

ISOCA • AIU • IGSRP • CARP

ISOCARP REVIEW



MAKING SPACES FOR THE CREATIVE ECONOMY



Published by ISoCaRP

Supporting Institutions:

Bilbao City Council
Bilbao Ría 2000

Knowledge Partner:

Fundación Metrópoli

Editorial Team:

Waikene Ng (Editor)
Judith Ryser (Editor)
Stephen Ramos (Assistant)

Design and Layout by Fundación Metrópoli:

Waikene Ng
Anuar Fariz
Paul Múle

Translations:

Adrian Burton
Hany Elgendy

ISBN 90-755-24-37-4
D.L. M-40310-2005

Printed in the EU

Madrid, October 2005



Bilbao
UDALA
AYUNTAMIENTO



BILBAO Ría 2000

FM
FUNDACION METROPOLI



CONTENTS

- 5 **Foreword** Alfonso Vegara
- Introduction** Judith Ryser and Waikien Ng
- 10 **Silicon Valley and Beyond** David Nieh
Towards an Architecture of Creative Communities
- 26 **Bilbao** Jon Azua and Fundación Metrópoli
Bilbao Ría 2000 and the Guggenheim Effect
- 46 **Netherlands** Jaap J. Modder and Jeroen Saris
Creative Environments in Dutch City-Regions
- 66 **Helsinki** Marko Karvinen
Innovation and Creative Strategies: Reinventing Regional Governance
- 86 **Curitiba** Cleon Ricardo dos Santos
From Ecology to Eco-Technology
- 100 **Japan** Hari Srinivas
The Eco-Towns Strategy
- 112 **Dubai** Amer A. Moustafa
Creative Dynamics of a City Vying a Global Stature
- 130 **Cambridge** William Wicksteed
The Cambridge Phenomenon
- 150 **Singapore** Arthur Aw and Cindy Koh
One-North Initiative: Where Ideas Grow
- 168 **Barcelona** Miquel Barceló
22@: A New District for the Creative Economy
- 184 **Guadalajara** Francisco Pérez Arellano
Generating Spaces for the Creative Economy
- 206 **Philadelphia** Jeffrey Tubbs
Art, Culture and Education
- 220 **Frankfurt** Bernd Scholl
The Europaviertel Project
- 236 **London** Judith Ryser
The Bromley-by-Bow Centre: People Creativity in the East End
- 254 **Manhattan** Thomas K. Wright and L. Michael Ronderos
Meatpacking District's Cool: Creativity at the Waters' Edge
- 272 **Dublin** Dick Gleeson and Mary Conway
Urban Strategies for the Knowledge Economy
- 286 **Durban** Peter Robinson
The Cato Manor Experience





Foreword

Alfonso Vegara

President ISoCaRP – AIU – IGSRP

The International Society of City and Regional Planners (ISOCARP) is a global organisation of experienced professional planners with members in over 70 countries. Our members are committed to improving our cities through research, planning practice, education and training.

Being an international association of planners in a global world of cities is a fantastic opportunity and a responsibility to face key urban issues, and to help cities find a coherent path to the future.

I am pleased to introduce the ISOCARP Review, the new thematic publication that complements the research efforts prepared for the annual ISOCARP Congresses. The Review contains some of the most interesting Case Studies related to the Congress theme. The contributions come from agencies, professionals and ISOCARP members who are directly involved in the design and management of these flagship urban initiatives. The ISOCARP Review is aimed not only at planning professionals and city officials, but also at the general public interested in urban issues. This initiative is the result of ISoCaRP's commitment towards the authentic transformation of our cities.

As evidenced by the themes of our annual Congresses, ISOCARP has always been a forward-looking organisation. The title of the pilot issue of the ISOCARP Review – "Making Spaces for the Creative Economy" – coincides with the theme of the 2005 Congress in Bilbao. The editors of this issue have brought together projects and initiatives that are fostering new urban spaces for economic activities linked to the creative economy. As creativity is not the prerogative of a certain region, nor is it only found in the larger metropolises, the contributions were carefully chosen from around the world. These were structured to "tell the story" of the different projects. As a coherent set, they allow the reader to understand the context and origins of each project and the different developmental processes. In this way, perhaps most importantly, the publication seeks to inspire other cities to adopt creative approaches for their new projects related to the relevant topic for improving our cities in an open and competitive world.

Preparing this publication has taken tremendous effort and time. On behalf of the Society, I would like to express my thanks to all the authors who have contributed to this publication, many of whom are our members. We are indebted to Bilbao City Council, Bilbao Ria 2000 and Fundación Metrópoli for supporting this publication.

I am also very grateful to the Executive Committee and all other members who have contributed to this new initiative. In particular, I would like to thank Waikene Ng and Judith Ryser for their efforts as editors.



Introduction

Judith Ryser and Waikene Ng
Editors

As a contribution to the 2005 International Society of City and Regional Planners (ISoCaRP) Congress in Bilbao, Spain, this first issue of the ISoCaRP Review aims to present experiences and knowledge on the topical planning issue of "Making Spaces for the Creative Economy". It is an initiative to discover common features which assist cities in coping with a global competitive environment. The cases were selected for their innovative approaches to enhance the creative economy. Their pursuit of excellence in planning successful solutions for their own needs should inspire urban stakeholders elsewhere. How these cities are managing to attract and generate new creative industries by providing urban spaces to suit their requirements and high quality urban places to satisfy their knowledge workers could be an inspiration for them all. The case studies acknowledge that each city is unique and has to build on its existing strengths and weaknesses but they can learn from each other. The review is producing a wealth of inspirational information on cities preparing for the knowledge age from all parts of the world.

Characteristics of the Case Study. The papers included in the Review deal with different stages of the implementation process. They range from not yet implemented plans to the processes of implementation and evaluation, and sometimes include the development of new initiatives derived from the implementation process.

The cases adopted three types of approaches: top down (Singapore, Dubai, Dublin Digital Hub, Barcelona, Philadelphia, Frankfurt, Guadalajara, Dutch regions, and Japan); bottom up (Dublin Temple Bar, London, New York, Durban Cato Manor); and networked with vertical and/or horizontal integration (Silicon Valley, Cambridge, Durban, Bilbao, Helsinki, Curitiba).

The case studies also operate at different scales, sometimes simultaneously: Global trans-national (Dutch regions, Silicon Valley), regional polycentric (Bilbao-Basque Country, brain ports in Eindhoven and Arnhem-Nijmegen, Helsinki, Silicon Valley), metropolitan/city (Curitiba, culture-based creative economy in Amsterdam, Dubai, Cambridge, Guadalajara, Barcelona, Japan), urban quarter (Singapore, Durban, Dublin, Barcelona 22@, Philadelphia, Frankfurt, Guadalajara) and community level (London, New York, Dublin, Durban).

Common Features. Most cases base their planning approach to the creative economy on sustainability principles: combining economic development with social inclusion and care for the environment in the long term. The long time-frame required to successfully implement their innovative strategies is another common feature.

Criteria of Creative Cities. Other criteria of "creative cities" found in the case studies are: culture as urban driver, culture as local economy, diverse offering of culture; advanced/alternative technology, symbolic production; learning environment and knowledge base, fostering human creativity, inclusion of the creative class; high quality (urban) design, convivial environments (24/7) and infrastructure fostering clusters; innovative urban organisation, branding and marketing, distinctiveness, own urban value system and internationalisation.

Together, the case studies show that creative cities are cradles of knowledge networks operating simultaneously at global, micro and nano scale in synergy with the urban environment. Their asset is their genius loci. Their unique identity is wedded to their locality, their place where planners' innovative contributions comes to the fore.

It is up to them to make use of specific attractive features such as waterfronts and historic areas, or to turn brownfield sites into places for the creative industries, enabling them to retain talented workers and to continuously reinvent themselves. Innovation in creative cities is a social process between individuals, corporations, city regions and ultimately the global creative community. It is about what Richard Sennett calls "being together with strangers".

Creative economies at city and regional levels aim to maintain their corporate, institutional and government clusters. For example, academic institutions bring their vast networks of individuals to their city region as key contribution to the creative economy. Conversely, creative activities colonise and breed in indeterminate spaces (fusion spaces) and it is up to the planners, their design and urban management strategies to enhance these places without destroying their spontaneous creativity.

Many cases were inspired by Richard Florida's view that creativity is a means to prosperity by providing better-paid jobs, enhancing the quality of life, and contributing generally to a fair and just society. Their planning approaches endorse his premise of the need for technology, talent and tolerance. Cases show, that as opposed to work ethic based on efficiency, pursuit of individual self-interest or

mass production cities which nurture, the creative economy puts a premium on leisure, multicultural diversity and social security.

Institutional Prerequisites of Creative Urban Economies. An innovative common feature of many cases is that there are institutional and management prerequisites for creative development. Strong leadership (civil courage, optimism, staying power, diplomacy, firmness), together with a focused approach, realistic goals and - in the medium term - self-reliant funding, are essential in most cases. They also acknowledge the need for a long-term perspective, endurance and collective enthusiasm to implement innovative urban strategies. Self-knowledge, awareness of their specific strengths and weaknesses, and sometimes the will to harness local human resources are giving cities an edge when seeking public, private and social partners.

Despite the misgivings of some planning departments, making places for the creative economy require an *ad hoc* multi-agency organisation for participatory cooperation. Cases show, that besides partners from the public, private and social sectors, they also benefit from involving agencies from different levels of decision-making. Clearly-defined tasks, powers and responsibilities of each partner are essential for the good functioning of such purpose-made development agencies, as well as good links with the existing power structure.

They also need to be flexible and responsive to unforeseen changes and uncertainties. Cases also show that project-based agencies with a predetermined timeframe of existence stand the best chance to implement their objectives. Due to the long-term nature of such innovative projects, flexible institutional forms have to be invented to assure their continuity.

The success of those in charge of implementation and maintenance also depends on their transparency and concerted effort to interact with those affected, inhabitants, businesses other community interests.

Another common thread in many cases is the conviction that sustained creativity cannot be generated top down and at a large scale. The creative chain of inspiration-interaction-transaction has its own momentum in each particular case and it is the task of the coordinating agency to be aware of these rhythms and act accordingly with, not against them.

Creative Planning Approaches. Finally, the cases illustrate a wide range of creative planning approaches. Some planning teams see their task as creating a springboard for further spin-offs with their own momentum. Others resort to framework plans which are able to adjust rapidly to changing circumstances. If strategies are developed at the metropolitan level, they require decentralised multiple implementation.

If several projects are planned simultaneously at the same level, they benefit from creating synergy between programmes and projects.

All these innovative planning strategies have to consider phased development with options of new departures based on continuous monitoring and evaluation.

Plans which proposed flexible transformation mechanisms within morphological specifications are the most promising to be implemented, especially if they promote mental re-mapping of the urban spaces concerned.

An agency created specifically to conceive, design and implement spaces for the creative economy has to ensure links with stakeholders from the broader context, be it other development agencies or central government.

Free flow of information and pro-active sustained communication are key to the success of *ad hoc* agencies to obtain wider support including initial funding, often in a climate of controversy and opposition. It is their task to build consensus, together with the existing institutions, to remain responsive to outside other interests and to welcome newcomers who are willing to make positive contributions.

Cover Photo courtesy of Bilbao Ria 2000

Photo on page 3 courtesy of Redevelopment Authority of Philadelphia

Image on page 4 courtesy of JTC Corporation

Photo on page 6 courtesy of IPPUC

Photo on page 9 courtesy of Helsinki City Council





Silicon Valley and Beyond



Competition and Collaboration

Radical social and swift physical transformations are occurring in the decades around the new millennium. While the simultaneity of change is noticeable at the global scale and in everyday life, the impact is not as noticeable yet at the spatial level of cities and districts. The role of spaces - physical as well as social ¹ - will help create, define, shape and link creative capital around the world.

City-regions are gaining in importance as economic, cultural and physical entities as "denationalization" takes place, facilitated through electronic markets and global communications. City-regions are also spatial units that facilitate the complex needs of production. This requires densely-networked, specialized service sectors, such as legal, financial, accounting, advertising and communications, that support the production of innovative goods and services.

Towards an Architecture of Creative Communities

David Nieh

Studio Director, Skidmore Owings Merrill (Shanghai)

Former Chief Architect, San Jose Redevelopment Agency

City-regions are competitive collaborators in the knowledge economy, and are constantly reassessing themselves, identifying strategic plans, and laying the organizational frameworks to connect as global participants. Central questions for city-regions include:

What organizational and physical structures need to be in place for city-regions to meaningfully compete and collaborate?

What do global location patterns and interactions of companies and talent mean for de facto or explicit relationships among the international network of city-regions?

What are the necessary spaces needed to activate a creative community?
What spaces are being provided to attract and retain the key human resources: individuals, corporations and creative communities?

How are these places and spaces designed to allow for people to connect and interact?

What infrastructure is necessary to connect communities within a city-region, and with other communities beyond?

To compete in the global economy, city-regions are adding physical infrastructure to facilitate private development at strategic spatial nodes. In turn, these spaces are the vessels to link the unique assets, cultures and thinking of a locality to the socio-economic context of the world. The success of creative communities relies on the ability of its city-region to assess its position in the larger global context to effectively compete and actively collaborate with other city-regions. The identification and development of each city-region's local strengths will allow them to collaboratively link to, not replicate, the strengths of relevant city-region partners.

City-regions are comprised of corporate, institutional and government clusters, and must have strong connectedness. Economically-successful city-regions perpetually consider how to attract, retain and evolve elements of these clusters. With links to an existing city-region, individuals, corporations and institutions are connected, and they often reconnect in new locations with one another.

Certain major cities have become central nodes in the creative economy, or in advanced economies competing ultimately on creativity. These cities are strategic sites for the acceleration of capital and information, increasing the status, power, and importance of these cities (as well as resulting in increasing socio-economic polarization). 2 City-regions and their associated constituents, corporations and institutions continue to cross-invest with those of other city-regions. The networks need to be developed and reinforced to invest in other places. Through their associated corporations, institutions and governments, city-regions cross-invest to create greater wealth while reducing risk. How corporate communities are created is vital towards an understanding of creative communities, with success due to the ability to mobilize across borders.



The Importance of Creative Communities

"Creative Communities" are forming the basis of how we add value to our lives. Two key areas, health and environment, have great growth potential and will address concerns about the sustainable quality of life. Life science (formerly Bio-tech) will cross-fertilize nanotechnologies, computer science, nuclear science and medicine to create new solutions for the health industry. With the world's growing population, solving concerns for increasing energy consumption and depleting natural resources form the basis of new relationships with the natural environment.

Innovation occurs when creative communities in the form of specialized talent and services come together to incrementally generate, exchange and transform ideas into products or services that are valued. The notion of a "creative community" or a "creative economy" plays out on two levels:

General creativity is a source of competitive advantage for businesses and regions competing on innovation. In this case, creativity is the ability to generate and link new ideas, to conceptualize, as an integral part of technologies, such as biotech, semiconductor, nanotechnology

Artistic creativity, or "creative practices in art, design, and media," is increasingly important to growing "creative industry sectors" as well as to the next evolution of some information and communications technology sectors.

The 2003 National Research Council report, "Beyond Productivity: Information Technology, Innovation, and Creativity" highlights the importance of the creative workforce. The report states that:

"...at the beginning of the 21st century, information technology is forming a powerful alliance with creative practices in the arts and design to establish the exciting new domain of information technology and creative practices (ITCP). There are major benefits to be gained from encouraging, supporting, and strategically investing in this domain."

Creative industry sectors can account for a significant portion of a city-region's economic product and stimulate other sectors. For example, creative practices account for 12% of metropolitan London's gross domestic product. Singapore is aiming to triple its 2.5% creative sector GDP by 2010, as it diversifies and shifts dependency from other business and manufacturing sectors to design related industries, including media, product and fashion design, culinary arts, performing arts, environmental and architectural design.

Connecting Creative Communities

Knowledge networks cut across space and link knowledge node to knowledge node. The nature of problems has become so complex that collaboration of specialists is *de rigueur* to solve and implement new solutions. The business

model of "who knows who" - a social network - is now replaced by "who knows who knows what" - a knowledge network.⁴ This has marked the connectivity of knowledge and bringing products and services towards implementation and to market in a global community. Individual knowledge networks are often anchored by larger organizational networks, such through corporate and institutional entities.⁵ When linked asynchronously through electronic and digital means, these form the "Global e-Co-System" and can be mapped to show the web of relationships.

By definition, a nexus or "crossing" is both a node and a network. A "knowledge nexus" can fuse local understanding to a global framework. In this manner, cross-boundary ideas are exchanged. City-regions have traditionally acted as exchange space, and must continue to programme their spaces and infrastructure to allow for knowledge, cultural and social exchange. Globally, young people and "empty-nesters" alike are returning to cities for interaction and exchange, often driven by social as well as new entrepreneurial opportunities.

