

Dynamic outbreaks

Citation for published version (APA):

Curulli, G. I. (2004). Dynamic outbreaks. In C. H. Doevendans (Ed.), *E+ de stad als laboratorium, een eerste tussenbalans van studentenprojecten in het kader van het convenant TU/e en Gemeente Eindhoven* (pp. 62-73). Gemeente Eindhoven.

Document status and date:

Published: 01/01/2004

Document Version:

Publisher's PDF, also known as Version of Record (includes final page, issue and volume numbers)

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
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Dynamic outbreaks

INTRODUCTION

This collection of projects summarizes collaborative design investigations conducted by fifty Erasmus exchange students, as a part of their academic program at Eindhoven University of Technology, to investigate strategies for public spaces and offer ideas in the design of high-rises. The towers built over the centuries are an eloquent testimony to the architects' aspirations toward structures reaching the sky. Thanks to the new technological advancements, architects now have better means to realize such dreams. Such ambition might find its roots in the desire to create symbols of power, to challenge the gravity force, or to make a rational and economically profitable use of the land.

A central question remains, however: How can they be proposed harmoniously and consistently with the site? How can collective spaces function in a tall building? How can these spaces respond to the external stimuli of the site? Many projects show that as soon as a repetitive and flexible modularity takes over, the organization of a skyscraper become bland or, even worse, chaotic. In particular, the whole sequence of public and collective spaces becomes fragmented. The lobbies of the high-rises become 'introverted' spaces; they are controlled areas reserved to a more select habitants in search of isolation from the confusion of the city. The ground floor often becomes parking and entrance to the building is directly from secure parking areas, without any direct engagement with the street. On each floor, the hierarchy of closed and open spaces similarly disappears in favor of programming of floor use. Spaces for social contacts are reduced to a minimum and the flow of people is a monotonous movement. Is this type of architectural arrangements open to change? In other words, how can the distribution of public spaces

be the primary principle in the design of high-rise buildings? This implies investigations on the concept of public space as well as the typical features of the context in which the high-rise tower is located. The siting of the building will become the starting point of dynamic relationship that moves from the street level to the whole interior-public spaces of high-rise buildings. An insight into issues such as individuality and community is necessary in order to develop a critical perspective on architecture, insofar as it contributes to exploring conventions of high-rise design.

This design studio was developed in the framework of the Covenant between the Municipality of Eindhoven and Eindhoven University of Technology (www.eplus.nl). The outcome of this studio, which can be qualified as 'Research by Design', will contribute to the high-rise building policy of the municipality.

The sites for the design studies are located among the existing skyscrapers of Eindhoven, which dot the townscape like thin needles. The first site is the 'Nimbus' area, located on the outskirts of the city, in a transition zone between city centre and airport. Currently, the site is a farmland and limited on two sides by a highway and a main local road between Eindhoven and Veldhoven. Areas to the north and south are temporarily 'sleeper' agricultural fields with high growth potentials for residential and commercial development.

The second site is the Beursgebouw area, the trade fair and congress building of Eindhoven, originally built as a temporary structure, located in the city centre of Eindhoven. The site has an extremely strategic position into the city's urban fabric: it is opposite to the central train station, between Woensel and the commercial center of Eindhoven and next to the TU/e. Nevertheless the Beursgebouw area is a very isolated place, which had been cut off by infrastructures from its active surroundings; it is accessible only by tunnels and occupied by an anonymous box.

For both sites, the Municipality of Eindhoven has already proposed new urban plans which clearly take into consideration local demands and the city's architectural ambitions. However, returning to the central theme of the study, the appeal of Nimbus and Beursgebouw areas lay in their potential as representative sites for cultivating the city's image. The most important question, though, is how to insert high-rise buildings in these sites and put them in such a manner to cause 'dynamic outbreaks' in the city and its landscape.

In this study, the students, all foreign visiting students, demonstrated the spirit of teamwork, and each design group included at least two different nationalities. Cultural and language differences provided an excellent source that transcended national borders, rather than hampering, for the design approach and consideration of the subject matter.

I would particularly like to thank Sang Lee for his zealous, precious and patient criticism as the 'skyscraper expert' to the studio. Many thanks also go to Cees Donkers, the city's urban planner and an active member of the E+ exchange, the covenant between the Municipality of Eindhoven and Eindhoven University of Technology, who has provide the valuable insight into urban policy making process during the design exercise. Dr. Kees Doevendans of the Department of Urban Planning at the university spearheaded the planning and execution of the design study program and without his patience and attention to the program, this would not have been possible in the first place.

Many congratulations are due especially to all the students for the interest and enthusiasm toward their host city, where they have made their residence and study for one year above all the difficulties of being away from home. Their dedication for design, discovery and learning has made this publication all the more worthwhile.

