From Brownfields to Green Fields

REPORT

Group C
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The Cincinnati Basin is considered regionally as one of the most beautiful landscapes in the US, with rolling hills, covered in trees and streams. But this area is also an example of congestion of urban functions and, as in most cases of American cities, of suburban sprawl with no discernable center and edges.

Our project focused on this context and proposed a conceptual framework for binding together existing fragments of the different textures that composed the basin.

We worked with a set of structural elements (natural as water, hills, green corridors, open spaces, urban brownfields, public transportation system, new and unusual housing typologies) to clarify, reorganize, connect and enhance existing conditions.

We had an integrated environmental/functional/social approach in this project.

We organized the whole planning process on three phases: analytical-interpretative, meta-projectual and projectual.

The first part of the process consisted in analysing the Cincinnati basin framework through a systemic approach, studying the different components of the Cincinnati basin area. The first analysis on a large scale are purposed to understand the basin’s
relationship to the national context, and in particular to the regional forecast (scenarios) about the Greater Cincinnati Metro Region.

We started our work using a SWOT analysis (internal strength/weakness – external opportunity/threat) applied for the different components of the Cincinnati basin (communities, mobility, environment, landscape, etc.).

As the result of the SWOT analysis we defined the base statement of the project: having an integrated environmental/functional/social approach to the study area, taking in account the super local foreseen about the Greater Cincinnati Metro Region. From this analysis we also derived the two main objects of this project:

- Mitigation of the separation between land uses (industrial/residential/business) and residential areas (closed neighborhoods) by studying convenient forms of physical connections;
- Restoring the existing brownfields (governmental funds available for the clean up), covering the lack of green spaces, thinking about the role of Mill Creek and taking in account the return time of flooding.

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<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
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<tbody>
<tr>
<td>Amount of business in the CBD</td>
<td>Segregation between land uses (alternative: mixture of industrial, residential, business)</td>
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<tr>
<td>Physical appearance of the CBD</td>
<td>Segregation of residential areas (closed neighborhoods)</td>
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<td>Physical accessibility (presence of the highway)</td>
<td>Brownfield (pollution, ugly)</td>
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<td>Historic structures/buildings in OTR and WE</td>
<td>Railroad (pollution, waste of land, underused)</td>
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<tr>
<td>Cultural institutions (Findlay Market, stadiums, Union Terminal, CAC, Cincinnati Art Museum, Freedom Center, Taft Art Museum, Art Academy, Music Hall)</td>
<td>Majority of population have low income</td>
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<td>Alarming rate of unemployment</td>
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<td>Mill Creek (pollution -&gt; local approach isn’t enough)</td>
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<td></td>
<td>Lack of alternative transportation</td>
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<td>Lack of green spaces</td>
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<td></td>
<td>Lack of social mix</td>
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<table>
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<tr>
<th>Opportunity</th>
<th>Threat</th>
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<tr>
<td>Brownfields (governmental support for clean up)</td>
<td>Hill (landslides)</td>
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<tr>
<td>Proposed NAFTA-network</td>
<td>River floods</td>
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<td>Hills (nodes of hypothetical ecological network, natural resources)</td>
<td>Public investments addressed to high income</td>
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<tr>
<td>River (port activities, riverfront)</td>
<td>people (housing)</td>
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<tr>
<td>Gentrification (reinvestment into area)</td>
<td>Gentrification (displacing the poor)</td>
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Tabella1. Analisi SWOT.
In the conceptual diagram above, we indicated three areas where we recognized the presence of strong weaknesses.

The first one area includes downtown, Over the Rhine and the West End. Here site and data analysis confirmed conditions of physical and social divisions between land uses (the lack of mixed uses, industrial, residential, business penalizes the vitality of the basin) and residential areas characterized by strong income’s differences.

In the Queensgate and Lower Price Hill areas where heavy polluted industrial activities were located, the analysis showed incompatible natural and man-made adjacencies. Finally the alluvial valley of the Mill Creek is interested by flooding.
Meta-Projectual phase: the Masterplan.

Figure 4. Draft of the masterplan.