Scales of Connectivity. An "Architecture of Innovation" occurs at various scales from abstract to physical manifestations. Although not exclusive conditions, the "architecture" occurs as the global structuring of a framework of economics, as the regional organization of government, institutions, their assets, networks and cultural partnerships, and as the local place-making acts of implementing buildings and spaces. The scales of knowledge networks can be described as:

Macro = Global

Micro = Regional

Nano = Place

Connectivity within a scale and through these scales is critical to the successful function of the composite network. Each knowledge node comes with an array of linkages. How information flows has bound global cities together in networks, creating a global city web whose constituent cities become "global" through the networks in which they participate. Emerging global cities in the developing world, such as Shanghai, Hong Kong, Mexico City, Beirut, the Dubai-Iran corridor, São Paulo and Buenos Aires, are not only replicating many features of the top-tier global cities, but are also generating new socio-economic patterns as well.⁶ The new patterns re-inform and suggest significant shifts in the structure of the global economy, as more and more cities worldwide are integrated into globalization's circuitry.⁷

Genius Loci - "The Spirit of the Place"

The paradox is that as the global economy extends its asynchronous, homogenizing domain across the world (with the often associated generic places created by corporations and branding), there is an increasing and dire need to make places with identities unique to, and ultimately wedded, to the locality. The ultimate lesson in the ever-expanding virtual spaces of globalization is to allow for the *genius loci* - the "spirit of the place" - to be authentically realized.⁸

Genius loci involve integrating the culture of a place. In the real search for authentic places and experiences, there are two key interconnected relationships between place and cultural identity:

Place can enable, celebrate and communicate cultural identity, and

Cultural identity can, and should, inform and shape places

Civic spaces, such as streets and plazas, are the greatest spatial vessels for the expression of cultural identity as places of assembly, interaction and observation. The uses and programs of a building also help enable the expression of cultural identity by providing the types of people and other activating elements, such as goods and services, at the edges of civic space. Cultural identity and bias informs how these places are designed, adjusted, used, maintained and sustained. From the *genius loci*, the identity of place and the identity its providers and users are inextricably related.

People + Places. The individual is the basic unit of knowledge, and forms the basis for the Global Creative Network:

Individual ► Groups / Corporations / Institutions ► Creative City-region ► Global Creative Network

Fundamentally, the relationship and linkages of individuals can be mapped to decipher the act of creation and the role of creative communities. This will help to facilitate the understanding of relationships and reach of a particular knowledge network. In a given locality or city-region, this can lead to expanding the network through association with other individuals and their corporations or institutions.

As people identify with places, networks of individuals relate to networks of city-regions. In an increasing virtual world, where people can invent their own virtual identities and virtual spaces, "place" is increasingly more crucial to anchor identity and reality. ⁹ There has been a shift from the times before widely accessible digital information connectivity, when people with similar interests were often associated within the spatial boundaries of a locality, to the present time, where the spatial and social boundaries have expanded. Through phenomena like "blogs," "chat rooms" and the "electronic market place" (such as eBay), the virtual world has allowed groups of people with similar interests in different geographic locales to connect, identify and transact with each other. Even as such, two key principles exist: ¹⁰

Innovation is a social process. Interactive environments lead to group creativity, where the "tacit" knowledge - that is, the learned and intuitively applied experience of individuals - through networks facilitates innovation.

Innovation is place-based. Networks for innovation function most effectively ...when their components are clustered geographically in a region.

Geographic ...clustering of people, companies, and institutions allows for transferring and ...augmenting personal knowledge.

Direct sharing of skills and tacit knowledge is facilitated when the components ...of the learning network are brought together in a physical and synchronous ...environment.

Universities are a critical link between city-regions and the genius loci, attracting knowledge, overlaying their own philosophies, and providing places ...for exchange. Leading academic institutions such as Stanford, Berkeley, Harvard, MIT and Cambridge bring their vast networks into the city-region.

The Challenge for Creating Creative Communities

City-regions are working at the intersection of cultural development, economic development, and urban design. City-regions will need to focus on two main aspects: to stay continually linked to the knowledge network and to provide the spaces and infrastructure to attract and retain the people to allow them to do so. Historically, various "technopoles" in non-urban settings, such as at Sofia-Antiopolis, France; Tsukuba, Japan and Taedok, Korea, have had limited success.¹¹ Emerging technopoles reinforce established city-regions, such as in the vicinity of Paris, St. Petersburg and San Diego, and have shifted to be in urban settings or have good access to urban centres. In a world economy where the productive infrastructure is made up largely of information flows, cities and city-regions do not wither; instead they are increasingly becoming critical agents of economic development. The established major metropolises, such as London, New York and Paris, remain among the major innovation and high-technology centres of the world.

Silicon Valley, as the cradle of the information age and a quintessential example, can serve as a good illustrative. It has been repeatedly successful in reinventing itself as the global centre for innovation: defence electronics (1950s/1960s), the semi-conductor (1970s), personal computing (1980s), and the internet (1990s). The basis of each reinvention has been its ability to foster a creative community, and continues to the present initiatives with life science and nanotechnology fields. The innovation process in the Valley can be characterized by:

Creativity / Ideas + Entrepreneurial Culture = New Creative Companies: Products and Services

Silicon Valley as a Creative Community. A key reason why the Silicon Valley has succeeded economically, more than other places, is the creative and innovative workforce that has a high degree of cultural acceptance of failure and a willingness to adapt to change. Other factors for success include a topographical geography that contains sprawl, concentrates people, and provides meeting places; the presence of anchor institutions such as Stanford, Berkeley, Lawrence Laboratories, NASA Ames; and the collaboration by companies in competition through non-

governmental organizations (NGOs), such as the Silicon Valley Manufacturing Group (SVMG) and Joint Venture Silicon Valley (JVSV).¹² Even the NGOs work collaboratively, for example, by active agreement, SVMG (founded by David Packard as a consortium of technology companies) spearheads transportation and housing initiatives in the Valley, while JVSV leads technology convergence, wireless and benchmarking initiatives.

In the Valley, dense social networks and open labour markets encourage experimentation and entrepreneurship. Conversations about the future are focusing on several key assumptions:¹³

The New Economy Values Creativity. Creativity is essential for the new economy as city-regions continue moving from a material to a "weightless" economy. Cultural participation helps develop the creative skills that will be required by the workforce as a whole.

Creative Sector is a Key Part of the Innovation "Habitat." The creative and cultural sector - including commercial businesses, non-profit institutions, and independent artists - is becoming an increasingly important part of a city-region's innovation "habitat."

Civic and Social Creativity is Vital. Creativity is urgently needed to address civic and social concerns in many city-regions, where there is often an influx of ambitious, talented and other outsiders. Cultural participation opens the door to civic and social creativity and can inspire more visionary strategies and novel approaches.

Culture Connects People and Place. Cultural participation can help bind people to each other and to the place while providing a unique quality-of-life asset for all. Successful examples acknowledge and celebrate cultural differences and diversity instead of trying to homogenize the experience. Talented people, as the city-region's most important input and import, are increasingly sophisticated "consumers" of place. They need and recognize quality physical environments for living, working, recreation and shopping.

Silicon Valley is directly connected to the knowledge points in the world. How will other city-regions be connected? The success of Silicon Valley is directly attributable to its *genius loci*, and its linkages at individual, corporate, institutional, and governmental levels with other areas in the world, such as New York, Cambridge (UK), Taipei, Bangalore, Moscow and elsewhere. Silicon Valley companies are investing elsewhere to reduce costs. However, they remain part of the epicentre of the knowledge economy by maintaining an active presence. The challenge for city-regions and their creative communities will be to connect substantively with the global network of creative communities.

The *genius loci* endow place and experience with meaning. The cultural aspect often has a historical background. For example, Silicon Valley has received wave after wave of immigrants. The Spanish explorers were the first western inhabitants of Silicon Valley in the 1600s, followed by a wave of precious metal prospectors in the mid-1800s. Contemporary knowledge workers in Silicon Valley are often still

predominantly males who are lured by the perception of technology adventure and the potential for personal wealth associated with a high-risk environment. This has all perpetuated a sense of experimentation in the Valley, along with a cultural acceptance of a high incidence of risk and failure.

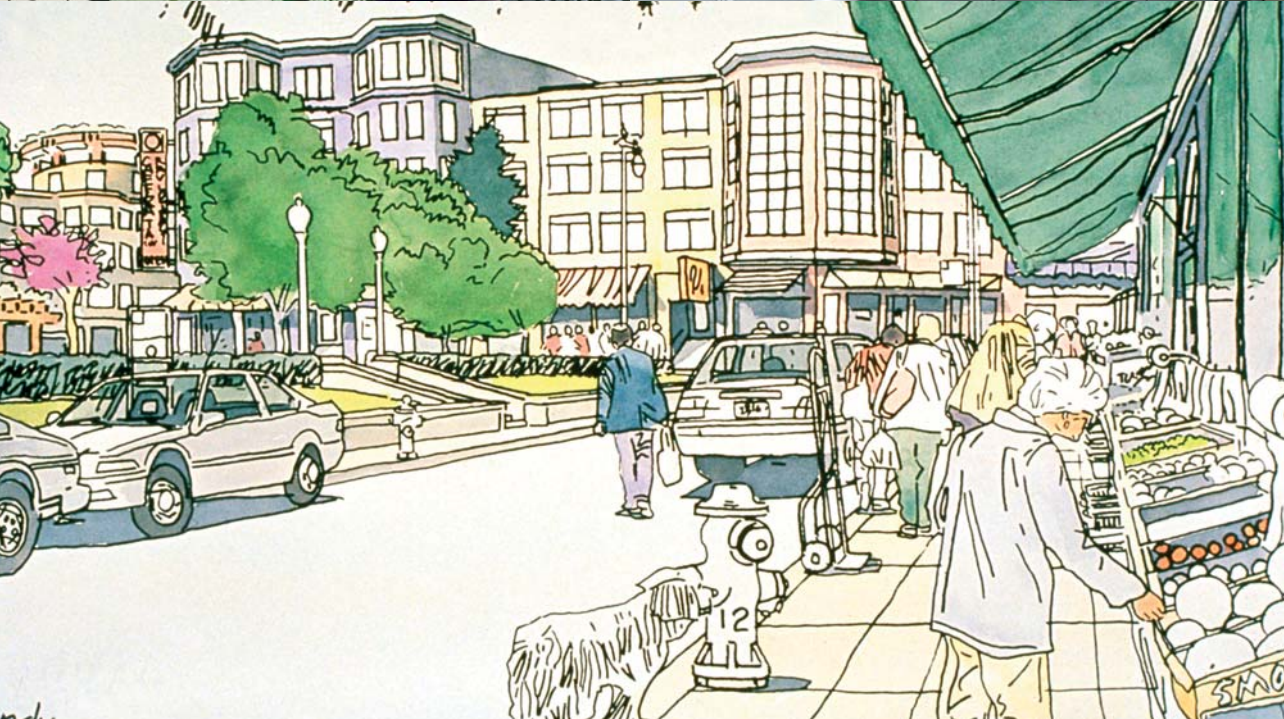
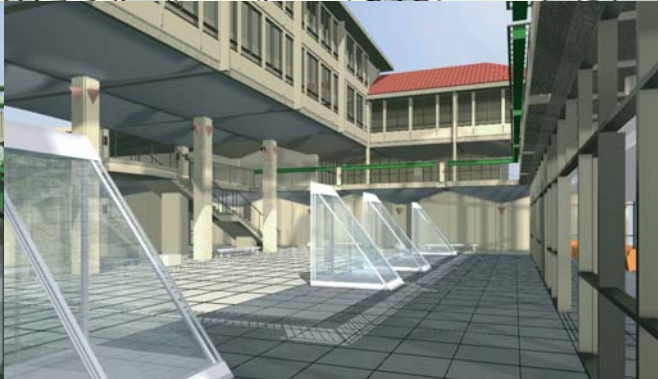
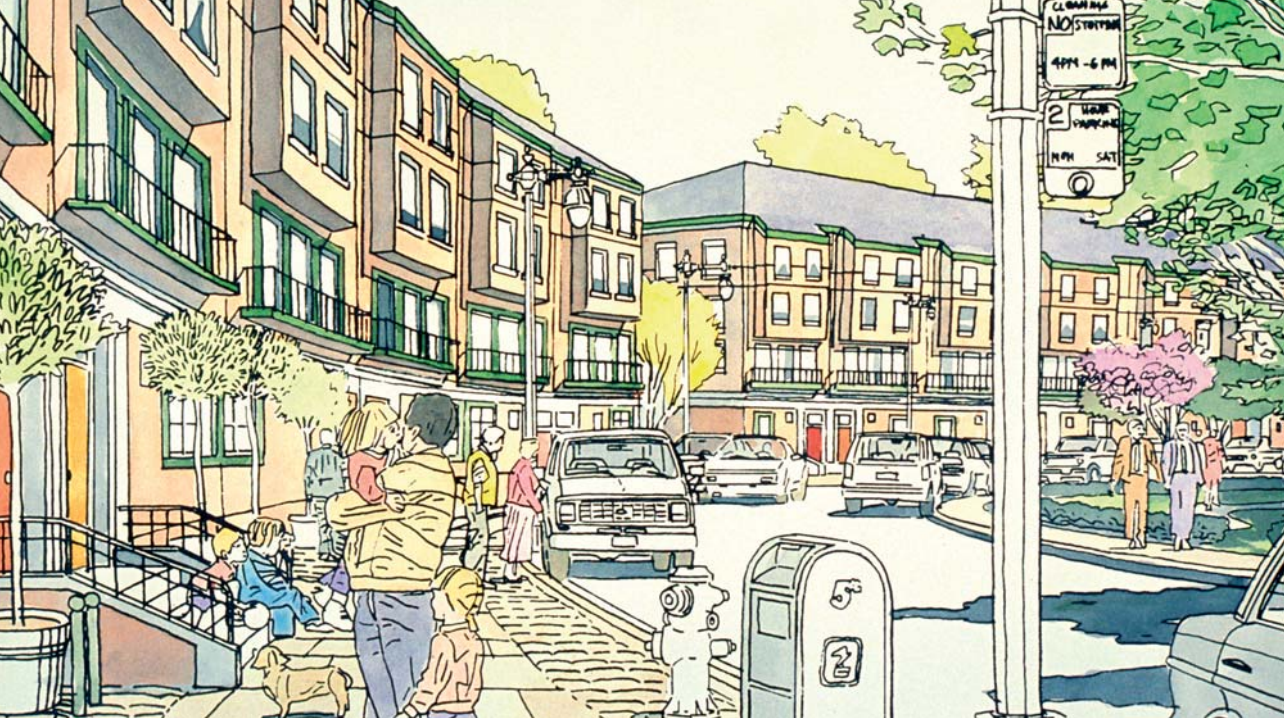
Networks of City-Regions. A triangle is the simplest form of a network. Triads of city-regions activate some of the greatest creative communities by allowing for the exchange of complementary knowledge sets in competition and collaboration. For example, media is activated through the connection of the west coast triangle of Hollywood, Silicon Valley and Las Vegas. It may occur as highly-overlapped skill sets associated with bio-tech and life sciences companies and institutions through the California network of San Diego, North Bay (Emeryville / Mission Bay) and Mid Peninsula - South Bay (Silicon Valley). At a different scale, the triumvirate of the Stanford campus, Sand Hill Road and Page Mill Road are critical towards the intellectual, financial and corporate innovation of Silicon Valley. Silicon Valley, and by extension, the Bay Area, is an assemblage of cities and townships. The three major cities in the Bay Area - San Francisco, Oakland, and San Jose - are all linked, and all supportive of the other in a wide array of symbiotic ways. For example, the linkage of the universities of the Bay Area region (Stanford, Berkeley, Santa Clara University, and San Jose State University) as producers of the engineering workforce.

To gain a critical understanding, mapping city-regional network linkages are crucial as many indirect or transitive relationships can be recognized. For example, Silicon Valley is linked to Bangalore, and in turn, Bangalore to Singapore; thereby Silicon Valley is indirectly networked to Singapore.

Key Places of the Knowledge Economy Don't Need a Lot of Space. In the hegemony of the global economy, relatively little space can generate great wealth. Subic Bay in the Philippines is located on 0.1% (300 sq km out of 300,000 sq km) of the country's land area, but in 1995 it generated more than 20% (US\$15 billion out of US\$70 billion) of the country's gross domestic product.¹⁴ Similarly, select spaces in five city-regions help drive the fifth largest gross domestic product in the world: the Californian economy.

San Francisco's Mission Bay is the centre for new life science research and products, including possible stem cell research. San Jose is becoming the centroid for the population in Silicon Valley, and besides the traditional sectors, the city pursuing energy and nanotech innovation. Santa Monica has captured new ways in expanding media. San Diego's economy continues to be fuelled by life sciences, as well as by communication companies. Each of these has the support clusters of financial and legal infrastructure, the academic institutions, as well as local and national government.

Although outside of California, Las Vegas has had a pivotal role as the catalytic crossroads where knowledge workers from the Californian city-regions (incidentally, all named after Catholic saints from the Mission Trail) intersect.



Through meetings, conferences, and conventions, the culture of the invented desert city has allowed people from various disciplines to actuate relationships and cross pollinate spheres of knowledge. This creates not only social and business networks, but "knowledge networks" that are vital towards the process of innovation. ¹⁵

Boundaries and Borders. Borders and boundaries have a necessary function to differentiate and protect entities. They exist at the scale of a single-cell organism to the scale of nations. Between two entities - such as two creative communities - the differences and commonalities need to be identified and understood. By respecting these and the genius loci of a particular city-region, creative communities can then link to, not replicate, each other. Boundaries that can be traversed include cross-national, cross-cultural, cross-generational and cross-gender borders.

Boundaries are no longer considered finite, and are blurring in physical, electronic, economic, social and cultural space. Multi-national companies, a mobile workforce and cultural exchanges exemplify groups in which we perceive and operate in the world. In the life sciences, a cell membrane does not have a finite thickness; rather, it is a permeable structure that allows for the mediation of the two environments adjacent to it.