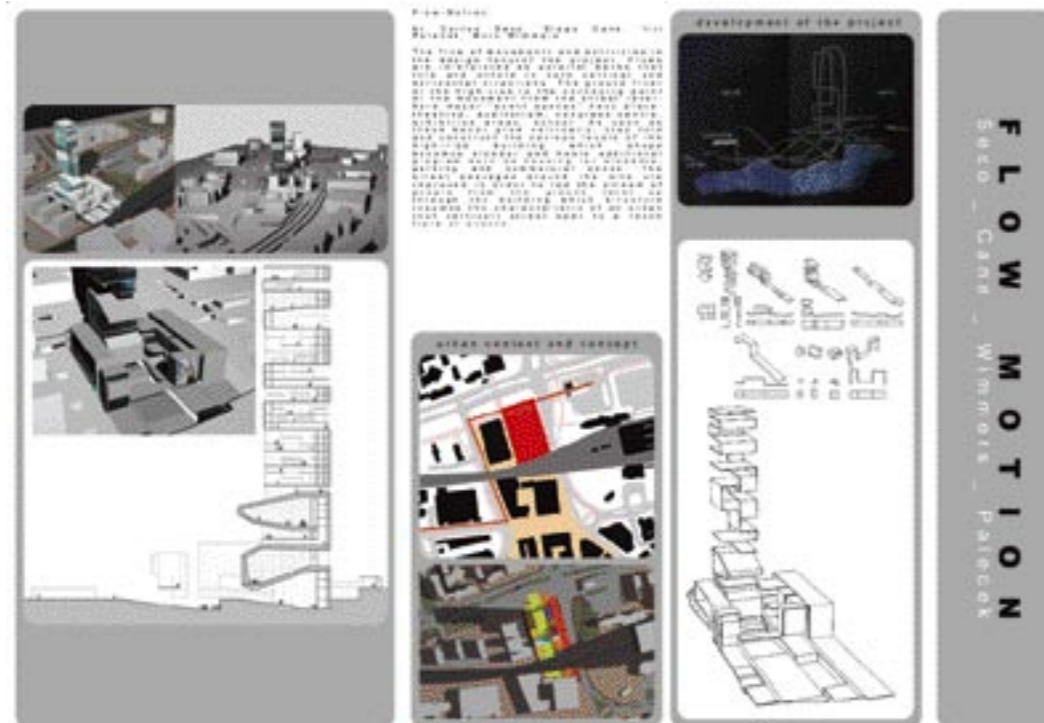


Irene Curulli Ph.D Arch
Docent Architectonisch Ontwerpen TU/e
faculteit Bouwkunde

1. FLOW_MOTION

BY CARLOS SECO, DIEGO CANE, IRJI PALECEK, MARC WIMMERS

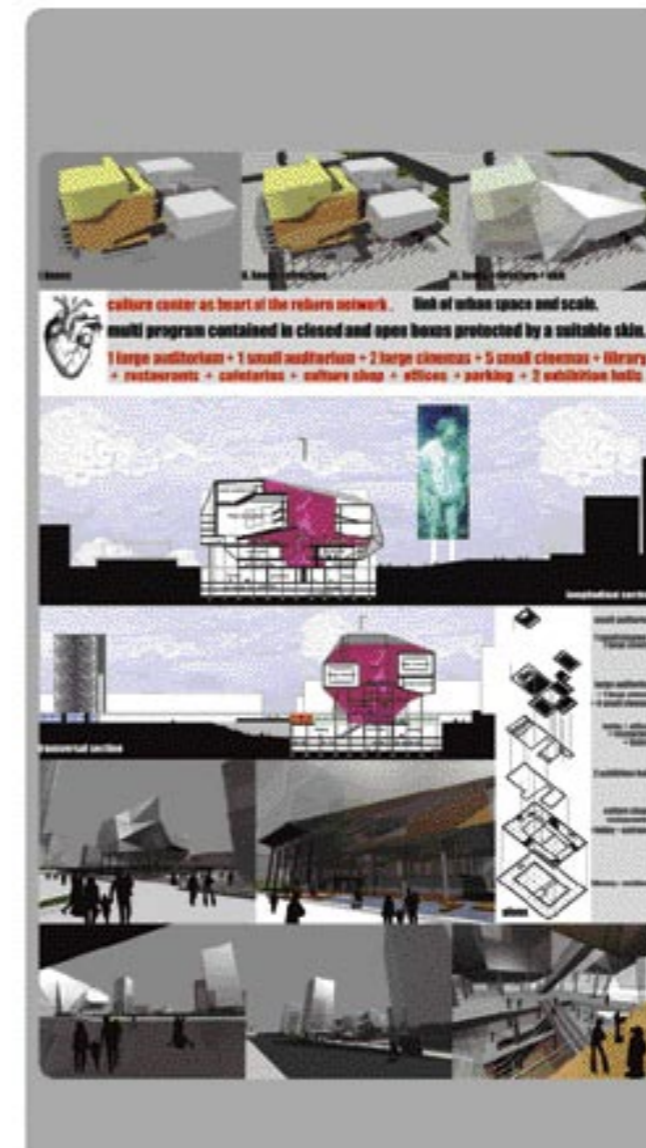
The flow of movements and activities is the design gist of the project. Flows are interpreted as parallel bands that fold and unfold in both vertical and horizontal direction. The ground floor of the high-rise is the conveying point of the movement from the street level: here mayor 'event spaces' have place: theatres, auditorium, congress centre, exhibition areas, school. As soon as these bands grow vertically, they fold and construct the various levels of the high-rise building which shape becomes slender and hosts additional program such as housing for students, parking, commercial zones. The street passages around the site are improved so as to led the stream of people from the ground level up through the building which structure resumes the characteristic of an urban (but vertical) street open to a reach field of events.