Figure 5. The different parts of the project.
Projectual Actions for the Enhancing of Six Different Parts of the City:

1. Horizontal backbone:
   Connect the city with a platform, to create a strong access between the city, OTR, the Music Hall and a new landmark in the western part of the railroad. The object of this project is to create a civic monumental city scale to celebrate the man made world.
   The landmark located at the end of the platform in the Mill Creek Technopole is a building for public activities. We proposed to locate a Wetland Research Center, leading scientific studies on the humid zone habitat.

2. New CBD:
   Create a new business and tourist city in the western part of the downtown, enlarging the existing Convention Center, improving the hospitality (hotels, restaurants, etc.).

3. Living in the Wetlands (Mill Creek Restoration, Mill Creek technopolis, new community):
   First this project needs a cleaning up restoration of the Mill Creek, with the creation of man made wetlands and a riparian corridor along the river; then the Queensgate West area could be transformed in a Technopole, a center of excellence with innovation based companies, research centers and universities. The third part of the project consists in realizing a new community with houses on stilts, unusual housing typologies for the city of Cincinnati.

4. River Front Redevelopment (Mill Creek’s mouth, River bank Sporting Park):
   This is basically a landscaping design that involved the mouth of the Mill Creek and the river bank. The project consist in designing green hills with two functions, one is to prevent the flooding of the Ohio River and the Mill creek and the other is to create a new amazing landscape and a belvedere on the river, creating a new relation between land and water.
   In the area below the existing CBD and the new part, it’s planned the creation of a river bank sporting park, with different sporting facilities, golf course, soccer field, etc.

5. New Logistic Railroad Area:
   Redesign the railroad area, to scale down the size of the railroad area, creating a new stocking area for containers (using innovative technologies to put the containers one above the other) and decreasing the acoustic pollution caused by the trains.

6. Green Inner City Corridor:
   Transforming the expressway into an open spaces system and to cap the expressway in the part where is below ground.

Horizontal backbone

The horizontal backbone gives the basin area a strong axis, contrasting with the vertical structure of the different districts and tying these districts together: the Technopole, wetlands, Mill Creek, railroad area, industrial district, West End, and finally Over-the-Rhine and the CBD. It uses three landmarks as its focal points: Music Hall in Over-the-Rhine, Union Station in the West End, and the new Technopole landmark in the most western part of the basin. This way it spans almost the entire area and directly connects the basin’s eastern and western parts. To enforce the importance of its connecting function, the backbone is given a dominating visual appearance in the city. The part from the new
Technopole landmark to Union Station has been designed as a large platform that floats over the vertical corridors of the wetlands, Mill Creek and railroads, in order to allow a physical continuation of these corridors. The platform is structured by a division into several parallel horizontal strips. Meeting points between the different strips appear because of the wave like motion of the structure. This motion also makes that the strips regularly touch the ground below, for easy access and exit of the platform. Being 450ft wide, a totally new urban landscape is created. Flow of people across the platform happens on the roof of the structure, giving a magnificent view of the area. A tram as part of the inner-city public transportation system allows for a fast crossing of the platform. Cars are not allowed, they use roads parallel to the horizontal backbone to travel between east and west. Under its roof, the structure houses office and commercial space which can be accessed from the urban landscape above, again because of the wave like motion of the strips.

The second part of the horizontal backbone, spanning from Union Station to Music Hall, is a formal and symbolic continuation of the platform structure. No extra infrastructure is provided here. A continuation of the strips is realized by changing the material of the urban fabric where possible (roads, sidewalks, open spaces), which gives the axis a strong visual presence in the existing fabric. Transportation happens on already existing roads running through the backbone path, which are refurbished to emphasize the horizontal movement.

Living on the wetland

The waste treatment plant will be put below the ground level and its action will be fortified by the creation of man made wetlands that treat nitrates, bacteria and other contaminants. The creek will be carried to the original natural shape it had until the end of the 19th century, before the industrialization, recreating a meander and some wetlands along its course.