In architecture, the new technologies of glass and structure are allowing for the blurring of the distinction of inside and out, as well as between private and public realms. In city design, traditional city confines are blending to become metropolitan areas. Other spatial implications of blurring boundaries include interpretation between the uses and functions of:

Live	Work
Play	Shop
Learn	Leisure
Public	Private

Silicon Valley's Creative Economy: On a non-physical level, Silicon Valley's creative economy seeks to blur the boundaries between the creative sector and technology sector to create "soft technologies" in the fields of software design, systems design, product design, electronic arts, digital media, multi-media, mapping and animation, web design, brand strategy, interactivity and user experience.



This also leads to growing creative industries in arts and culture (performing arts, visual arts, and museums), media (animation, television, radio, recorded music) and other design (architecture, landscape, fashion, and advertising).

Spaces for Knowledge Workers

For knowledge workers at the heart of creative communities, the spaces for the creative economy are physical environments derived from the connectivity and

daily functions necessary to perform the specialist roles of a connected, collaborative team. They may be big or small, but one thing is apparent: they must allow for the function, longevity and sustainability of the knowledge worker. "Collaboratories" (collaboration + laboratories) such as the Media X Knowledge Lab at Stanford, are playing a major role in the creation of many products and founding companies by providing physical space that is virtually connected with other collaboratories for sharing of information. These spaces bring teachers, researchers, students and industry experts together in multi-disciplinary settings.

Knowledge workers today have many options globally about where to live and work. There must be a wide range of places to captivate and allow for creative environments to attract and retain knowledge workers. The knowledge worker has often been exposed to the best physical environments in the world through upbringing, education and business as well as leisure travel. They have the spending power to live in a comfortable place, purchase first-rate goods, and to be entertained. Furthermore, they have access to a wide range of services, and often select the companies they work for. Companies and cities are in competition with other companies and cities to progressively provide amenities to lure and retain these individuals.

Spaces to Live, Work, Shop, and Play. The smaller-scaled, more decentralized organization of the economy today is exemplified by the importance of start-up companies and entrepreneurship. There are more self-employed free agents as well as larger companies that are organized into smaller units, with more employees working virtually or in non-traditional arrangements. To accommodate the contemporary knowledge worker's needs, there is a need for more smaller-scaled, flexible space fragmented through a city-region than previously, when the focus was on designing workspaces in large corporate campuses. In the knowledge worker's lifestyle, the residential, office, retail and recreation spaces collectively define daily existence. These all must be accessible on demand and at varying scales from local to regional to global. This notion of "just in time" (JIT) access to leisure is an important aspect in the daily demands of the knowledge worker.

Play time = Create time. Cognitive scientists have long studied and believed that when we play, we create. Environments that foster creativity allow for play and experimentation. They often balance stimulating and recognizable cues towards this.

Live: Civic and Social Space. Individuals come together in groups to collaborate and foster creativity. This can be done formally, such as through scheduled meetings in conference centres, convention halls, clubs and restaurants, or informally, through chance meetings in public and civic spaces - such as on sidewalks, in plazas and parks, and in lobbies, elevators and transit stations. It is often important to have a third-party "object" or focal point to create a common ground for communication between individuals, known as "triangulation."¹⁶ Performances, street fairs, and social mixers can help create the "object." In planning civic space for social interaction, convenience and human identity must

be designed in. In a world-wide case study of urban spaces for people watching, it is often noted that events in spaces that have participants within about 140 feet have great success. This is due to the human face being recognizable to an observer at that distance. When this critical distance is exceeded, anonymity sets in.

Work: Flexible Spaces. In part to provide knowledge workers with access to different lifestyle choices, spaces must be flexible to accommodate a variety of needs throughout the day, week and season. For example, an exercise space can be a makeshift meeting room. Or an outdoor space can become a place for sharing meals.

Connecting Infrastructure. This occurs as both the social connectors through public facilities, run by government or non-profit companies, schools, libraries, community centres, parks and plazas. It also refers to the physical infrastructure and electrical wiring of the spaces of the new economy. This space consists of relations: an assemblage of road, commercial and residential buildings, or at a different scale, highway, downtown and suburb.

Zoning. To allow these spaces and the blurring of uses and lifestyle to occur, cities must provide very flexible zoning interpretations and processes. The regulatory challenge for mixed use for cities is to adopt an anti-Euclidean zoning attitude, that is, to zone uses vertically not horizontally. Even in the vertical mixture of uses, buildings can contain retail, residential, commercial, institutional and public uses. This will allow for cities to reinvent or position themselves as they formerly were: a vital 24/7 mixed-use urban environment, and if not, as a simulacrum of this.

Planning Strategies for the Creative Communities

Through competition and collaboration, city-regions will emerge to keep pace with the needs of creative communities. Increased globalization has led to greater needs physical spaces for socialization.

Key physical design strategies to reinforce the genius loci include:

- Make great places
- Build spaces of quality and variety
- Provide highly flexible spaces that can accommodate a variety of uses¹⁷
- Provide live and work areas in or connected to urban centres
- Build public facilities, places for cultural and social exchange
- Utilize urban infill spaces for innovation
- Leverage infrastructure and open space as amenities
- Adapt and re-use existing space and assets
- Retain historic architecture where possible

- Retain and build off the existing context
- Design to acknowledge the human scale

Key non-physical strategies include:

- Create business environments for repeat investment
- Create creative and education environments for repeat social investment
- Connect to the local social structures and institutions
- Link (don't replicate) programs to other creative communities
- Review and adjust policies and funding mechanisms if necessary
- Seek knowledgeable private entities for partnerships with public entities
- Set-up and empower non-governmental organizations (NGOs)

The best practices in planning and design are providing new and unique solutions of city making, where the city structures and programming facilitates environments for creative workers to realize their potentials. Understanding genius loci, or the "spirit of the place," allows for structuring cities and designing creative "habitats." These will harness the unique strengths and culture of the locality and transform knowledge and talents into products and services that upgrade the quality of life, locally and globally.

The city-regions that are highlighted in this publication practice some of the most innovative and creative approaches in their planning and design response towards creating distinguishing places that attract knowledge workers, institutions and companies. Many of the case studies seek to reinvent or readapt space to foster innovative "habitats." Some of the case studies were made possible through creative financing or partnering approaches.

Others are characterized as providing spaces and environments with a high degree of "liveability." One key factor is that they are either urban areas or directly linked to urban centres. This allows for access to networks that are possible only in a predominantly urban setting, as well as to a multitude of cultural, institutional and knowledge exchange venues. As importantly, these city-regions will not only need dense social and knowledge networks in urban settings to become successful in the creative fields, but they will also need to connect to other city-regions to compete, collaborate and thrive.

Notes

1 For the purposes of this discussion, "space" occurs as defined by Henri Lefebvre: 1) abstractly, as an idealist tradition of conceptual structure and 2) physically, as a materialist tradition where it is a void that acts as a vessel for physical objects. Social space of "lived action" is not a tangible entity, but rather, a set of relationships between objects and products. This social space may consist of relations: an assemblage of road, market and estate, or highway, skyscraper and suburb.

2 Saskia Sassen, editor, "Global Networks, Linked Cities," New York: Routledge, 2002.

3 Discussions with Dr. Milton Tan, Singapore Design Initiative, 2004.

4 Discussions with Michael Wakelin, Emeritus Bechtel Fellow and former co-chair of Knexus, 2005.

5 Rheinhold Martin and Karami Baxi, "MNC" (forthcoming).

6 Saskia Sassen, *op. cit.*

7 Suggested by William Ekern to be like Lawrence Lessig's concept of "re-mix" relative to intellectual property usage.

8 Christian Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture*, (New York: Rizzoli, 1984). *Genius loci* can be manifest through a method to interpret the character of a place as a whole and not just as a collection of analyzed fragments. The method seeks to find those factors that give us a sense of unity with a place or our surroundings. A place is more than buildings and structures; it is also social relations, emotional and spiritual experiences and everything else experienced by the senses. Beside its visual aspects, a place also has its own atmosphere and other sensory attributes. Qualitative place analysis builds upon Norberg-Schulz' theoretical understanding of the value and character of a place. The form of this analysis is a series of "qualitative" maps of our spatial surroundings, referring to four types of spaces: the orientation space, the identification space, the memory space and the history space.

9 Cyberspace is another example in which "space" exists. Perhaps we can think of networked communication no longer as modular and fragmented,

but as emergent, temporary and linked. Communication now exists in parallel not just in sequence, and William Ekern suggests even as string theory and "inter-looping." Virtual "agents" (and their viruses) in the form of software programs, can move and reside in cyberspace to access information and relay instructions.

10 Collaborative Economics, "The Creative Community: Leveraging Creativity and Cultural Participation for Silicon Valley's Civic and Economic Future," February 2001.

11 "Technopoles" are described by Manuel Castells and Peter Hall in "Technopoles of the World: the making of 21st Century Industrial Complexes" (London: Routledge, 1994) as industrial complexes of high tech firms built on the basis of innovative milieu, science cities planned by the government to promote scientific research, and technology parks deliberately established high-tech industrial base by government or by universities.

12 Annalee Saxenian, "Regional Advantage: Culture and Competition," Cambridge: Harvard University Press, 1996.

13 Collaborative Economics, *op. cit.*

14 Subic Bay, Annual Report 1995.

15 William H. Whyte, "Rediscovering the Center," New York: Doubleday, 1988. Whyte termed the phenomena, "triangulation," and that "a sign of a great place is triangulation. This is the process by which some external stimulus provides a linkage between people and prompts strangers to talk to each other as if they were not."

16 An existing space may outlive its original purpose and the *raison d'être* which determines its forms, functions, and structures; it must thus in a sense become vacant, and susceptible of being diverted, re-appropriated and put to a use quite different from its initial one.

The images in this chapter have been provided by the Author.

Bilbao

Bilbao Ría 2000 and the Guggenheim Effect

Jon Azua and Fundación Metrópoli

Euskal Hiria as City Region

One of the most relevant urban phenomena that we have been experiencing in the last decades at the international level is the emergence of the city-region as a complex and interrelated reality which brings about new challenges and opportunities for human living and for the development of economic activities, residence, leisure, culture, education, infrastructures and relation with nature.

Many city-regions on the international scene, especially those which have grown very rapidly, have problems of diffused and disorderly urbanization, difficulties to articulate efficient public transportation systems, imbalances in the relative location of residence and employment, the systematic occupation of agricultural and natural areas, lack of identity of the different zones of the urban region, difficulties in the government of the territory, administrative fragmentation, etc.

The Basque Autonomous Region, or the Basque Country, is an authentic city-region within the international context, with a population of slightly over two million inhabitants and a density of 300 inhabitants per square kilometre. The territorial scale of the Basque Country is similar to that of other city-regions in the world. For example, the territory of the city-region of Miami is larger than that of the Basque Country, and the city-region of Sydney has a population of four million inhabitants and a surface area similar to that of the Basque Country.

Increasingly, we find people who live in San Sebastián but work in Victoria, or business firms located in Victoria that makes use of the port of Bilbao. There are professors living in Bilbao who teach in the San Sebastián campus, tourists who visit the Guggenheim Museum and then travel to see Chillida Leku or Artium, and there are enterprises located in Álava that use consultant services located in Bilbao.





In short, a single labour market is being created with increasing intensity, and the daily space for day-to-day living is increasingly inter-linked. The improvement of infrastructures is making it so that options in the areas of housing, jobs, education, leisure, culture and the enjoyment of nature and of small urban settlements can be shared by the ensemble of the inhabitants of this territory.

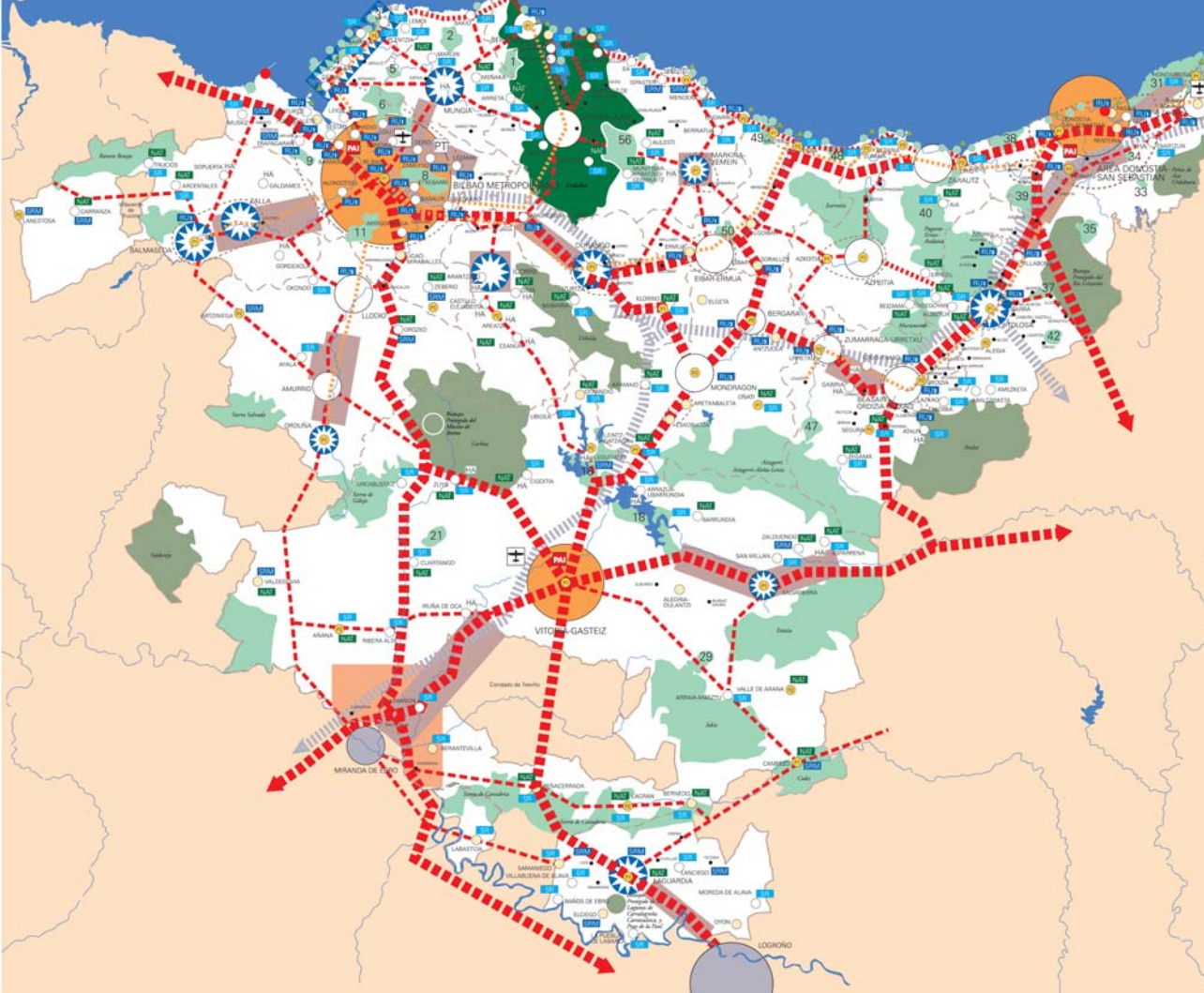
In the new economic realities, to operate on a global scale requires an extraordinary level of complexity. As Saskia Sassen has made clear in her research, in order for business firms to operate at a global scale, they need the support of a very specialized set of services. This set of specialized services intellectual capital, consultancy services, legal auditing, marketing, new technologies, transportation, financial services, etc. are usually located within urban nodes of a certain size, that is to say, in cities and regions that have a certain critical mass. The availability of a set of specialized services catering to enterprise is a key condition enabling cities to attract competitive and innovative business firms that operate at a global scale.

The Basque Country needs to achieve the "critical mass" needed to successfully face the challenge of the new global economy. For this to happen, it is essential to harness the synergies derived from a coherent articulation of its territory. The idea of "Euskal Hiria" or the "Basque City-Region" responds to the seeking of inter-relations and complementarities among the three Basque capital cities, and between these and the other settlements which make up the urban system of the Basque Country. The key is to maintain the identity of each of the cities, villages and hamlets, and to acquire the advantages derived from a coherent, balanced and competitive city-region.

It is important to refer to the strategic value of greater economic and functional integration among the three Basque capitals, and between these and the greater hinterland region that extends beyond the territorial limits of the Basque Country to includes Pamplona, Logroño, Santander and Bayonne. It is also crucial to work towards the construction of complementary urban profiles based on the identity and the elements of excellence of each of the cities that make up this singular polycentric system of capitals.

None of the cities making up the Basque urban system, operating on their own, would be able to play a relevant role in the new international scenario of global cities. None of the Basque capitals, on their own, would possess sufficient critical mass that is needed to offer the set of specialized services, facilities, infrastructure, and options that are offered in cities that are successfully operating at the international level.

Thus, the idea of Euskal Hiria, or the Basque city-region, is a project for the future that is based on the real competitive advantages of the Basque territory, and which is in line with the territorial objectives currently shared by almost all European countries, namely polycentrism, identity and complementariness among the different settlements.