2. RESTORING THE URBAN NETWORK

BY TIAGO COSTA-FREIRE, LAURENTIU COCEANGA, JEROME LÉCOMTE

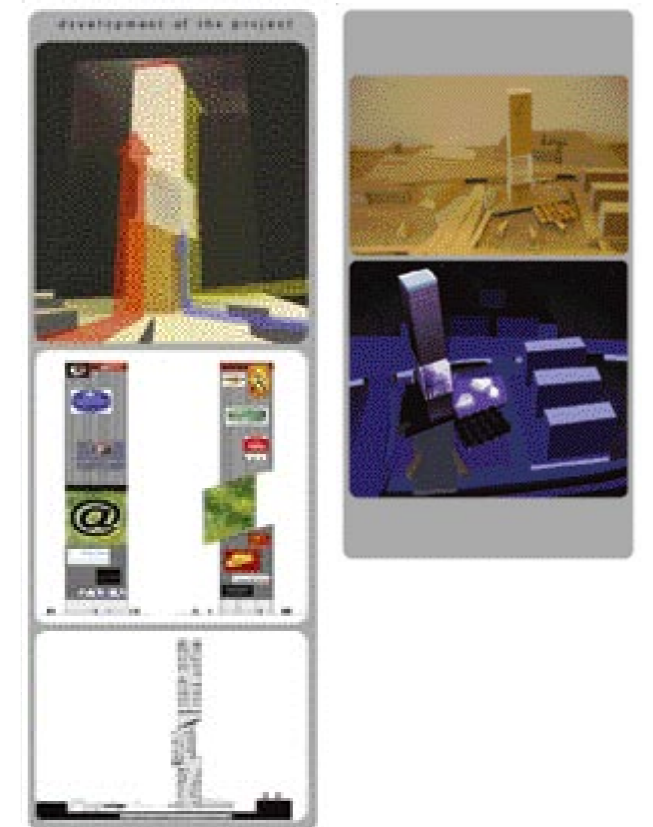
Starting point of the design was the fragmentation of the urban structure around the project's site. The proposal asked for 're-modelling' the area of the train station and of the tunnels leading to the site: public spaces are conceived as pumping arteries that restore the urban network. Part of the network is not a high-rise building but an articulation of volumes creating a 'critical mass'. It functions as pumping machine for the arteries and the programs within its skin are thought in order to activate a chain of urban reactions.



3. SLIDING

BY DIONI KALOGEROPOULOS, VITTORIA VOLPI, JOAQUIN VILA-BELDA

The research for an intermediate architectural scale, between the small one of the existing urban tissue and the big one of the high-rise, was the guiding goal of the design. The proposal introduces small glass pavilions, as they were diamonds thrown on a tray, that are dispersed on the project site and function as transitory masses to the skyscraper. Despite their apparent random order, these diamonds are shaped and arranged so as to direct the flow of people to the high-rise while they are passing through the site and moving from or to the city centre. These pavilions contain car-parking floors, exhibition rooms, small commercial areas,... daily activities on a public square. One of these diamonds, in larger size, is set into the slender shape of the high-rise and contains a winter garden around which cultural programs take place. From the square the glass mass looks like it is sliding down and its evening light emphasise this visual effect. Inside the building, the program is piled up following an increasing level of privacy (cultural programs, office spaces, housing) and it is arranged around a wave-like void.



4. TRADITION & TECHNOLOGY

BY RALUCA FIRICEL

Starting point of the design is the distinction of characters between the city centre and outer areas. The high-rise building, located in the in-between zone, interprets these dual qualities.

Introducing two faces 'skin', which relate to the two types of space, the design aims to connect both urban areas while introducing other new programs.

The inner city is interpreted through two thin and slender towers-skin, containing activities with the characteristics of the traditional inner city (closure, intimacy, privacy, static), that define a protect inner court. The outer city is a thick skin that shifts and twists in relation to the inner skin. Technologically it uses contemporary materials and programs hosted into it respond to contemporary needs, which are based on flexibility and temporary. Activities are set into the skin with large openness in between each other to allow a filtered view of the inner mass to the outside city.

Channels of communication, in the form of exhibition areas, bridges, meeting rooms, link the faces between outer and inner skin.

In this design scheme, the amount of surface available for programs is almost doubled and functionally the gap in between the two skins allows well-lighted spaces.

5. PARA_SITE

BY EVA GEISSER, KRISTINA GRÖBACHER, TINA SCHNEIDER, THOMAS WORTMANN

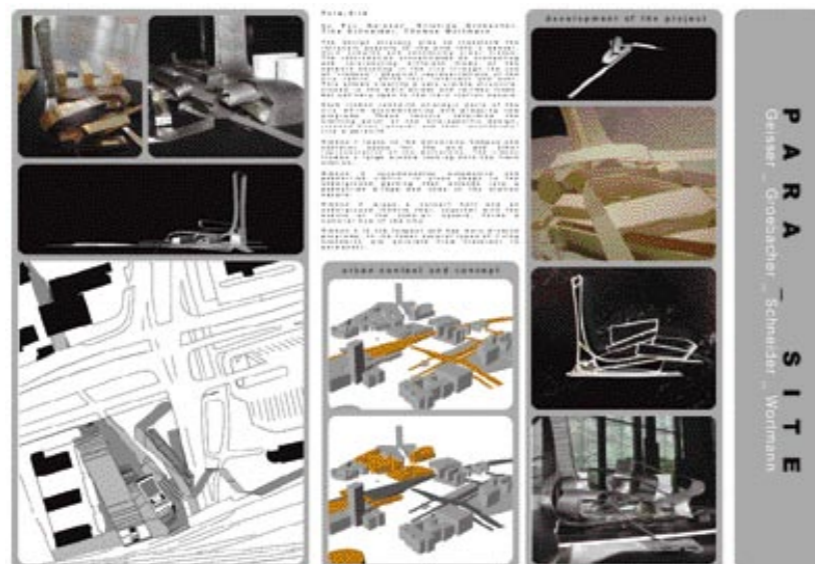
The design strategy aims to transform the introvert aspects of the site into a denser, complex and connecting urban tissue. The intervention concentrates on connecting and intersecting different flows of the network that is in the city through the use of ribbons, physical representations of the city fabric, which roll, intersect and knot. This allows creating a very visible structure, closed to the main street and railway lines, but very open to the train station square. Each ribbon connects strategic parts of the city while accommodating and wrapping new programs. These factors determine the starting point of the site-specific design: ribbons 'receive' first and then 'spread' like a parasite.

RIBBON 1. It leads to the University Campus. Contains spaces for the arts and other representative of the University. The ribbon frames a large window looking onto the train station.

RIBBON 2. Into it conveys cars and pedestrians. Ribbon gives shape to the underground parking that extends into a pedestrian bridge and ending at the station square.

