcelona/regional/html/catala/projecte/0Arees/1IntBes/2Besos/frame2.html>

⁵ The images that illustrate this documents have been produced by the Barcelona City Council (and its partners) and the CPLV.

The master plan overview.