Singularities of the Basque Country

The territorial structure of the Basque Country has some singular characteristic and presents competitive advantages within the framework of present-day city-regions. Among these advantages, the following are worth mentioning:

Location: A strategic macro-territorial location at the intersection of the north-south Paris-Madrid corridor and of two transversal corridors, the Ebro Axis and the Cantabrian coast.

Polycentric System of Capital Cities: Having three important cities or urban areas well-distributed in the Basque territory that are close to one another, and having differentiated yet complementary profiles is an important competitive advantage.

Urban Network: The Basque Country has an attractive network of medium-sized cities that constitutes one of the keys to integration between the



urban and rural milieu in Basque Country. These are important urban centres for the global balance of the territory and for social equilibrium.

Rural Settlements: An excellent network of rural settlements that maintain their identity, morphology and image, and which are essential for the survival of traditions, customs and idiosyncrasies.

Historical Centres: The ensemble of 69 historical centres constitutes a very important cultural, historical and urban patrimony.

Natural Areas: Very much linked to the urban system, the natural spaces maintain the biodiversity, and the quality of the landscape while providing leisure options for the inhabitants.

Sense of Identity: The strong Basque identity is sustained by the economic sector and a dynamic entrepreneurial spirit, and in the capacity to adapt to changes and to overcome critical periods. It is also sustained by the political sphere and its singular structure of territorial government; and also by the social milieu, with its own language, traditions and customs maintained throughout the ages, with importance placed on the family, the strength of civil society and an important feeling of belonging.

Polycentric System of Basque Capital Cities

The traditional European urban system, based on medium-sized settlement systems is not only an important competitive advantage, but also an enormous urban legacy to be preserved. In regions with consolidated traditional urban systems, a strategy of polycentrism permits the different local vocations and cultural identities to be articulated within a coherent city-region. The design of a regional development strategy with polycentric criteria within the context of the new economy gives rise to coherent responses regarding the so-called "Urban Trilogy" (Economy, Society and Environment). The polycentric strategy permits higher levels of economic competitiveness and higher levels of social cohesion and at the same time guarantees the sustainability of environmental and cultural systems.

In the case of the Basque Country, a regional strategy based on the concept of a polycentric city-region has been approved by the Basque Parliament. This regional strategy seeks to identify different vocations among the diverse cities, and places greater value on the potential for co-operation and complementarity than on the near-sightedness of undisguised competition among the different cities.

The three most important cities or urban areas in the Basque Country are the metropolitan areas of Bilbao, Donostia-San Sebastián and Vitoria-Gasteiz. They are well-distributed within the Basque Country. Although they are physically close to each other, they have distinct profiles and personalities. This is an important competitive advantage, as compared to mono-centric or "primate" city-regions in which everything gravitates around a central city, beyond which there is a merely a

succession of diffused urbanized settlements that lack personality and scarcely differentiated from one another.

Metropolitan Bilbao is the largest of the three, and is the largest urban area in the north of the Iberian Peninsula, and contains almost half of the entire population of the Basque Country. Beginning from the 1960s, Metropolitan Bilbao experienced a critical situation of economic obsolescence, environmental degradation, unemployment, loss of economic clout and widespread urban decline. Since the 1990s however, the transformation of the city has been spectacular. Presently, Bilbao and its metropolitan region are undergoing an ambitious project associated with the recuperation of the Nervión River. The success of Bilbao's urban renewal is also fundamental for San Sebastián, Vitoria and for the ensemble of Euskal Hiria.

The urban quality of Vitoria-Gasteiz is very high. It also possesses a clear industrial profile, especially if we take into account its present-day productive specialization and the availability of abundant terrain for this activity, as opposed to the scarcity of land in neighbouring Bizkaia and Gipuzkoa. Vitoria has been capable of developing an important logistical sector, and has maintained careful balance in environment and social cohesion. At the same time, Vitoria's role as the political capital of Basque Country provides special magnetism and evident opportunities for the future.

Donostia-San Sebastián is an attractive city with a high standard of living. The city has exceptional urban places such as its Old City and its “*Ensanche*”, important cultural facilities and events, as well as high-quality infrastructure for urban tourism. Donostia-San Sebastián is progressively becoming a coherent metropolitan area. San Sebastian, Pasaia, Renteria and Lezo already make up an urban continuum. The progressive consolidation of the Donostia- Bayonne corridor is an additional factor which reinforces the metropolitanisation process in one of the most complex areas of the entire Basque Country.

The Basque Regional Strategy (*Directrices de Ordenación del Territorio*, or DOT) foresees the creation of a Polycentric System of Capital Cities, conceived from the perspective of complementariness and interrelation with an integrated supporting urban structure. This system of cities would be capable of playing a leadership role in within the regional space that clearly transcends the administrative borders of Basque Country, and which permits it to efficiently compete and cooperate in the new global context of cities-regions.

Active Networks of Knowledge

Research and Development. In 2003, the total investment in R&D in Basque Country represented 1.48% of Gross Domestic Product. This level is higher than the average for the State (1.1% in 2003), but still very far removed from the European (EU-15) levels (2.00% in 2003). With regards to the actual number of FTE (Full Time Equivalent) researchers in per one thousand units of active population, Basque Country had 6.79 persons in 2003.

Again, this is significantly above the average for the State (4.44 per thousand in 2003) and the European (EU-15) average (5.94 per thousand in 2003). According to data prepared by the National Institute of Statistics, the Basque Country is having a relatively stable participation in the R&D system of the State, with around 8% of investment and 7.6% of FTE researchers.

The policy of the Basque Government in the area of innovation has been developed around the Science and Technology Plan 1997-2000. This Plan was based on the integration of the ensemble of the Science, Technology and Enterprise system of the Basque Country. Moreover, during 1998 and 1999 the Basque Government developed the European RIS (Regional Innovation Strategy) as a useful tool for optimizing the policy of the Basque Country in the areas of science, technology and innovation. Finally, the Science, Technology and Innovation Plan 2001-2004 addresses the strategy to be followed in the Basque Country in this field in the coming years.

The main technological agents or units responsible for R&D activities in the Basque Country are the private business sector, technological centres under tutelage and the public sector, basically by means of the University, although also by means of some departments of the Basque Government.

The centres under 'tutelage' (private non-profit entities subsidized by the public sector) carry out a very important part of the research activity which is developed in the Basque Country. These centres are incorporated in EITE (Association of Basque Technological Research Centres), created in 1986 and currently composed of eight centres that have carried out more than 1,000 projects, some of which were undertaken in collaboration with European programs.

The annual EITE budget accounts for about 15% of all R&D expenditure in the Basque Country. These centres contribute to the economic and social development of the Basque Country by fostering and facilitating the use of technology as a competitive tool within the entrepreneurial framework. They make up the largest group of researchers in Spain, and is a relevant reference point in Europe.

Along with these centres, there are another 24 research centres of both public and private nature in the Basque Country, such as the three Technology Parks-Zamudio in Bizkaia, Miramón in Gipuzkoa, and Miñano in Álava-which operate as centres attracting high-tech firms by offering very advanced services.

University System. In the realm of universities, research is also present as a top priority. Higher Education in Basque Country destined more than 25% of its total budget to R&D. The university system in the Basque Country was established only twenty five years ago. There are some 65,000 students in the public University of the Basque Country (UPV), which has campuses in three cities. There are also two private universities, the University of Mondragón in Gipuzkoa and the University of Deusto located in Bilbao, but with some centres in Gipuzkoa. The University of Navarre also has a campus for its Engineering School located in the Basque Country, although its main campus is in Pamplona.



The UPV is planning to double its efforts in this sense and open up even more to the demands of enterprise by offering the possibility of becoming a technological partner. At the present moment, the UPV is developing more than 500 research projects, with special incidence in the fields of the Exact Sciences, the Natural Sciences, the Social Sciences and Medicine; to this end it dedicates about 40% of the University's budget.

When compared to its surrounding regions, the Basque Country has significantly higher levels of Technology and Information. Sustained investment in R&D, its growth, focalization and intensity surpasses the average of the State and reinforces the innovation and differentiation of its industry and the strengthening of its network of small and medium-sized companies that are widely open to the exterior.

Urban Challenge of the Knowledge-Based Economy. If knowledge is the key to economic development, then people are the keys to knowledge. Ideas come from people, but institutions are the instruments that put ideas into practice. Like other regions around the world, the Basque Country also faces the challenge of attracting, educating and retaining qualified persons, or seek ways to attract people from the outside.

The high standard of living in Basque Country is an important advantage, but this alone is not sufficient because an attractive setting for work is also important. In this regard, important efforts are being made with technology parks, universities and so on. The Basque Government has a started program for attracting excellent



researchers from all over the world. This is an essentially urban task, and should be included in the strategic plans of cities.

The three Basque capitals together make up about three quarters of the population of the Basque Country. This is decisive as the knowledge-based society is essentially an urban society, and the role of cities, apart from creating the required conditions, is to transmit to their citizens the idea of the importance of knowledge for their own quality of life. Knowledge is no longer just an element for the quality of life; it is a part of the quality of life itself. In short, the entire society benefits from attracting creative people and knowledge workers.

Bilbao and the “Guggenheim Effect”

The case of Bilbao is representative of the challenges and expectations that many European cities are facing, including certain contradictions in the objectives and the proposed forms of transformation. Bilbao has had a unique urban history, conditioned by defining events: the medieval enclave, its port, apathy during the Renaissance, provincialism during the Enlightenment, the emergence of modernity with the industrial revolution and post-Civil War industrial expansion, and the search for a solid and prosperous identity in the uncertain closing decades of the 20th Century. Today, urban centre of Bilbao, defined by its historic spaces, catalyses and directs the life of its metropolitan area that comprises a heterogeneous mix of municipalities in transformation.

The historic centre ("*Casco Viejo*") of Bilbao corresponds to the original city founded in 1300, still easily recognizable today. In the 20th Century, the historic centre continued to be a popular space and a neighbourhood within the city, in spite of being increasingly deteriorated as its central functions moved to other parts of the city. The restoration of the historic centre began in the 1980s, after the floods suffered by the city in August 1983. The flood, which destroyed buildings and businesses, was the catalyst for the transformation of the historic centre. The historic centre was declared an "Area for Integrated Rehabilitation," and a "Special Plan for Rehabilitation" was developed that established a local government agency to take charge of the projects in 1985.

The historic centre was rehabilitated with economic support of a public-sector initiative, and retains its popular character and its relationship with not only with local businesses, but also tourism, hotel and restaurant sectors and as well as culture. To help stimulate these sectors, rehabilitation projects were launched for churches, palatial houses, museums and markets. The Arriaga Theatre in the Arenal district was also rehabilitated. At the same time, a parallel process was also launched for public space interventions and the subsidized rehabilitation of private buildings.

The municipal office of rehabilitation worked so effectively, that today, nearly every building in the historic centre has had some kind of improvement. From the area known as "Seven Streets" to the *Plaza Nueva*, and from the Arenal to the Volantín, the historic centre of Bilbao was able to recover its splendour. The right bank of the Nervión, from the covered market up to the campus of Deusto University, has become a modern and noble urban façade, although the *Ensanche* continues to be the centre of urban life.

In the past, the left bank of the Nervión housed activities and uses related to industry, the port and the railway system. The *Ensanche*, in the heart of the metropolitan city, was focused inwards toward the *Gran Vía*, a major thoroughfare that housed the city's finest houses. On the first fluvial terrace, where the tributaries join the Nervión, a labyrinth of factories was established. On the right bank, with industrial activity on the mouth of the Estuary, the municipality of Getxo is where the local mercantile aristocracy traditionally had their residences. Over on the left bank, behind the factories, are the residential areas of the working class, in the neighbourhoods of Barakaldo, Sestao, Portugalete and Santurce. Thus, it is possible to speak of a medieval Bilbao, a mercantile Bilbao, a popular Bilbao, a bourgeois Bilbao, and a working class Bilbao. These are images of a city developed at different historical 'rhythms'. The industrial crisis and its consequences added on many uncertainties.

Architecture plays a central role in urban renaissance of many cities, and can also be used to lead this process. In a sense, the case of Bilbao is a paradigmatic example of this, with the iconic image that Frank Gehry situated with expertise and finesse in one of the most difficult and deteriorated spaces in the heart of the Estuary. The reindustrialisation process beginning at the end of the 1970s, presented great challenges, along with the social and economic problems, required

strategies for the future that could bring hope and enthusiasm to the inhabitants of area. This was the function of Bilbao's large projects in the urbanised areas concentrated along the vertebral axis of the metropolitan system defined by the Estuary, the heart of the old industrial space and facing the impossibility of peripheral expansion.

The historic centre of Bilbao, as mentioned above, was the location of the first district-wide urban intervention in the city, based on concepts of restoration and rehabilitation. The *Ensanche*, the city's administrative centre, is undergoing a different functional adaptation. This process includes the recuperation of the banks of the Estuary that border the Ensanche: this is the Abandoibarra district, where both the Guggenheim Museum and the Euskalduna Auditorium were built on brownfields previously occupied by railway, shipbuilding, and storage and customs infrastructure.

It has been claimed that the encounter between Bilbao and the Guggenheim was merely coincidental. However, it can be argued that the encounter occurred only because Bilbao had an open attitude toward innovation. From the urban planning perspective, Bilbao serves as an exemplary case: all of its planning tools were employed in a combined effort that included the City Hall, the Regional Council of Bizkaia, the Basque Government, and the Spanish Government, through its industrial societies and proprietary entities such as RENFE (Spanish Railway Company).

A master plan and sector plans were developed for the historic and singular areas, along with regional planning, supra-municipal efforts, public utility and services companies, and even planning forums such as the Bilbao Metropoli 30. The concerted efforts to rationally plan for and face the future are undeniable. It is therefore very curious that for public and for the international press, that the urban transformation of Bilbao has instead been attributed to architecture in general, and to the Guggenheim Museum in particular.

The "Guggenheim Effect" that occurred in Bilbao cannot be transferred to other cities simply by constructing another emblematic building. For Bilbao, the Guggenheim Museum symbolises a society's will for change, and the determination and confidence that it is possible to reinvent and construct a 21st Century metropolitan region on the ruins of an obsolete productive system.

Beginning from the mid-1980s, a number important urban transformation projects were proposed for the urban centre of Bilbao. One of the first projects was the proposal to create a strong cultural centre for Bilbao, in the Alhóndiga building, located in the *Ensanche*. Javier Sainz de Oiza and Jorge Oteiza worked together to create a "culture cube" out of the old building. However, as a historical building, the project provoked a huge local debate that eventually stopped the project. Another major infrastructure project proposed during this period that remains un-built was the transport interchange at the Abando Railway Station, designed by James Stirling and Michael Wilford, a project that hinted at the strategic importance of a metro system for the city.

It was at the end of the 1980s, and the early 1990s that the projects that would eventually be implemented are proposed: The Bilbao Metro, designed by Sir Norman Foster, who won the design competition; the relocation and expansion of the Port of Bilbao, which freed up valuable land parcels open along of the Estuary; the Airport designed by Santiago Calatrava; the extremely important project of cleaning the Estuary itself; the César Pelli plan for the development of the Abandoibarra district, where the Guggenheim Museum and the *Euskalduna* Congress Centre are located. The development of this area is about to be completed, and include housing, hotels, shopping centres, university buildings and an office tower.

In the near future, the major projects on the horizon are Abando and Zorrozaurre. Abando is a 10 ha area around the new High-Speed rail station located between the *Ensanche*, the Historic City and Bilbao La Vieja. The integral development of this strategic location will create a coherent heart for the city. Zorrozaurre is a peninsula of over 50 ha located along the Estuary, and the development the area could be decisive for the necessary "second urban revolution" of Bilbao; a revolution that could launch the creative economy for the city.

The Bilbao Metro and the Metropolitan Dimension

The Metro system of Bilbao is a clear example of the search for excellence in the design and construction of a public infrastructure. Line 1 of the Bilbao Metro was inaugurated in 1995, and the second line was opened in 2002. For Bilbao, the Metro consolidates an urban image of uncompromising modernity and Norman Foster's design is already a recognized reference at the international level. This project has reinforced the feeling of self-esteem and pride on the part of the citizens who use it, and is admired by many visitors.

The Metro connects the main components of excellence of Metropolitan Bilbao, areas such as the Historical Centre, the Ensanche, Getxo, the Port, etc., as well as the areas of opportunity that are arising in the immediate surroundings of the Nervión River. A key critical aspect of the Bilbao Metro is its layout. The linear disposition of the urban centres within the metropolitan region provides evident advantages for this type of collective transportation. Consequently the Bilbao Metro is a very efficient system.

A singular aspect of this infrastructure is that it is used by people and social classes from all walks of life. The Bilbao Metro enhances the metropolitan dimension of Bilbao, from a municipality of 350,000 to a metropolis of 1 million. Currently, development is underway to integrate and complete the collective transportation system in metropolitan area.

The recent introduction of a new streetcar (*tranvía*) system, the interventions of restructuring and pedestrianization of streets in the Ensanche, and the new Bilbao Exhibition Centre in Barakaldo, complete the basic transformation programme for metropolitan Bilbao.



↑ Llano

Trena geldi dagaçtan sonu

Bilbao Ría 2000 and the Urban Transformation of Bilbao

To coordinate and execute the principle urban transformation projects in metropolitan Bilbao that would be developed on the newly-vacated lands belonging mainly to public companies or institutions, a public-public partnership comprising Spanish and Basque institutions involved in the redevelopment of the Nervión Estuary. Once the commitment was obtained from these institutions, Bilbao Ría 2000 S.A was formally established on 19th November 1992 with one-time initial capital outlay of 300 million pesetas (€1.8 million), which is an insignificant amount in relation to the spectacular capacity to transform Bilbao.