RIBBON 3. It wraps a concert hall and an underground theatre that together with the events on the open-air square forms a cultural hub in the city.

RIBBON 4. It is the longest and it has diverse programs. In the tower several forms of living are possible, from the very short term to the permanent one.



6. BENDING URBAN LAYERS

BY JAVIER MUÑOZ GALÁN, FREDERIC LOURTIE, EUGENIA BRIGANTI

The project for a 10-250 meters-highrising in Eindhoven works on different layers of concepts. Each high-rise starts from the underground level creating an underground-tube network. At the ground level is free of the usually reserved spaces for shops and public facilities, which are pushed up into the vertical structures. The thin and slender high-rises meet each other at different heights for a reciprocal static support while also creating particular levels of privacy and openings to the public. The plan is a 20 x 20 meters size with round core elevators.

The whole structure is bend and waved in order to reach a large variety of plans. New materials offered by advanced technology are used for both structure and vertical connections.

Project aims to research on alternative way stacking activities within the city, to overcome to the rail tracks barrier, to highly increase urban density while creating cultural points.

In particular the concentration of high-rise near the bus station and on the Beursgebouw convention centre create already a system that could be proposed as the beginning of a new axis for future development

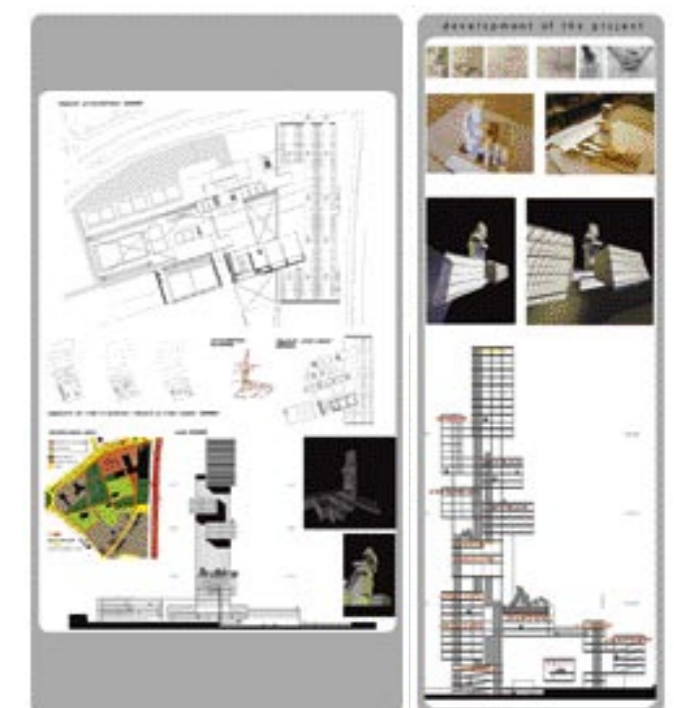


7. SPLITTING THE BIG SCALE

BY ACER GIMÉNEZ ORTEGA, MARTIN JUNEK, ZSUSANNA PARADI

The design proposal, located on the Nimbus area, introduces a new city-gate for Eindhoven in the form of a 'transferium' that is lean to the highway. This building is meant to receive the flow of commuters from the city centre to the outskirts and the north-south cars move. In order to save as much as possible the agricultural land on which the high-rise seats and overlook to, the design proposes a compact and tall building that function also as landmark for the travellers.

The existing property lines of the agricultural fields are extended to the design site and they dictate the composition and the sizes of the architectural masses. A series of interconnected envelopes, containing car parks, hotels, leisure and cultural activities, split the large scale of the city and create an intermediate one that relates to the small scale of the agricultural and suburban areas. The land occupied by the high-rise building, 'stolen' to the agricultural fields, is paid back in the form of agri-tourism activities. The open fields and the existing farms that face the transferium, become thematic/ educational areas with intensified farmer houses of various programs. These functions will stimulate a flow of movements from the high-rise to the agricultural land and vice-versa.



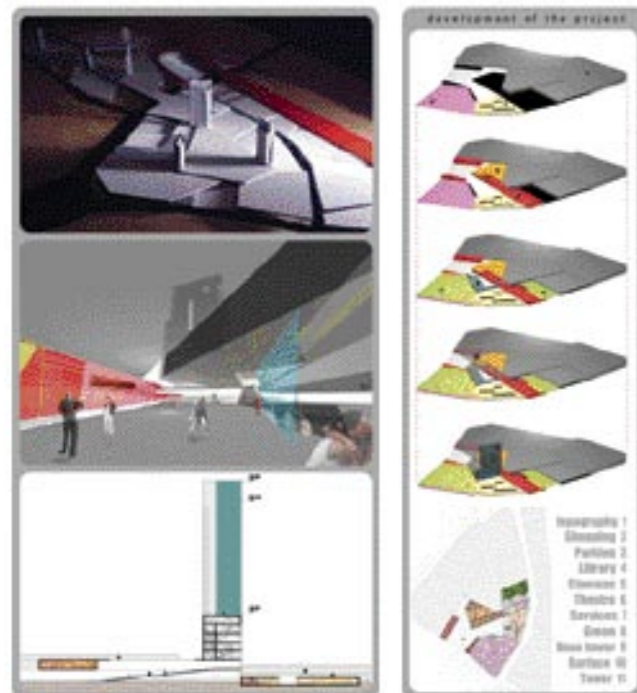
8. LINKING TOPOGRAPHY

BY ANNA RANDONE, DANIELA ARNAUT, GONZALO CANTOS MATEOS

The site location has the potential of creating a new centrality at the borderline of Eindhoven.

Inserting a dense program between the metropolitan scale of the city and the sleeping areas at its edge, the design proposes an operative landscape able to create a multiplicity of events for a real public domain.