The restoration is necessary because the Mill Creek Valley is the location of some brownfields, typically sites where hazardous or contaminated materials were used, handled, transported, or produced in the past and so the creek water and the ground water are polluted. The other problem is that a wide part of the riparian corridor and the flood area are occupied by buildings. The wetlands are important for the flood control and water storage, the groundwater recharge, sediment filtration and the protection of drainage ways. Wetland plants and soils naturally store and filter nutrients and sediments.

The three important functions of the wetlands are:
1. Wetlands are home to wildlife. More than one-third of America’s threatened and endangered species live only in wetlands, which means they need them to survive. Over 200 species of birds rely on wetlands for feeding, nesting, foraging, and roosting. Wetlands provide areas for recreation, education, and aesthetics.

2. Wetland plants and soils naturally store and filter nutrients and sediments. Calm wetland waters, with their flat surface and flow characteristics, allow these materials to settle out of the water column, where plants in the wetland take up certain nutrients from the water. As a result, our lakes, rivers and streams are cleaner and our drinking water is safer. Man-made wetlands can even be used to clean wastewater, when properly designed.
3. Wetlands protect our homes from floods. Like sponges, wetlands soak up and slowly release floodwaters. This lowers flood heights and slows the flow of water down rivers and streams. Wetlands also control erosion. Shorelines along rivers, lakes, and streams are protected by wetlands, which hold soil in place, absorb the energy of waves, and buffer strong currents.

The second part of the project consists in transforming the Queensgate West into a technopole, a center of excellence with innovation based companies, research centers and universities. Development opportunities for start up companies and create closer cooperation in the fields of innovation best practice. Using green roof and innovative building technologies.

The Technopole will give the economic support to the realization of a new public part for the existing community in Lower Price Hill, with open spaces, soccer fields and playgrounds located along the course of the Mill Creek. Also the realization of the project will create jobs for the low income communities, for example planting trees, construction, etc.

The third part of the project will be the creation of a new community with houses on stilts, unusual housing typologies for the city of Cincinnati. From a flooding point of view they allowed water to pass through so they are a construction type that function well in a flood zone, they put a minimum footprint on the natural environment. They allowed the inhabitants to integrate with the natural environment with a minimum impact. The community will be created with a new environmental sensibility model.

**Designing a Green Inner City Corridor for the Cincinnati Basin**

With the capping of the already below grade Interstate 75 freeway, a new urban corridor of parks was created. The idea behind the capping and the eventual creation of this park system was the reconnection of the West End neighborhood that was lost during the construction of the freeway system and the recreation of the basin’s urban fabric that was lost during the urban renewal programs. The connection with the central business district and Over-the-Rhine (and the east end of the city in general) to the Mill Creek waterway and park system was also a major influence on these decisions.

This nearly 2 mile long system of parks and a new parkway changes as it winds down the basin area through each distinctive neighborhood. Starting from the northern edge of the green corridor the landscape resembles that of the nearby newly reclaimed Mill Creek wetlands and natural areas. Distinctive features include the resemblance of the wetlands with water features and plantings. Further south as the neighborhood of the West End and the new urbanism residential projects begin to take their own shape, so follows the green corridor. A system of public gardens, paths, recreation and sporting venues compliment the residential neighborhoods that lie within the proximity of the green corridor. The usage of the park lands and its resources will be highly encouraged in this section of the corridor. The next section of the corridor that takes shape is composed of greenery and a large number of trees. This part of the corridor represents the location of 7th Street, the first street to cross the Mill Creek, and the further western expansion into the wilderness of the Northwest Territory. Distinctive features of this area would include an archway representing a doorway leading to the west and some water features representing the increasing location of the river. Keep heading south and the landscape turns more into an
urban-type environment with large plazas and more modern architectural features. Water features continue to become more of an increasing presence as the river starts to become visible.

Finally the last section of the corridor is the connection to the riverfront park. This last section contains many water features which compliment the Ohio River and represents the major importance that the river has had on Cincinnati.

The urban green corridor for Cincinnati has followed the lead from projects that have had similar situations and have created similar successful public places. These places include the Río Turia in Valencia, Spain and the ongoing construction of Boston’s Big Dig and Rose Kennedy Greenway.