It was intended from the start that Bilbao Ría 2000 would finance its activities from the new uses determined for the redeveloped land parcels, and would also manage any EU funds that could be available. Representatives from the most important institutions of the region serve on its Board of Directors and they understood that the mission of Bilbao Ría 2000 was too important to be realised against the criteria of any member. For this reason, it was also decided from the start that any decisions taken by the Board had to be unanimous. In this way, Bilbao Ría 2000 became an effective urban transformation agency and obtained the growing confidence of the institutions to undertake additional projects beyond the initial list.

The three main factors that led to the creation of Bilbao Ría 2000 were:

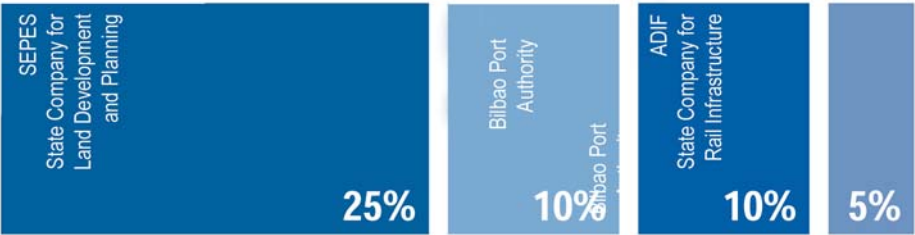
The policy of the Ministry of Public Works and Transport (MOPT) at that time was inclined towards the development of large-scale operations that involved different levels of administration, as in the case of Barcelona and Seville. Bilbao was one of the selected cities due not only to the scale of its problems but also the existence of a large quantity of public land in the city that belonged to the central administration.

The commitment of the Basque (Regional) Government and Bizkaia (Provincial) Governments to support the urban transformation of Bilbao, the most important metropolitan area in the Basque Country.

The new General Plan that the Bilbao Town Council was preparing at that time, which contained very ambitious measures to transform the city into a centre for advanced services.

Some key characteristics of Bilbao Ría 2000 which favoured its effectiveness as an instrument for the urban transformation of metropolitan Bilbao are:

Composition of Bilbao Ría 2000



Balanced Composition. Bilbao Ría 2000 is a public-public partnership, equally owned (50% each) by the Spanish and Basque administrations. The exact distribution can be found at the bottom of this page.

Board of Directors. The Board of Directors is made up of twenty top level representatives of the various public authorities that hold stakes in the Bilbao Ría 2000. The Chair of the Board is the Mayor of Bilbao and the Deputy Chair is the Secretary of State for Infrastructure and Transport at the Ministry of Development. The other members include the President of the Bizkaia Government, Ministers of the Basque Government, the President of the Port Authority and the Mayor of Barakaldo. This ensures that all decisions taken are really executive decisions.

Legal Status. Bilbao Ría 2000 is a *Sociedad Anónima* (limited liability company) financed completely by public capital. The reason was to create a flexible organisation that could make important decisions with agility. It was incorporated in 1992 with an initial capital of 300 million pesetas (€1.8 million) and in 1995, this amount was increased by an additional amount of 33.4 million pesetas (€200,700), half of which was provided by SEPES, and the other half by the Barakaldo Town Council to become a shareholder of the company.

Financing Methods. Bilbao Ría 2000 was set up to minimize the need for additional public funding allocations, and since its inception, it has proved capable of financing all its activities. The shareholders contribute the land they own in Bilbao and Barakaldo to the company, which are then rezoned by the local administrations. Bilbao Ría 2000 manages the development process (investing in the cleaning up of brownfields if necessary), either by developing the parcels or by selling them to private developers. These generate capital gains which, being a not-for-profit company, are then re-invested for the regeneration of more sites or specific actions to improve different areas in the metropolitan area (Abandoibarra, Variante Sur, Bilbao La Vieja) In addition, Bilbao Ría 2000 manages the EU funds obtained for its projects.

Type of Urban Interventions. The inter-linked issues of transport, urbanism and the environment are approached jointly. Also, Bilbao Ría 2000 operates only within the existing urban areas, without developing greenfields. The objective is not to extend the city, but to transform the existing 'problematic' spaces into new opportunities. Bilbao Ría 2000 is able to access to strategic property in the heart of the metropolitan Bilbao, and is able to obtain agreements and fundraising to embark on projects where the private sector would not risk investing in.



Principal Projects Undertaken by Bilbao Ría 2000

Bilbao Ría 2000 operates in the municipalities situated along the Nervión Estuary, working to recover degraded areas and brownfields. In these areas, the company helps to define initiatives and actions involving urban planning, transport and the environment in accordance with the approved planning directives, and then undertakes the execution of the agreed strategic operations. The most important projects undertaken by Bilbao Ría 2000 are the following:

Abandoibarra. This is surely the best-known and most significant project. The area is anchored on either end by the Guggenheim Museum and by the Palacio Euskalduna that are clearly the most emblematic elements in the regeneration of Bilbao. The master plan for this area, comprising some 350,000 sq m, was prepared by César Pelli and his team. The plan included offices, housing, a commercial and leisure centre and two university buildings - an assembly hall (*paraninfo*) for the University of the Basque Country, and a library for the University of Deusto. The Hotel Sheraton and some of the housing have already been completed. Two-thirds of the area has been designated for open areas and green spaces. The new *tranvia* (streetcar), realized in collaboration with the Basque Government and Bilbao Town Council, is a much-appreciated transport option for the area.

Ametzola. This 110,000 sq m area was formerly occupied by three railway freight stations (two belong to RENFE, the third to FEVE). The objective of this project was to convert this area into a lively residential area. Within Ametzola, a 36,000 sq m parks has been constructed, as well as a new multi-modal (FEVE and RENFE Regional Rail) station and improvements to the surroundings. 750 housing units have also been completed. This project has transformed the old railway barriers - by eliminating the tracks or placing them underground - into a new urban district re-integrated into the rest of the city.

Railway Infrastructure. The principle operation involving railways developed by Bilbao Ría 2000 was the "*Variante Sur*". The objective was to improve rail infrastructure to provide service to the south of city. Significantly, this project eliminated two important urban barriers formed by the existing track which divided the Rekalde and Basurto neighbourhoods within the *Ensanche*. The new *Avenida del Ferrocarril* built over the old railway "trench" has reconnected the two neighbourhoods with new urban spaces. In total, the project has placed 3.2 km of track in the very heart of the city below ground, and constructed four new stations (San Mamés, Autonomía, Ametzola and Zabaltzu) and remodelled two others (Olabeaga and Abando). The trains have been using the new *Variante Sur* since 1997 (FEVE) and 1999 (RENFE) respectively.

Barakaldo - Galindo. Bilbao Ría 2000 started working in Barakaldo in February 1996 within the context of the URBAN programme, through with the EU co-financed an integral operation at the edge of the old city. This €24 million project has been completed and among the significant works are the remodelling of the Plaza del Ayuntamiento (Herriko Plaza), the Desierto plaza, the rehabilitation of the ILGNER building, improvements to the Paseo de los Fueros etc. In addition to a new



centre for Social Services, the programme concentrated on areas contaminated by industry.

Currently, the most important operation in Barakaldo is the Galindo area. This operation is developed on the site of the former *Altos Hornos de Vizcaya*, in its day a major steel factory. The 50 ha site, which belonged to the Provincial Bizkaia Government, is next to the river, and has the potential to be the new Ensanche of Barakaldo. About 2,200 housing units and 200,000 sq m of green and open spaces are planned. They will complement the completed sport and leisure facilities. The new connecting roads are already open to traffic.

Bilbao La Vieja. This is one of the most deteriorated zones of the municipality of Bilbao. The Town Hall is moving forward with the Integral Rehabilitation Plan of Bilbao La Vieja, an operation of social and urban regeneration in collaboration with the Provincial and Regional Governments. Bilbao Ría 2000 is collaborating in this area in different projects with the philosophy of urban equilibrium and integration.

Basurto - San Mamés - Olabeaga. The improvements to the Olabeaga area and its connections to the city via San Mamés and Basurto is an operation that Bilbao Ría 2000 will develop in collaboration with the Bizkaia Government, Bilbao Town Hall and other institutions such as RENFE and FEVE. The focus is on the remodelling of road and rail access to Bilbao from the east, from the so-called "*Corniche of Olabeaga*" and will involve the covering of 3km of FEVE track in Basurto.



Conclusion

The urban transformation of Bilbao has to be considered in the context of Euskal Hiria, the Basque city-region with the polycentric system of capital cities. As an inter-linked system, the regeneration of Bilbao - the largest Basque city - has positive implications for Euskal Hiria as a whole. It is also important to consider Bilbao within its metropolitan area comprising some thirty municipalities. The capacity for inter-governmental, and inter-institutional collaboration through different levels of administration is remarkable, and is a key underpinning of the ambitious urban transformation that Bilbao has embarked on. This process, initiated by the reusing abandoned or obsolete port, rail and industrial land located along the Nervión Estuary, considers the Estuary as the "axis of development" of metropolitan Bilbao.

The results of some of the early structural interventions are already evident. This urban renaissance, beginning with the rehabilitation for the banks of the Nervión Estuary along the historic centre and the *Ensanche*, has awakened profound interest around the world. Today, almost all medium-sized and large cities of Europe are immersed in similar processes of urban transformation, and in this context, the experience of Bilbao and the "Guggenheim Effect" and the role of urban redevelopment organisations such as Bilbao Ría 2000 can serve as a valuable international reference. Bilbao itself is poised to begin a "second revolution", this time to move the region towards the creative economy.

*Photos on pages 27 and 30 (the four on the left) courtesy of Alfonso Vegara.
All other photos courtesy of Bilbao Ría 2000*





The Netherlands

Creative Environments in Dutch City-Regions

Jaap J. Modder, Chairman, Regional Board of the City-Region Arnhem-Nijmegen.
Jeroen Saris, Owner/Director, de Stad bv



Emergence of the Creative Economy

Innovation lies at the heart of economic development and creativity lies at the heart of innovation. At present, it is acknowledged that technological innovation, through research and development, is but one of the driving forces of the knowledge society. A neglected factor in attempts to strengthen the (inter)national economic and knowledge position of countries is creativity (Peter Hall, Richard Florida). In this article, we demonstrate the enormous impact of the creative economy on the transformation of the Dutch economy and how this transformation affects the shape of cities and regions. Today, 990.000 Dutch employees (13 % of total national employment) work in the creative economy. The aim of our research is to develop regional strategies for accommodating and facilitating this transformation.

The Promise of a Creative City. What is a creative city? Can conditions for the success of the creative economy be defined, and in what way are they dependent on urban culture? Lately, a rediscovery of the city has been taking place. Peter Hall, in his magnum opus 'Cities in Civilizations,' promises a new golden age to those cities that innovate on three interdependent levels: culture, economy and urban organisation.

There will be glory for cities that apply the combined lessons of Athens and London on culture: of Manchester, Berlin and Silicon Valley on technology: and of Rome, New York and Paris on urban organisation. In the global competition between metropolitan areas, the ones that are creative on all levels are the ones that will survive.

Landry and Demos (a UK Think Tank for "everyday democracy") launched this promise as a concept: the "creative city". They handed a toolkit for shaping the future of the city to local authorities. Their approach concentrates on creative strategies for solving problems of urban transformation. Several cities in the UK have developed a cultural strategy to transform old industrial areas into fashionable parts of the city. The Bilbao Guggenheim Museum can be seen as an example of this cultural strategy, which changes the image of industrial cities by creating a post-modern "city brand".

In the Netherlands, the concept was introduced in 2002 by Zef Hemel, who wrote an essay under the same title for the Delta Metropolis and the Dutch Ministry for Housing and Spatial Planning (VROM). The debate on the contribution of creativity to economic development was speeded up by Richard Florida's attendance at

the conference "Creativity and the City", on the occasion of the opening of the Westergasfabriek in Amsterdam in September 2003.

Since then, his optimism about the significance of the creative class for the regional economy has been reverberating through governmental and administrative halls in the Netherlands. Every town wants to be a creative city, but is this possible? And if so, how? Would they all not become clones?

Designing New Urban Strategies. In order to design new urban strategies we need to understand the way creativity works as a production factor in the regional economy. Firstly, we evaluate the Dutch data in order to measure the contribution of the creative economy to growth. Secondly, we map out the strengths and specific qualities of different regions by focusing on the distribution of different urban milieus and branches of the creative economy. Thirdly, we present a model for analysing the missing links in urban conditions in three different Dutch regions.

Finally, we show how the results are applied and translated into regional strategies for fostering creativity and meeting the challenges of the global shift towards a creative economy.

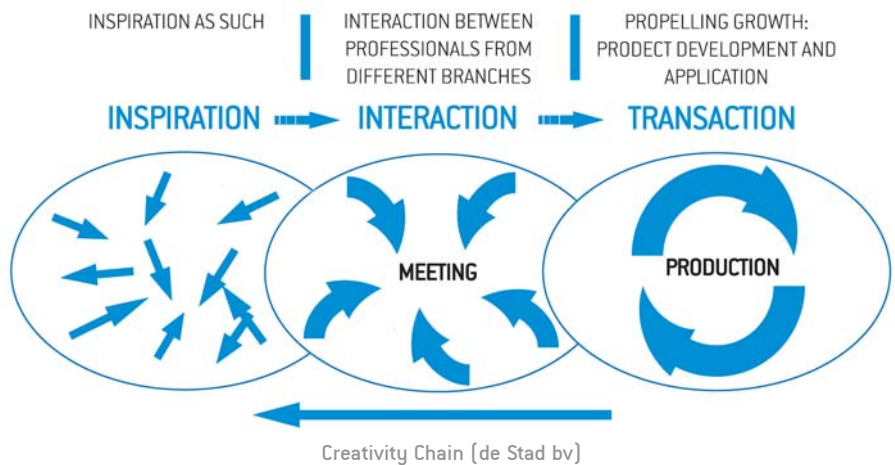
How the Creative Age Reshapes the City. In the debate about the knowledge economy and the changing conditions of work, the new word is "creativity". Richard Florida foresees a fundamental change of paradigm in the economy. In his vision, the transformation of the post-industrial economy is not limited to turning the former into a knowledge economy. In our part of the world, true value is generated by those workers who invent and create new products, who apply knowledge for making commodities that are smart or 'cool,' and who invent brands and designs associated with new life styles. These creative workers are called the "creative class".

Human creativity is no longer restricted to the area of culture and arts, or industrial design. The driving force behind the application of knowledge and the invention of new products, new designs and marketing strategies or improvements of production technologies is the human capacity to create new solutions and to imagine new possibilities. If this is true, the economic paradigm shift will have a number of implications for urban life and the shape of cities.

In the past, industrial society reshaped the city in a fundamental way. The industrial city was about economy. A functional and efficient organization of the city was its objective. In the industrial city, it was no longer clear that cultural creation was an essential function. In the post-industrial economy of cities in the West, production is shifting from the making of commodities towards application of knowledge and creation of new products, life styles and experiences. Again, this shift has a tremendous impact on the way of life, the use of land, the buildings and neighbourhoods in the city. Cultural and 'symbolic' production is returning to the heart of urban life, although not necessarily to the centre of the city.

Unexpected Renaissance of the Inner City. Economic innovation is still associated with high-tech, patent production and budgets spent on R&D. Technology is often seen as identical to innovation. Surely innovation can be technology-driven, but it

can also spring from cross-over between 'alpha' or 'gamma' knowledge and technicians, or between socio-cultural trends and economic development. A striking example is Amsterdam in the late 1990s. No economist could have foreseen the economic 'boom' of its inner city. In the two previous decades, most industrial production had left the city or even the country. In the inner city, many industrial sites were deserted, and often occupied by squatters. The official policy was aimed at "re-industrialization" and at services. Nobody expected the experimental way of life of the informal dwellers to turn the former factories into a breeding ground for creative industries. Now, twenty years later, the inner city of Amsterdam has a density of housing and workplaces not seen since the 1950s. The labour force in the inner city grew from 70.000 at the end of the 1980s to 90.000 at the end of the 1990s. The statistics on the expansion of creative industries in Amsterdam (TNO 2004) and the growth of the creative class offer a plausible explanation. Richard Florida has a point here.



Creativity Index. If creativity is the production factor in the regional economy that causes one region to be more competitive than another, we need to understand how this works. In order to design new urban strategies at the local or regional levels in a global competition of regions, we have to explore and reveal the conditions that make certain cities attractive to the creative class. We also need to understand the way creative industries interact with other economic branches, and why they prefer certain urban conditions. Finally, we must try to understand the different chances of urban regions for making places fit for fostering the creative economy.

Florida's creativity index for European countries has shown that the Netherlands is among the leaders in creativity in Europe, but to maintain that position it would be necessary to develop spatial strategies in order to facilitate this economic sector more adequately. The results of our research confirm that it is possible and desirable to enhance a diversity of creative places and to help creativity blossom. Promising places for the nourishment of creativity already exist, but they are usually invisible to those with the power to protect and develop them.

Since the European creativity index is on a scale too large to concern itself with specific Dutch localities, insight is needed concerning local situations in the Netherlands. We will concentrate on these regional aspects first.