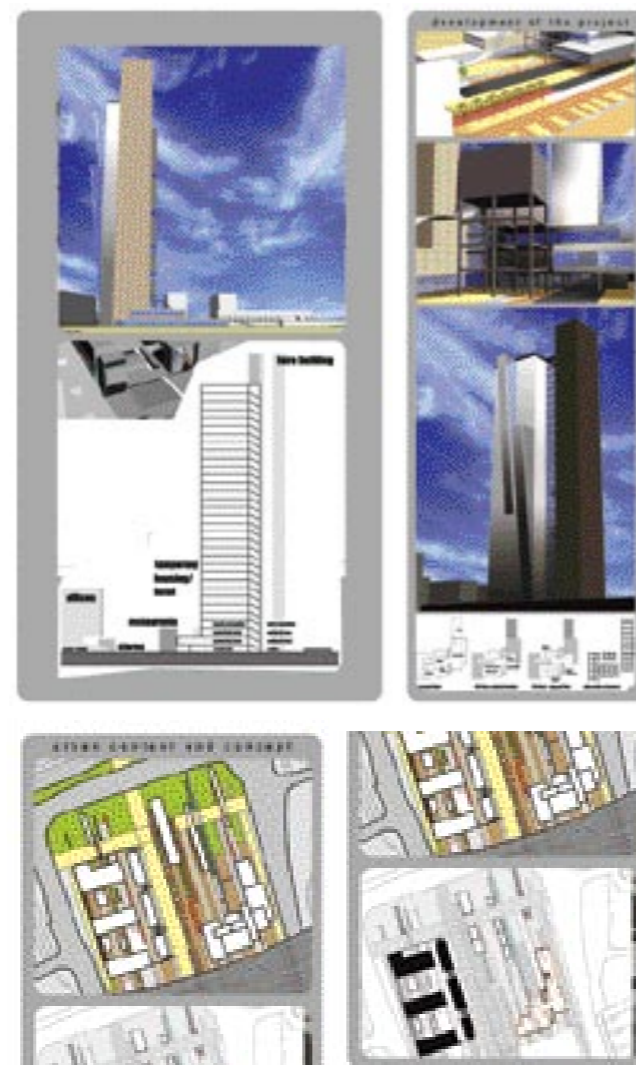
This artificial landscape is created through several 'spines' that have different directions and program: they hold an articulated planes-topography that is punctured by nine high-rise buildings. These are strategic nodes and attractive points that differ in function and architectural language (image). The planes, to which the high-rise overlook to are the public domains of these buildings: they are opened to the landscape or compressed by the towers and their design contribute to define identities to the various users. The high-rise design is the application of the topography logic. It emerges as singular point but originates from the general strategy. The plane of the topography stands vertically and creates one façade of the high-rise; the spine becomes a perforated vertical mass that hosts several kinds of programs. The two parts compress the service area.



9. HIGH RISING GARDEN

BY ISABEL C. MESQUITA DOS SANTOS, JAVIER CISNEROS AYUCAR, VANI VAITHEESWARAN

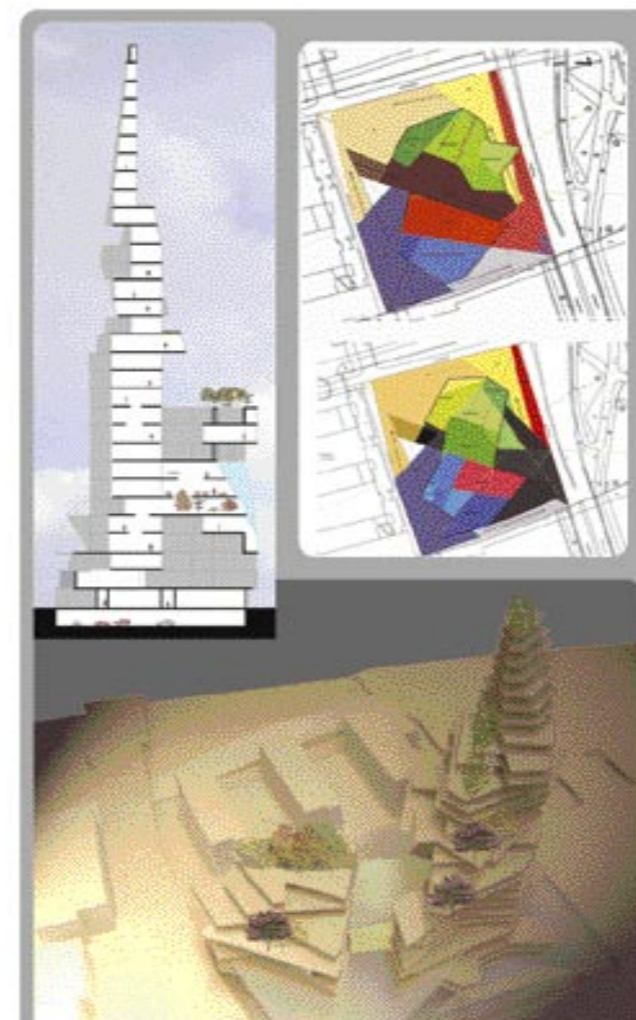
The multiple (and uneasy) entrances to the Beursgebouw site and the lack of open public spaces in the city centre are the starting point of the design. A 'stripped garden' is proposed as public arrival to the high-rise. The orientation of the bands, in different sizes, is north-south in order to convey the main flow of people from the city centre to the outside: they are paving, water, gardens of various nature but also small buildings (with daily activities). These are placed in the differences in levels of the site and are meant to be scale-mediators between the high-rise and the urban structure. The building is organised in three parts that interprets the arise of the strips and gardens on the façade.