Creativity as Part of a Production Chain. It has been argued that creativity cannot be stimulated from the top down, and certainly not on a large scale. Our research shows that local and regional efforts to create places for creative industries really make a difference. To analyse the regional conditions for creative industries, we developed an instrument that differentiates various kinds of creative environments and relates them to both the life cycle and production chain of creative industries. This analysis shows the differences in the rate of concentration and economic diversity of the specific economic clusters in each region, and in the Netherlands as a whole.

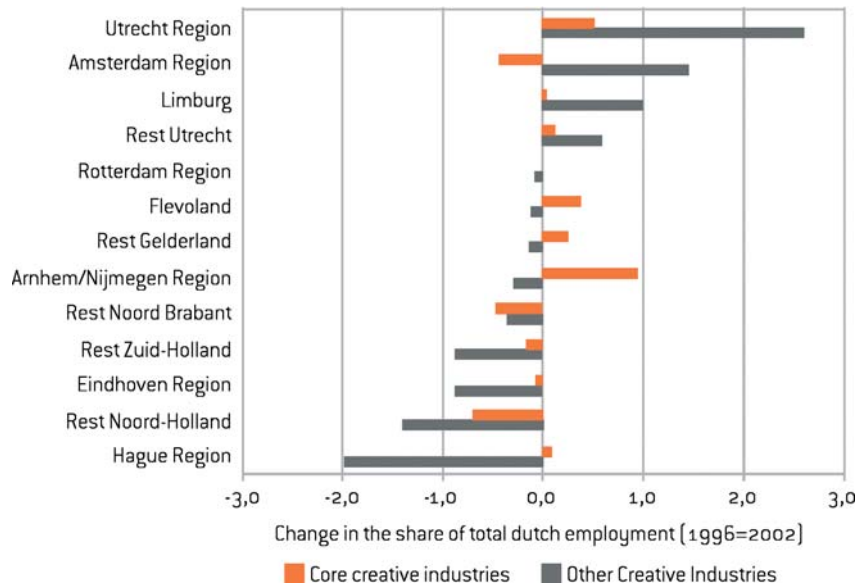
Even in the Netherlands, a mercantile country for centuries, it took quite some time to persuade the Dutch government to extend the efforts of the National Innovation Platform towards the creative economy. This change of attitude on the part of the decision makers is the combined result of research on creative industries in several Dutch cities, and the lobby by the most innovative urban regions such as Amsterdam, Arnhem-Nijmegen and Eindhoven.



Research Results in Dutch City-Regions

The Results in Short. Early in 2004, we mapped out the distribution of the creative class and the creative industries over cities in different regions in the Netherlands, and their influence on regional and national economic production.

This figure shows the areas with a high concentration of creative industries: the Amsterdam Region as gravitational centre, the Utrecht Region in the middle of the



Concentration-index employment in 2002. (ABF Research / de Stad bv)

country, the Arnhem-Nijmegen City Region is the eastern part and the Eindhoven Region in the southern part of the Netherlands.

The creative core is concentrated in the region with the four largest cities (Amsterdam, The Hague, Rotterdam and Utrecht), while distribution, organization and high tech are stronger in the south and middle-east of the country. To illustrate the differences in distribution of the creative core and the rest of the creative industries we made a concentration index of both categories.

The Dutch creative city-region is organized by two poles: the alpha pole around the old mercantile centre of Amsterdam, and the beta pole around the high tech industry in the south. The best illustration of these two poles is the world of Philips. The Philips region stretches from Amsterdam to Aachen (Germany) and Leuven (Belgium, IMEC). In Amsterdam, we find headquarters and marketers; in Nijmegen, the supply and development of semiconductors. Eindhoven is the technological pole with R&D, application, embedded systems and design. Crossing the borders we find the research centres of Philips in Leuven and Aachen. The Philips region is connected by three highways: the A2, A50 and the A12.

The metropolitan region of Amsterdam is the central marketplace of the Dutch creative industry. The region is specialized in business services (marketing, communication), design, entertainment (Endemol, theatre, musicals, broadcasting), software and media. The city is also the place to be for the creative class as a lifestyle group.

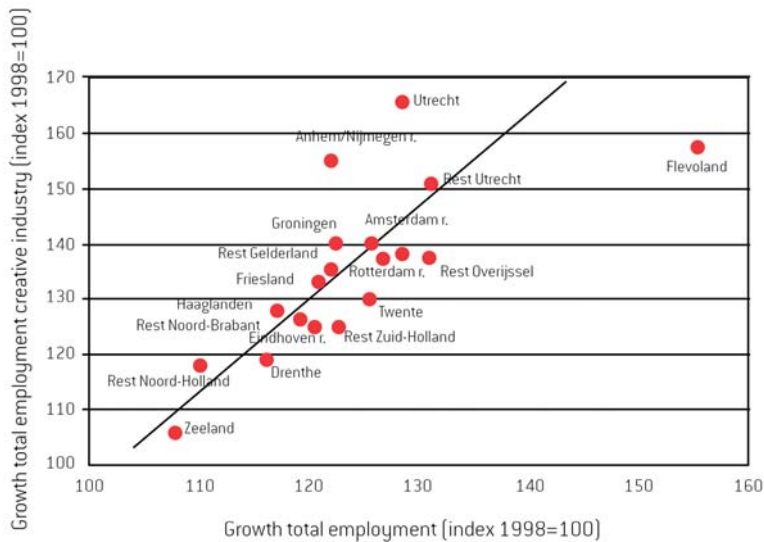
While Amsterdam is an important global and national marketplace, the city is becoming too expensive for the production phase in the creative economy. Other regions are growing and specializing in production-oriented branches of the

creative economy. Furthermore, “breeding” places are often pushed out of the inner city by gentrification process fuelled by the consequences of the creative economy itself. This gentrification tends to 'dry out' the sources of creativity. That is why this region is on the look-out for a second generation of breeding places.

The region of Eindhoven, the so-called "brain port" of the nation, has a reputation as a technology and research centre [Philips]. This area is becoming more and more specialised in the combination of design and technology, but the relative position of the Eindhoven Region has weakened in recent years.

In the network city of Arnhem-Nijmegen, situated in between Amsterdam and Eindhoven, the two poles meet. Arnhem is a city of higher education, fashion and events, while Nijmegen has an ancient centre, a university with a reputation in biosciences and a Philips research centre. The region is well equipped to make the switch towards the knowledge economy and to bridge the gaps between alpha and beta, between culture, fashion, design, and life sciences and high tech.

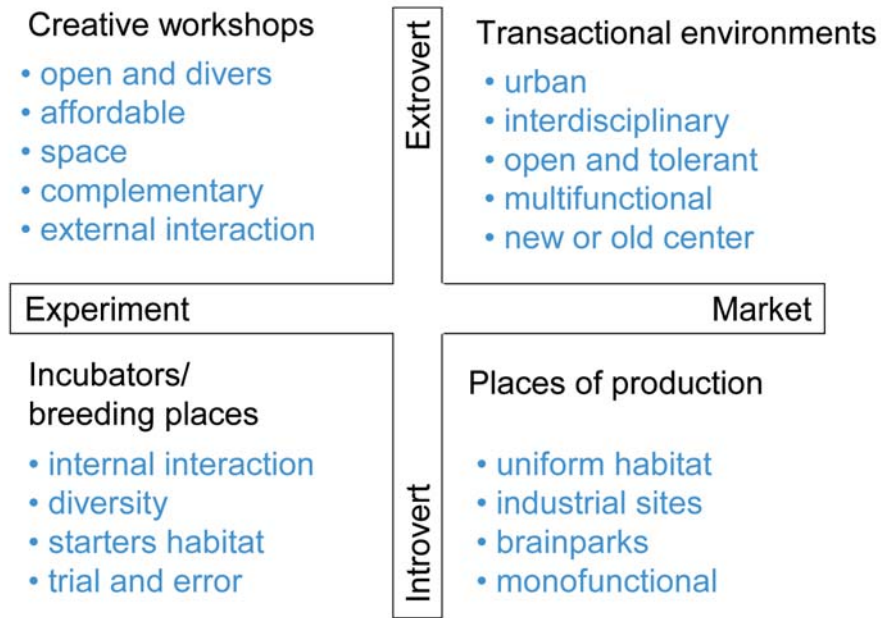
Last but not least, Rotterdam, the world-famous harbour, is developing a new image as a centre of architecture, arts and design. On top of its eye-catching modern architecture in the city itself, the star status of Rem Koolhaas and OMA contribute greatly to the reputation of Rotterdam and its surrounding region in the world of architecture. Rotterdam is not characterized by one pole. The metropolitan atmosphere promises a development of both poles.



Relative Employment growth 1996-2002 [ABF Research / de Stad bv]

The creative economy appears to be a strong catalyst of general employment growth. The graph above shows the strong correlation between general employment growth in Dutch urban regions and the growth of creative employment. The regions with a fast-growing creative industry (Utrecht, Arnhem/Nijmegen, Amsterdam) also show an above-average growth in general employment.

To explain this remarkably strong correlation, we tried to understand the differences among the regions. By means of interaction with representatives of the creative sector, we explored the conditions and potentials for the creative economy. In meetings and interviews with focus groups and individual entrepreneurs, we learned to recognize the opportunities and conditions the creative entrepreneur requires. By telling us about their professional future, their expectations and the spatial conditions needed for working and living, the creative professionals gave us insight into their vision on the future creative economy.



Creative Environments [de Stad bv]

The Spatial Conditions. To analyse the spatial conditions, we used a model (below) that distinguishes between four types of business environments for the creative industries. On the vertical axis, we distinguish between 'open' and 'closed'. This distinction relates to the degrees to which the sector needs a supportive urban environment. Extrovert environments are more dependent on an interactive urban context. On the horizontal axis, we distinguish between 'experimental' and 'commercial'. Thus, four kinds of creative environments emerge. Each region can define its character and compare itself to other regions in the Netherlands, both to stimulate competition and to co-ordinate the different potentials of the regions. It is important that urban regions should have the right distribution of these different business environments of the creative economy.

The experimental incubators are small core enterprises (1 to 3 persons) that need urban environments with a great deal of variety. Entrepreneurs in creative workshops need complementary companies and interaction, and they look for affordable urban spaces that offer diversity, space and openness.

In the transactional environment, the core creative entrepreneurs and the distribution- and organisation-oriented companies interact and meet their clients.

The average size of the companies is a bit bigger. The market-oriented production companies do have more employees and are strictly focused on production costs.

This typology of creative companies in the life cycle of their development makes it possible to distinguish different urban 'milieus' that are more or less equipped to offer the right conditions to the entrepreneurs. In the next figure, we show some examples of these four creative environments.



Creative Environments (clockwise from left above: Post CS Amsterdam; 9 Straatjes Amsterdam, High Tech Campus Eindhoven, Saksen Weimar Kazerne Arnhem)

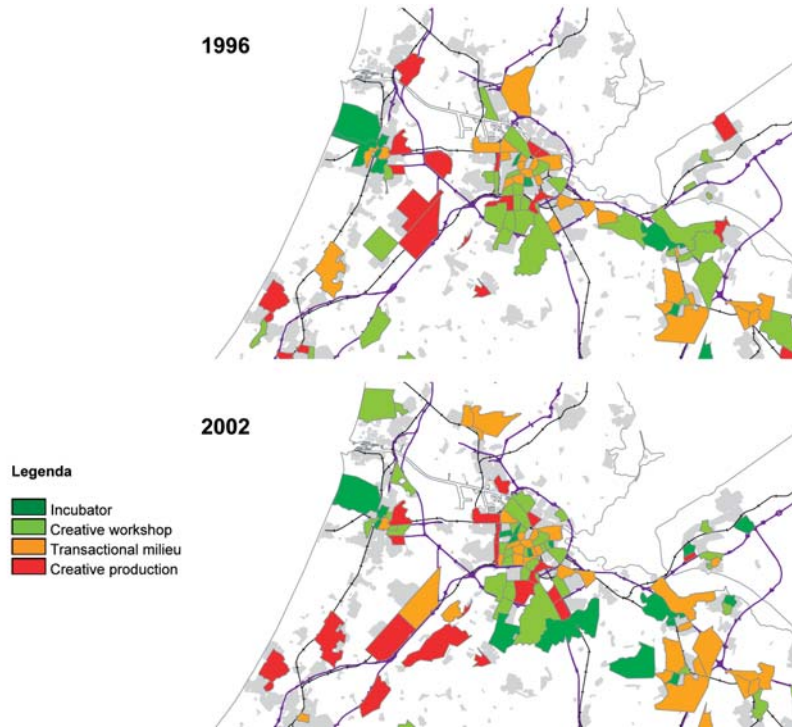
Three City-Regions Exposed

To show the strategic impact of this analysis, we focus on three regions: the Amsterdam Region, the Arnhem-Nijmegen Region and the Eindhoven Region.

The Alpha Pole: the Amsterdam Region. The Amsterdam Region has the highest concentration of all kinds of creative industries, but in the last few years, growth has been limited to the core creative industries. Visual and sculptural arts, media, design and creative services are well developed in this commercial and trade-oriented urban field. However, we found a negative growth for the rest of the creative branches, distribution, craft and organisation. This was not a surprise when we look at the map of creative environments in the Amsterdam region. Most of the inner city, the 19th century ring around the old city and the southern part from the Rijksmuseum to Schiphol airport, can be identified as transactional environments that are too expensive for production and distribution activities, and therefore, unfit as "breeding" grounds. That is the reason why incubators increasingly move to the periphery of the region and or even further out.

Distribution and production companies tend to prefer locations with low transactional costs along the highways in the centre of the country.

Although Amsterdam is a highly-favoured place to settle for commercial services and the growing entertainment industry, there is a shortage of film industries and production sites for media and crafts to fabricate what designers invent.



Creative Environments in the Amsterdam region (ABF Research / de Stad bv)

Our diagnosis on the Amsterdam case is simple and clear: To prevent stagnation in the growth of the creative economy, the Amsterdam Region needs more breeding grounds and more production or supplier areas. These specific kinds of spaces are available in the former shipyards and industrial sites north of the North Sea Canal connecting Amsterdam Harbour to the North Sea.

The demand for space can be solved when you take a larger region into consideration: In Zaanstad (north of Amsterdam) and Almere, ample space is available. Two major projects resulting from this diagnosis are worth mentioning in this context.

The first project was due to the advice of Guy Hayward, CEO of 180 Communications, who, at a congress in November 2004, explained his preference for Amsterdam by comparing the city to other great European cities. He declared Amsterdam to be more cosmopolitan than Milan, Copenhagen or Barcelona, although lacking a film industry like London. In the last few months, three media and film companies

decided to move their production to the shipyards north of the Amsterdam city centre, which has now been turned into an incubator centre used by a hundred artists, and includes a theatre and a skating hall.



Industrial Heritage on the Hembrug area

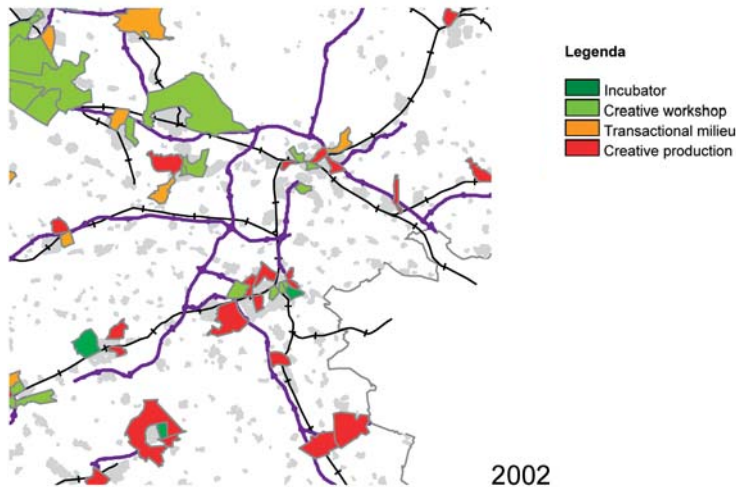
The second project is the follow-up to a workshop on creative economy in October 2004 at the Hembrug site, a former of ammunition and metal factories complex near Zaanstad, north of Amsterdam. Creative entrepreneurs established a foundation, the Artillery Club, for promoting the development of the 40 ha site as a creative working place.

They developed a strategy for temporary use of the area, with the perspective of letting it grow out into a multi-functional supplier for the creative industries. The area could also be transformed into a festival/exhibition centre to serve the needs of the Amsterdam Region. Soon, a group was formed called "Friends of the Hembrugterrein" joined the initiative.

The Amsterdam Region has several locations fit for production activities, such as Aalsmeer, the production centre of Endemol, and Hilversum, a centre of public broadcasting. Similarly, the Haarlemmermeer can be developed as production and distribution centre of the creative economy.

The Alpha-Beta Pole: Arnhem / Nijmegen. The area to the east of the Netherlands, Arnhem-Nijmegen Region, is experiencing a rapid growth of the creative industry. The creative core is growing at a less-than-average rate, which is surprising, since Arnhem has several well-known educational institutions for fashion, arts and design. Other creative branches, however, are growing fast, especially high-technology. Nijmegen is a university city with a reputation in 'gamma' and 'beta' sciences.

The fact is that the creative environments are isolated and scattered about the area, and there is no 'place to be'. Arnhem has some facilities in the experience and entertainment sector that could be interpreted as transactional areas, and



Creative Environments in the Arnhem/Nijmegen region

surely there are some small incubator places and ateliers, but it lacks a creative environment of sufficient critical mass.

Nijmegen is a city of science and debate. The growth of the creative class was the direct result of university spin-offs and the growing importance of R&D in the Philips semi-conductor factory. It has more incubator environments, mainly for scientists in the bio-sciences, but also for the arts. However, the creative class lacks a centre, a meeting place. The cultural reputation of Nijmegen depends wholly on a single neighbourhood, Mariënborg, which is particularly well-known for its Lux movie house and debating centre. Some incubator sites are also nearby.

Analysis of the Arnhem-Nijmegen Region leads to the conclusion that this urban region needs meeting places for the cultural and creative networks of both cities. The creative industries don't have places for the exchange of knowledge and for mutual inspiration. The analysis leads to the following recommendations:

In the first place, Het Hoofdkwartier (Headquarters), an office building in Arnhem housing a number of creative enterprises, will have to grow out into a meeting place for innovative entrepreneurs by organizing meetings of different kinds of disciplines and entrepreneurs.

Secondly, because Arnhem has a world-famous fashion institute, there is the opportunity to develop a fashion production chain. The circle around the inner city, with Klarendal and the former Coberco milk factory just outside the inner city, has the space and the price level to start 'creative workshops' in fashion, with exhibitions, presentations by graduates, market performances and production.

Thirdly, in the other part of this region, the historical city of Nijmegen, which serves as the Philips semi-conductors factory, offers a unique opportunity for the creative economy. Philips decided to open the industrial site of the factory to create a new knowledge centre for technology, business and lifestyle. This place, called "52 degrees", offers a fabulous opportunity for attracting world-wide talent to Nijmegen

as a technological and cultural hotspot. But is Nijmegen ready for that opportunity? Until now, the university has not been involved in this project, nor has the cultural centre. The City Council must learn to participate in these major events without delay by taking on a mediator role between the creative class and the global capitalist Philips.

Finally, the region itself should develop an active strategy in order to attract more small enterprises. Thus, branding the region as a creative economy is an absolute necessity. For Arnhem, fashion and design are obvious priorities, and for Nijmegen, the emphasis should be on the creative industry based on the bio-sciences.

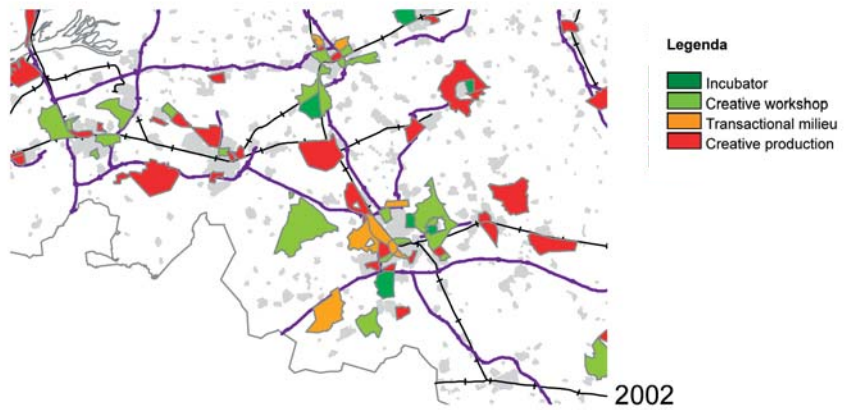
The combination of these focal points offers fine opportunities for "ambient intelligence" (Aarts a.o. 2003) that the Philips corporation is focusing its research programs. Moreover, a successful combined strategy needs proper interactions between the scientific world, the applied sciences, the creative industry and the market. This requires the interactive environments mentioned above.



Cultural Centre Lux, Nijmegen

Beta Pole: Eindhoven High Tech and Design. In the Eindhoven area, the growth of creative industries is not above the national average. The best-developed cultural industry is in design. In spite of the Philips research centre in this city, there is no spectacular growth of the creative economy, although there are breeding places in the inner city, market places, and the Eindhoven technology campus is a highly innovative initiative. The opening up of the former Philips Nat Lab to all sorts of external companies may spell the beginning of a new era in multinational companies' manner of thinking.

A great challenge in Eindhoven will be the development of a relationship between design and high-tech into a fruitful creative combination. A fine example of creative combinations is De Witte Dame (the "White Lady"), a former Philips headquarters accommodating the Design Academy, along with some smaller design companies



Creative Environments in the Eindhoven region

and Philips Design. Along these lines of thinking, the old Philips area in the inner city of Eindhoven, Strijp S, will be redeveloped as a creativity centre for the city.

Still, Eindhoven lacks other appealing and informal creative workshops where creative individuals could interface with the high tech industry. Should it be true that customers do want well-designed and easy-to-use products, and Philips is prepared to make them, then the Strijp development and the technology centre could become an epoch-defining project to keep the south of the Netherlands in touch with the most advanced regions in the world of knowledge and high tech.

At the same time, we can see in this figure that the creative economy in the Eindhoven is spread over more cities. The city network, called BrabantStad, combines the arts, festivals, higher education, services and bohemians of 's-Hertogenbosch ´ with the 'gamma' university, music, museums and media of Tilburg, the schools of economy and leisure, podium arts and festivals of Breda, and the cultural renaissance of the former industrial city of Helmond, to form a stronghold of increasing importance to Eindhoven and the Netherlands.



High Tech Campus Eindhoven

Concluding Remarks

Conditioning Creativity. The final goal of the project is to spur the creative and other economic sectors into action. Since the Spring of 2004, we have been organising meetings between the creative and other economic sectors to stimulate creative collaboration. The tools we present - the creativity chain, the interactive approach and the model for environmental analysis - make sense in the analysis of regional conditions. Based on our analysis of each region, and in the interaction with innovative and creative avant-garde entrepreneurs in each region, we are able to propose projects to innovators and politicians. In many Dutch cities, this bottom-up way of strategy building has resulted in an interesting series of new initiatives wherein the creative economy is stimulated by action of the creative sector itself.

No "Valleys" Anymore! These Dutch examples make perfectly clear that a regional strategy for creativity and innovation begins with an analysis of the specific quality of each urban region. There is no danger that cities and regions will become look-alikes in the creative age. Each city and each region has its own strengths and weaknesses. That is why the 'everywhere valley' will never be successful. Creative regions must be aware of their specific qualities and use them to become talent magnets that attract creative minds to that specific 'place to be.'

Basics on Strategy on a Regional Level. The comparison of Dutch urban region teaches that in the post-industrial economy, creativity is the prominent production factor and the catalyst of innovation.

Traditional settling conditions no longer satisfy, and regional educational level is no longer a sufficient measure of aptitude for the creative economy. Creativity is also about a climate that is attractive to top-talented and top-creative people from all over the world.

The most important condition for success in the creative economy is an open and experimental environment: in the academic climate, in the urban culture and in the shape and use of the city fabric.

Each node in the world-wide network has to be a centre of excellence in its own right. A centre of excellence needs a critical mass and a concentration of expertise.

The requirements of a region should be the guiding principle for public intervention. As each region is different, policy and strategy have to be specific too. Based on this precept, the creative economy puts an end to the long Dutch tradition of cooperation and equivalence.

Cities in the creative age seem to re-invent the most basic functions of urbanity: cultural production, knowledge spill-over and speed of demand and supply. Creative hotspots are not the result of top-down political intervention. They pop up on peripheral locations, as manifestations of the cultural production in creative workshops. Those peripheral locations, deserted industrial sites and older neighbourhoods, offer the best preconditions for breeding places and creative working places in an experimental phase.

Interaction between creative entrepreneurs and other production chains is the principal need of the creative economy. In most cities outside the Amsterdam metropolitan area, and in other cosmopolitan centres, there is a shortage of environments for interaction and transaction. The regional authority has an important role to play as broker.

On Strategy on a Global Scale. There is not much empirical evidence on the interaction between city-regions and its effects, but the assumption seems justified that interaction among the regional creative economies in the Netherlands, with very short distances between them, will have positive effects on each other. Another factor conducive to the success of the creative economies in the Netherlands is the context of north-western Europe: The Dutch urban regions together constitute a creative network city, which, in turn, is part of a new configuration on the trans-national level, together with the Belgian city region of Brussels-Antwerp-Ghent and the Rhine-Ruhr region, and urban regions between them. This north-west European 'super region' contains approximately 30 million people and is one of the 10 super-regions of the world. Its success in global competition depends on its ability to develop a pattern of complementary poles of competence.

On a global scale, the most interesting question is which mega-city offers the best conditions to attract the largest number of the world's greatest creative talents. In the creative economy, global communication of professionals is no more or less important than intensive face-to-face encounters. Cosmopolitan urban environments are the play-grounds preferred by creative professionals because of their concentration of a variety of specimens of the creative class in urban hotspots.

Another reason why global cities do better in the creative economy is their nodal status in global networks, like internet nodes, airports, and access to fast train networks. It could be said that urban mass and connectivity are necessary conditions for the creative economy to flourish, but not the only ones.

In accordance with the concept of creativity as booster of the economic performance of urban regions, the cultural factor will determine the outcome of the race between super regions and their components. Richard Florida (The Flight of the Creative Class) expects new American conservatism to restrain the US in their creative development. Political correctness and religious fundamentalism are threatening the academic climate and may kill intellectual curiosity.

Jeremy Rifkin (The European Dream) suggests that "the European emphasis on sustainable development, quality of life and nurturing of community will be better suited to meet the challenges of a globalising world in the 21st century."

Europeans, placing a premium on leisure, preserving a rich multicultural diversity and a reasonable social security, may offer a way of life more attractive to the world of talent than "the work ethic and dictates of efficiency resulting from the focus on unrestrained economic growth and the pursuit of individual self-interest" of the United States.

The spectacular growth of the Chinese economy and the Asian cities is often seen as a threat to Europe. If this growth is the manifestation of a mass production and mass industrial society, it is not at all certain these cities will be competitive with the European cities.

To develop strategies for European cities in the creative age, we need to compare the deficits and advantages of the north-west European 'super-region' to the Asian urban networks and the American cities. An analysis restricted to 'hard' economic indicators like economic growth, growth in educational level, internal connectivity in the megapolis, expenses on R&D, will be necessary but not enough. In the end, we will need a cultural approach to compare the specific features of European urban networks with American and Asian urban conditions.

This cultural approach will be necessary to examine if the pillars of European urban culture, like the democratic civil culture, academic debate, cultural diversity and the historical urban fabric will be strong enough to carry the European megapolis into the challenging era of globalisation and creative economy.

To paraphrase the saying "It's the economy, stupid!" we would say: "It's the urban culture, stupid!"

With this contribution, we would like to recommend application of our approach to other cases on the subject of the creative economy and the urban environment. We invite our colleagues in the field to try and translate our tools to their own practice. In our opinion, it is of great relevance to investigate more thoroughly the spatial conditions for the creative economy and their interaction with other factors.

Notes

Aarts, Emile & Marzano, Stefano (2003) *The new everyday. Views on ambient intelligence.*, Rotterdam: 010 Publishers

Castells, Manuel (1989) *The Informational City: Information Technology, Economic Restructuring, and the Urban-Regional Process*, Oxford: Blackwell

Drucker, Peter (2003) *A Functioning Society*, New Brunswick/London, Transaction Publishers

Florida, Richard (2002) *The Rise of the Creative Class*, New York: Basic Books

Florida, Richard (2005) *The Flight of the Creative Class: the new global competition for talent*, New York: HarperCollins Publishers Inc.

Hall, Peter (1998) *Cities in Civilisation*, New York: Pantheon Books

Hemel, Zef (2002) *Creatieve Steden! Creative Cities!*, Den Haag: Ministerie van VROM, Delft: Vereniging Deltametropool

Landry, Charles (2000) *The Creative city*, London Earthscan Publications LTD

Rifkin, Jeremy (2004) *The European dream: How Europe's Vision of the Future is Quietly Eclipsing the American Dream*, Tarcher/Putnam ISBN 1-58542-345-

Photo on page 46 courtesy of Flickr.

All other photos courtesy of Jeroen Saris.

The Authors

Jaap J. Modder is Chairman of the Regional Board in the city region of Arnhem-Nijmegen. This urban area in the eastern part of the Netherlands is situated between the much larger city regions of Randstad and Ruhrgebiet (Germany). Population size of the Arnhem-Nijmegen region is 700,000. The region is an association of 21 local authorities (1500 to 150,000 inhabitants) and has formal tasks and powers within the Dutch system of government. Statutory tasks are in the field of spatial and economic planning, and traffic and public transport.

Jeroen B. Saris is owner/director of 'de Stad bv', a private consultancy occupied with urban development in its widest sense. De Stad bv has created specific tools for organizing the interaction between stakeholders involved in processes of urban development, successfully applied in many projects, such as: Creative competition in the planning phase in Amsterdam Southeast, Future Vision Amsterdam North Platform Bovenkerker Polder (component of future vision Amstelveen), Urban development Haarlem, BrabantStad (future vision urban network in the Brabant region), Vision, mission and strategy Province South-Holland, Future Amstelland. In the early 1990s Jeroen Saris was alderman of spatial development of the city of Amsterdam.



Helsinki

Innovation and Creative Strategies - Reinventing Regional Governance

Marko Karvinen
Project Manager, City of Helsinki Urban Facts



Introduction

Helsinki has been a success in many recent international city comparisons concerning competitiveness, research, knowledge and quality of life. Yet, the whole national economy of Finland, including the Helsinki region was struck by a severe recession at the beginning of the 1990s. The strategic emphasis on innovation, knowledge-based development and creative economy can be interpreted as a decade-long process which is still developing further. This paper describes the strategic actions of mainly public actors in Helsinki during 1995-2005 emphasising the latter part of the period and especially the rise of regional governance. The paper also argues that building a creative city is a long process, linked to wide range of actors and public services. Preconditions for making of physical and social spaces of creativity are investment, learning, trust and negotiation. This paper is based on the author's experience in working on urban policy projects and programmes in the Helsinki region.

Description of Helsinki

The Helsinki region consists of 12 municipalities and 1.2 million inhabitants. The core of this functional urban region is the Helsinki Metropolitan Area which includes the cities of Helsinki, Espoo, Vantaa and Kauniainen, totalling 980, 000 inhabitants.

The City of Helsinki is the capital of Finland, with 560, 000 inhabitants. Finland itself has five million inhabitants, and the Helsinki region is the main urban region. One-third of the national Gross Value-Added (GVA) is produced in the Helsinki region. The service sector employs 79 % of the workforce in Helsinki (32% public services, 47% private services) and manufacturing sector employs the remaining 21%. In the period 1995-2002, the population growth was 1.25 % per annum. [Laakso & Kostinen 2004].

Life expectancy in Helsinki is 76.8 years (80.1 for women, 72.8 for men). 21% of the population over the age of 15 have polytechnic or university education, but 33% have only basic education. Almost half of all households are one-person households. Housing is of a high standard, with 94.2% of households having all amenities including central or electric heating. However, housing density is 33.4 sq m per person, which is low in comparison to the rest of Europe.

High-quality public and welfare services are typical for the City of Helsinki and the region. Residents are offered day - care centres; youth work premises, comprehensive schools, secondary schools, vocational schools, polytechnics, health - care centres, hospitals, old-age homes and service houses.

Residents can enjoy public theatres, orchestras, libraries, museums and adult education centres. The City offers recreational and jogging tracks, swimming pools, stadiums, skating rinks, beaches and boat moorings. The public transport system comprises buses, service buses, trams, subway and trains.

The challenges for the development of the Helsinki Region are:

- Maintaining its position in global competition through high competence

- Unemployment and jobless growth

- Growth of elderly population and lack of workforce

- Economic balance of municipalities for guaranteeing public services

- Low housing production and high housing prices



Municipalities in the Helsinki Region



The Finnish Context

In 1950, the Finnish population exceeded four million, with 30% of the population living in the country's 65 towns. At that time, Finland was still clearly an agrarian country, with more than 40% of the population earning their living from primary production.

Post-war demographic changes have been quite radical in Finland. In ten years, urban population figures increased by about 600,000 and the urbanisation rate went up from 38.4% in 1960 to 50.9% in 1970. The primary growth areas were municipalities in the Helsinki area and the major provincial towns. Nowadays, out of a total of 4.3 million Finns, 82.3% of the population live in urban communities.

Finnish municipalities have strong self-government rights. The Finnish Local Government Act (1995) states the basic mission for municipalities: "Local authorities shall strive to promote the welfare of their residents and sustainable development in their areas." Municipalities can perform the functions laid down for them by law either alone or in cooperation with other local authorities. They may also secure the services they require to perform their functions from other service providers. Municipalities have the right to collect taxes. Councils can decide the percentages of income tax and property tax in the local authority. The national average municipal income tax was 18.04% in 2003. On average, 53% of the municipality income comes from this tax. The rest of the income comes mainly from the corporate tax collected by the national government and from payments of some services.

In Finland, municipalities are responsible for the provision of most public services, such as comprehensive schools, secondary schools, day-care, health and social services, and care for the elderly. These and many more services employ a large share of the workforce. Municipalities are also providing the majority of the respective real estate needed. The main services organised by the state are universities and employment offices.

Finnish municipal activities are very much oriented towards service production. Councils decide strategic goals, while Municipal Boards implement the decisions of the Councils. Departments produce or buy services for citizens. 32% of municipalities' budgets are allocated to the purchase of services from outside providers. Normally, operational activities in municipalities and departments are organised and administered much like in private sector.