10. INTERACTIVE PIVOT

BY JOVANA GLABASNIA, LESLIE NAVYEN, MONICA PERSIANI

The high-rise is considered the focal point of the site able to generate and convey into it a multitude of activities. Conceptually, the pivot is understood in the form of two prisms around which a ramp-platform rotates and intersects the volumes. These solids, that anchor programmatically and physically the high-rise to the site, are shaped so as to create inner streets, which 'suck' the streams of people moving around the site, into its centre. Here starts the ramp which spiralling up (outside or through the building) ends to an elevated square surrounded by public programs (schools,...); pivots then acquire independent shape and height: one is lower, the other taller and, as a thin needle, it punctures the sky; both are faceted to reduce shadows on the surrounding areas.

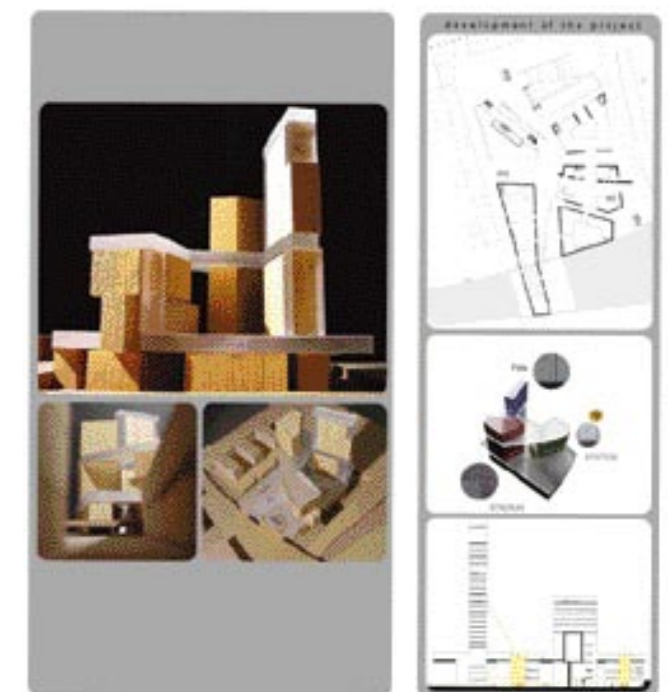


11. FRAGMENTED CITY

BY LUDMILLA LUREL, MATIAS NIETO TOLOSA, SANDRA MÜNTER

The deviation of the linearity of the city-axis, which runs through the site of the Beursgebouw and proposed by this project, is an opportunity to experiment on the displacement of intimate-old inner city spaces into a new area.

Six urban blocks, five-storey high and irregular in forms, sizes and materials, create a network of streets as in an historical urban tissue: not a main axis but surprises for the continuous discover of small open spaces, unusual visual perspectives. These blocks, like the Dutch hoven, enclose different secret gardens (elements of identity) to be discovered and to which the activities in the block overlook. A large plateau punctured by wide openings for the sunlight, shelter both blocks and street while marking the plinth of the high-rise. Above it, the building grows taller in three volumes. They differ in height and shape so as to respond the local surroundings and also to emphasise visual lines to other city landmarks.

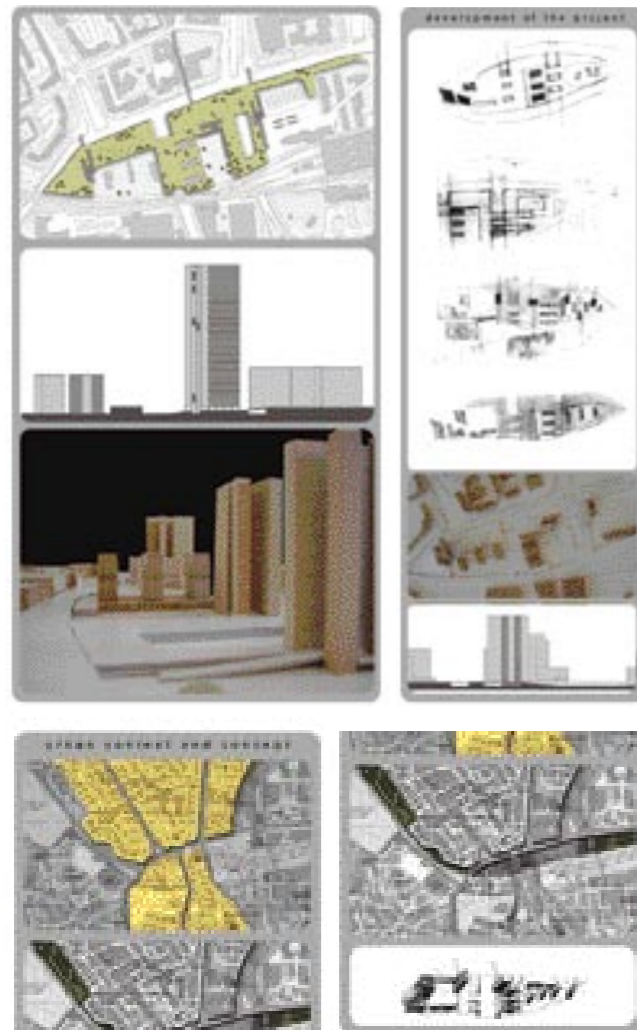


12. RELATING INLAY

BY ESTHER BERKHOFF, SARA JENNER, EMILY HAHN

The design is a prototype for an urban strategy that can be applied along the side areas between highways (or train tracks) and the urban fabric. In these left-over zones the proposal includes a connecting platform, which is inlaid and matches the identity and shape of the existing context. This surface is an additional level of public open space offered to the city and its repeated pattern along the infrastructures defines a green belt for the city itself.

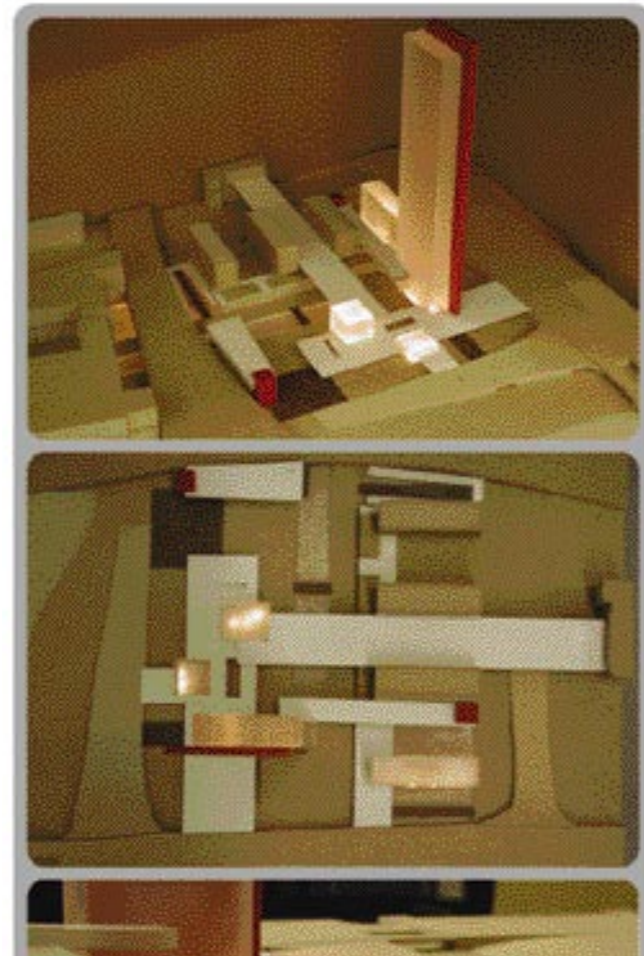
This plane is punctuated with several high-rises, with different programs and of various heights, which create the vertical connections among the street levels and activities within the buildings.



13. CONNECTING PLATFORMS

BY BERNARD VAN JAARVELD, VANESSA LACAILLE, NURIA RIPOLL, RICARDO MENDONÇA ESTEVES PINTO

The design emphasizes the existing height differences and layers of the site. It proposes a series of horizontal platforms, whose size and height is determined by the space in-between the existing buildings. These platforms are light-material shelters, or roofs for beneath public activities, or paving treatments that lead to the high-rise building. Then the public access to it is dislocated at different levels and this activates a continuous circuit of movements. Vertically, one of the platforms becomes the structural wall of the high-rise. It is a thick and closed facade that overlooks to the outskirts of Eindhoven. Toward the inner city, the high-rise reveals to the outside its programs, which are distributed on open/flexible surfaces (levels).



14. LAYERING FUNCTION MIXER

BY IVAN ALVAREZ LEON, ANA FILIPA PEDROSO, REGINA GONZALES MORAL, MARTHA PIMENTEL

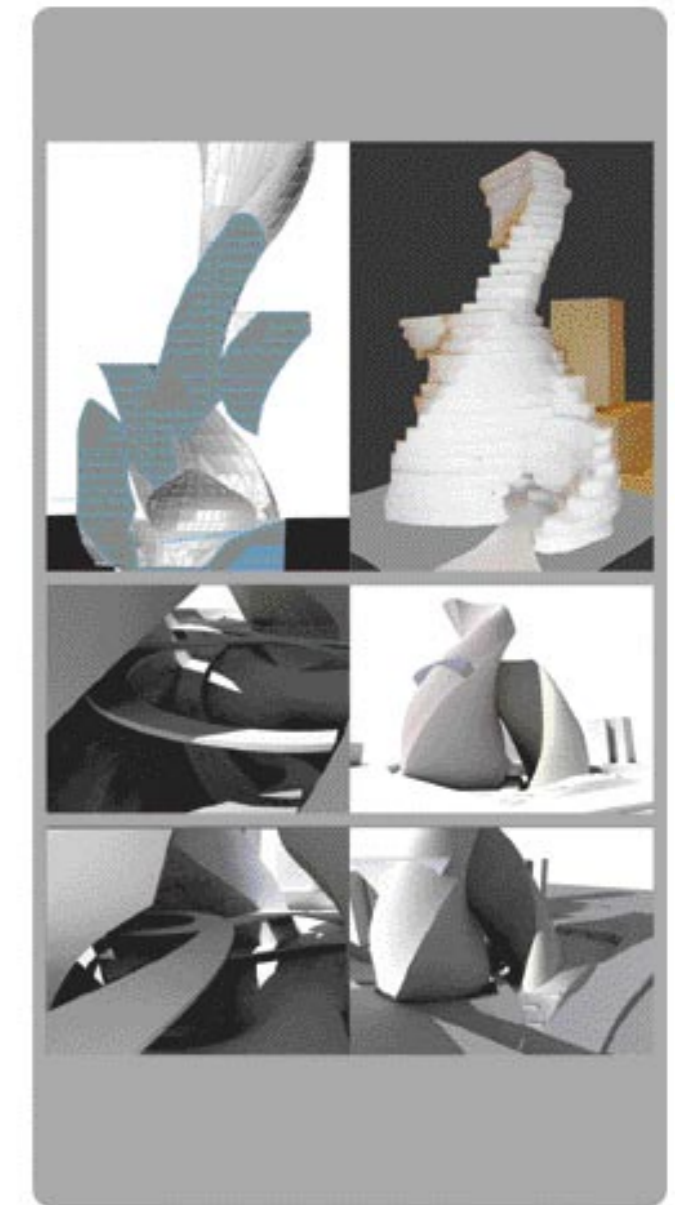
In this proposal the high-rise building is the ending point of a horizontal linear band that begins at the intersection between the railway tracks and the main traffic road. This band develops along the road; then embraces the area of the Beursgebouw and creates an inner court with a private atmosphere. Finally, it folds up in a layered, multifunction high-rise building. This is conceived as an alternate system of solid zones, with layered and fixed programs (housing, offices,..) and voids for public activities. The latter have the form of 'organic masses' that float in the public voids and are connected through a fast lift.

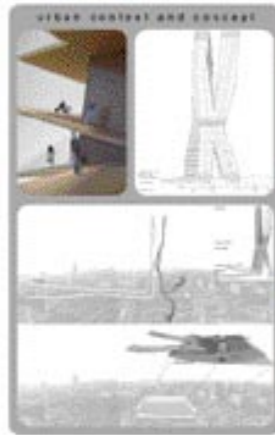


15. TORNADO BUILDING

BY KATHERINE GILL, MARIA GRAZIA CANTANNA, RAMONA JENSS

It is a spiralling system fed with the multiple dynamics of the site. The apparent independent flow of people and activities are attracted by a centrifugal force that melts them and generates a twisted high-rise building. While rotating it forms a cavity, whose walls contain the most private programs of the building. Large activities (auditorium, theatre,..) are partially laid underground and represent the starting point for the vertical axis around which the tornado building pivots.



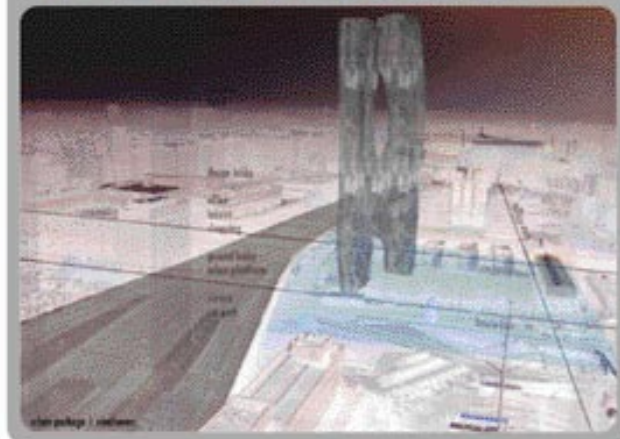
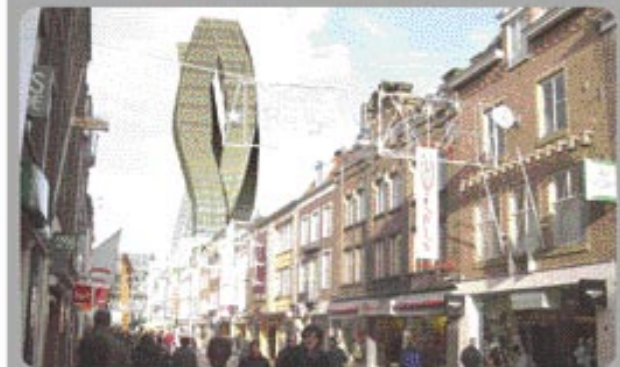


16. URBAN PACKAGE

BY ANDREAS MORF, BEAT BURGMEIER, NATALIA CTURTNIKOVA, TEREZA DVORAKOVA

This proposal is a reaction to the horizontal and low density growth of Eindhoven, whose inner city centre tends to loose importance. Urban package design proposes four high-rise buildings emerging from a thick urban platform. This is the site lobby that integrates the high-rise buildings with the surroundings and connects the different city levels. The streams of public and programs (leisure, cultural, commercial and residential) that move from the city centre to the site define the position and the size of the 'footprint' of each high-rise building.

The high-rises go up independently from the street level but, while rising, they reach a 'uniting' point thus forming a four-storey theme lobby. This is laid out as a continuous path that connects fixed and temporary programs overlooking the city. Finally, the high-rises develop again independently and have private programs. All high-rises are topped with a sky lobby.



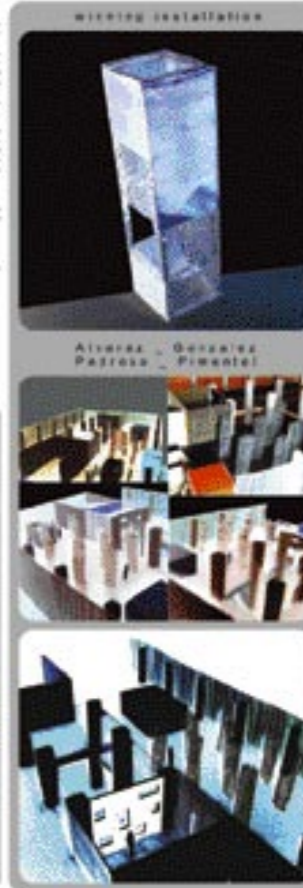
URBAN PACKAGE
 Dvorakova - Cturtnikova - Morf - Burgmeier

INSTALLATION

DESIGN BY IVAN ALVAREZ LEON, ANA FILIPA PEDROSO, REGINA GONZALES MORAL, MARTHA PIMENTEL



ASSIGNMENT
 The area next to the parking station is an excellent space to build the exhibition area.
 Located in the city center, this area is surrounded by the center of the city and is a strategic space that connects with the surrounding area. A parking station is an excellent area to build the exhibition area.
 With the studio having been given an interesting space and presenting it with clear objectives, each group of students started working on their own installation that would be the studio team in the urban environment.
 With the studio having been given an interesting space and presenting it with clear objectives, each group of students started working on their own installation that would be the studio team in the urban environment.
Specifications for the installation:
 - It should accommodate 10 groups of students.
 - It should be made of wood.
 - It should be made of wood.
DATE AND TIME
 The exhibition is scheduled for the 10th of the month.
 - Location of the exhibition area.
 - Date of the exhibition area.
EXHIBITION
 Exhibition area for the exhibition.



HIGH-RISE BUILDINGS IN VERTIGO
 7 designs for the exhibition