In the City of Helsinki, management-by-results has been used from 1991. Result-based management systems include numerically-defined and qualitative goals for departments. Effectiveness is expected to raise yearly. The management uses a balanced scorecard system. The European Foundation for Quality Management (EFQM) model and criteria are used in many departments. Also, result-based bonus systems are used to encourage employees to work according to the strategic goals and more effectively. In 2004, 10,400 of the 38,000 employees (that is, 27%) of the City of Helsinki qualified under the bonus system.

Strategy Development in Helsinki in 1995-2005

After the severe recession at the beginning of the 1990s, the City of Helsinki formulated new strategies. The so-called "common strategies" of the City of Helsinki were defined for the first time and approved by the City Council in 1997. This was a major turning point in strategic thinking. Before that, municipal actions were planned sectorally by the traditional budget planning method aimed to produce services for citizens. Budget planning is still important, but visionary and strategic thinking is now the driving force.

National legislation also contributed to this change. The Finnish Local Government Act was amended in 1995. According to the amended Act, operational and financial targets for the local authority are to be approved by the Council together with the budget and a three-year financial plan. The key task for the Council is to decide the main operational and financial objectives.

At the regional level, strategic thinking was developed by the Helsinki Club. This was a think-tank which was created by the Mayor of Helsinki, Mrs. Eva-Riitta Siitonen, in 1996. The members were mayors from the metropolitan area, rectors from universities, leaders of business and religious communities. At that time, there was no regional cooperation between elected politicians of municipalities. The Helsinki Club discussed the role of the Helsinki Region and its competitiveness in the new Europe. The Club prepared three strategies for the region and published a report entitled "Success Strategies and Partnership Projects in the Helsinki Region" in 1997. This document was the first seed of regional strategies. On the basis of that report, many partnership projects have been realised.

In 2002, Helsinki Club II was convened. It was organised in the same way by invitation from the Mayor of Helsinki. Helsinki Club II formulated a common vision and four strategies for the region. These were published in 2003 and were debated. The ideas of the Helsinki Club II were used later when politicians were devising common strategies for the region.

Strategic Emphasis. Three major strategic emphases were crucial in developing Helsinki into a creative city. The City Council emphasised knowledge base, culture and internationalisation. These strategic areas were implemented both for basic welfare services and specific urban policy projects.

Internationalisation. The internationalisation strategy was approved in 1994. The City is active in international activities, and in the mid-1990s, Finland joined the European Union, which meant new opportunities for Helsinki. City departments are working with other European cities in hundreds of EU-funded projects. Most of the EU funding is targeted to cohesion and the less-favourable regions. Since Helsinki is the wealthiest area in Finland, EU funding was not that crucial in terms of amount as seed funding for international cooperation. Learning and exchange of information and best practices was a key task for many EU projects in Helsinki.

The City of Helsinki is also active in international organisations. The Mayor of Helsinki was President of Eurocities in 2001-2002. Eurocities is a network of major cities in Europe that brings together the local governments of more than 120 large



cities in over 30 European countries. The Mayor of Helsinki was also the president of the Union of Capitals of the European Union in 2001.

All City departments are also internationally active in their respective areas. City departments and personnel are encouraged to join international activities and organisations of their specialist areas. The City also tries to attract international events and conferences to Helsinki. These international activities are considered to be an effective way of learning and developing new ideas which are a basic ingredient of increasing creativity.

Culture. Helsinki was one of the Cultural Capitals of Europe in 2000. This cultural project was a partnership project between the City and neighbouring municipalities, cultural actors and organisations, business life and the state. When Helsinki prepared its candidature for the title of European Cultural Capital 2000, arts and culture started to be integrated into urban policy.

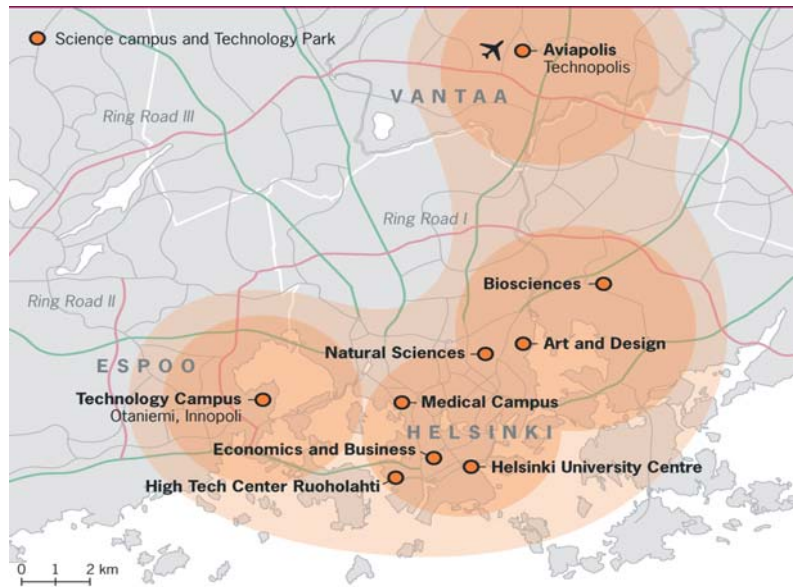
Many of the events initiated during this year (2000) - which coincided with Helsinki's 450th anniversary eventually became permanent practice in day-care centres, homes for the elderly, youth centres and playgrounds. The neighbourhood festivals formed a network called *Stadin kansanjuhlat* (People's Festival of the City). In terms of economic performance, the arts, culture and leisure sectors became more efficient in the 2000s than ten years earlier. This applies to the Cultural Office, the City Library, the Helsinki Philharmonic, the City Museum and the City Art Museum (Arts and Culture in Helsinki 2005).

Many new festivals came into being at the turn of the Millennium, when a new generation of festival makers entered the stage. This new generation moved freely through international networks, and was very well acquainted with its field as many were artists themselves. The Cultural Capital Year (2000) also contributed to the birth of new festivals by bringing together potential festival creators. In addition, the IT boom boosted the media business, which encouraged many artists to take up new experimental projects. About ten years ago, the advertisements for cultural events on the pages of a local newspaper in eastern Helsinki started to grow significantly, and that growth accelerated with the Cultural Capital Year. Eastern Helsinki became the area of abundant cultural activities and this development continues today. (Arts and Culture in Helsinki 2005).

In 2001, the aggregate turnover of cultural businesses in Helsinki amounted to €4.8 billion, making up 9.2% of aggregate turnover in all industries in the City. Business premises in the arts and culture sectors are typically smaller than average, both in terms of personnel and turnover. On average, they employ 5.6 people and have a turnover of €1.05 million. In Finland as a whole, the arts and culture sectors provide 4.4% of total business turnover. Thus, the sector plays a much more important role in the capital than in the rest of the country. In fact, Helsinki has 40% of aggregate arts and culture turnover and 38% of aggregate arts and culture personnel in Finland. (Arts and Culture in Helsinki 2005).



Overall, the arts and culture sector is a major employer. In December 2001, there were 31,788 people in Helsinki and 38,968 in the Helsinki Metropolitan Area who earned their living in this sector. Arts and culture provided 8.5 % of all jobs in Helsinki. The corresponding figure for the whole Metropolitan Area in late 2001 was 7%, which was clearly above the national average of 4%. (Arts and Culture in Helsinki 2005).



Helsinki Science Corridor

Knowledge Base and Economy: The foundation of creativity and the knowledge-based economy is lifelong learning. The extensive metropolitan public education system - ranging from day-care centres to universities - provides opportunities for all population groups to develop their capabilities. Basic services have to be improved on strategically important sectors by specific measures.

In 1995, the main actors in the region founded Culminatum Ltd Oy, a regional development corporation owned by the cities of Helsinki, Espoo and Vantaa, the Uusimaa Regional Council and the universities, polytechnics, research institutes and business community of the Helsinki region.

The main function of Culminatum Ltd Oy is to manage the Centre of Expertise Programme within the Helsinki Region. This programme forms part of a national regional policy partly funded by the Ministry of the Interior. It promotes the highest international standard of knowledge and expertise in business, job creation and regional development. The aim of the Centre of Expertise Programme is to develop selected fields of expertise into both nationally and internationally powerful new sectors for the Helsinki Metropolitan Area during the programme period from 1999 to 2006. Currently, it has six areas of actions:

Adaptive Materials and Microsystems

Gene Technology and Molecular Biology

Centre of Expertise for Digital Media, Content Production and Learning Services

Centre of Expertise for Logistics

Centre of Expertise for Medical and Welfare Technologies

Software Product Business

The Centre of Expertise is fostering effective operating conditions for businesses in the Helsinki region in the mentioned sectors. It encourages the creation and development of business operations. The Centre develops and applies quality management practices to promote the commercial viability and profitability of start-up enterprises. There are measures focusing on enterprises directly or through projects affecting the entire sector. The Centre of Expertise supports profitable business operations by arranging events, training and research activities.

The City of Helsinki worked actively with universities in the Helsinki Region and also in other ways. There are regular discussion contacts and committees between mayors and rectors. Together the Cities in the region, the universities and the Ministry of Education finance ten professorships in urban studies. There is cooperation for student housing, transport and campus development. One example is the concept of the Helsinki Science Corridor where campuses and science parks are conceived as a network which connects them to each other with various methods. International comparisons are also undertaken to learn from methods of university cooperation in other cities. [Co-operation and Local Partnership 2003].

Regional integrative urban policies

Urban Programme. The Urban Programme for the Helsinki Metropolitan Area was implemented from 2002 to 2004. The aim was to strengthen the competitiveness, knowledge base and citizen participation in the Helsinki region. The process was started by the Mayors of the four cities in the Helsinki region.

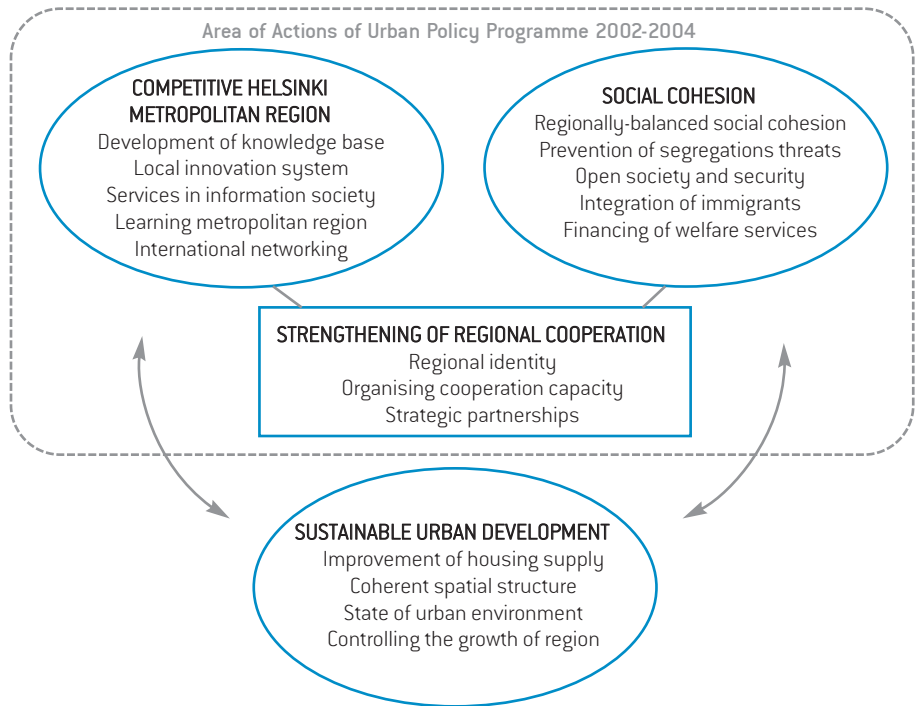
The Programme implemented joint development projects in the region and developed cooperation procedures among the cities and towns in the region. There were 20 projects in the programme project portfolio during the period 2002-4. Their budget was €2.1 million.

The projects were mostly research and development projects or pilot projects to study possibilities for further actions. The Ministry of the Interior supported the implementation of the Programme by providing some 50% of the public funding allocated to the Programme.

The idea of the Urban Programme was to complement the on-going urban policy actions and especially to strengthen regional cooperation. When the Programme

was planned, the method of a "strategy map" was used. Colleagues in the City of Vantaa used a similar strategy map when they were formulating the City's strategy.

The objective of the strategy map is to illustrate major challenges of the region in visual form. It can be used as a combined tool to analyse the challenges, to discuss strategic options and later to evaluate actions.



Strategy Map of Urban Programme

The Urban Programme for the Helsinki Metropolitan Area had three lines of action:

Strengthening of high competence and multi-dimensional knowledge base

The metropolitan learning region-strengthening of individual competence through social means

Strengthening of social inclusion, participation and social cohesion

The results of the Urban Programme include, for example, intensified cooperation between the universities of Helsinki and Tallinn, research on future workforce and educational demand in the region, intensified cooperation between enterprises and schools, internet services for immigrants, internet learning platform for teachers, and a plan for a new organisation to market the Helsinki Region abroad.

The second Urban Programme for the period 2005-2007 is currently under way. There are three priorities according to the common vision and strategy of the

Helsinki Metropolitan Area. The actions of the Urban Programme are organised as research and development projects which will implement the goals formulated in the strategies.

For example, in the area of improving competitiveness, there are measures which aim to help foreign students, specialists and researchers to work and study in the Helsinki Region. There is a project to reorganise the services offered to these groups. The aim is to offer services related to work permits, housing, health and social services regionally so that clients do not need to be concerned about municipal borders and departments.

National Government Metropolitan Area Policy: According to the National Government Programme, cooperation procedures between municipalities in the Greater Helsinki Region and the Central Government are to be further developed. Moreover, cooperation and joint decision-making are encouraged in matters related to housing, transport and community planning.

In developing the Greater Helsinki Region, emphasis is placed on furthering cooperation among the key actors in the region. For this purpose, the Ministry of the Interior is implementing a project from June 2003 to improve cooperation in the Greater Helsinki Region. It is also promoting dialogue between Central Government and the Region and supports development programmes throughout the Region and its surrounding regions.

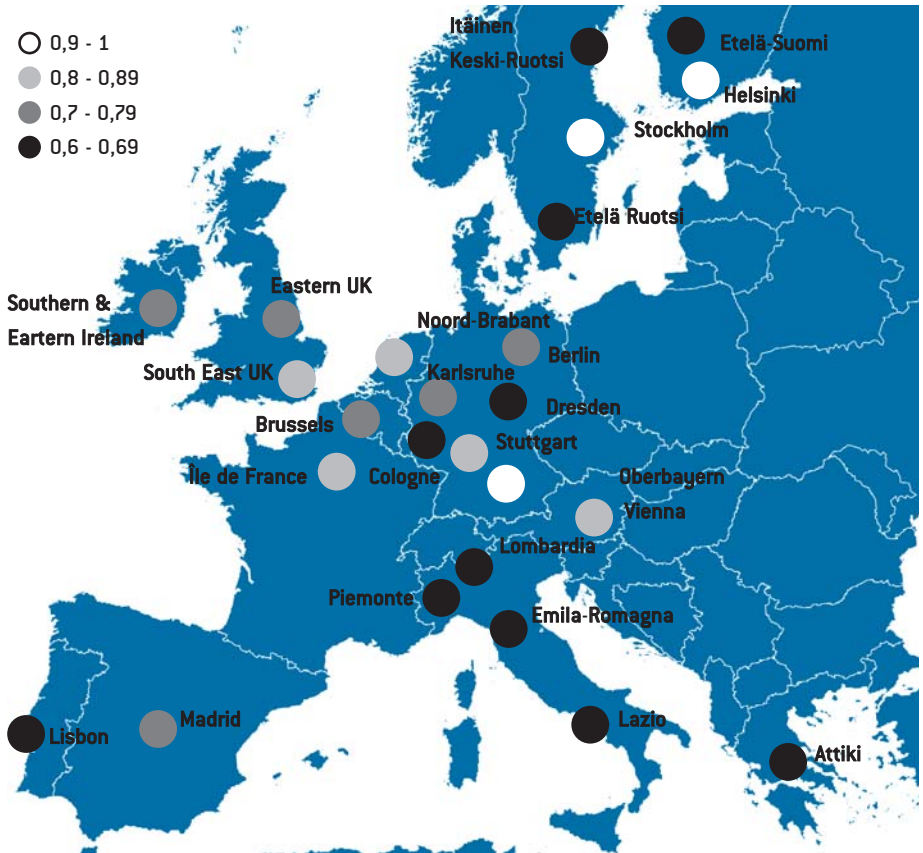
Within this project, the Ministry of Interior has produced a report about cooperation in the region. The report also included a proposition for the organisation of regional government. The Ministry has formulated draft legislation to renew the government organisations in the Helsinki region. However, the law-making process has been halted because of the strong development of voluntary cooperation between regional municipalities during 2004 and 2005.

One measure related to the national urban policy was a territorial review of the Greater Helsinki Region made by OECD. This was initiated by the Ministry of Interior and completed in cooperation with OECD, the national government, cities and regional councils. The aim of the Ministry was to get an external expert view on Finnish urban development. The review examined the factors contributing to the Greater Helsinki Region's success as a highly competitive economy and the new development challenges it has created.

OECD's conclusion was that a critical policy question is the Finnish dependence on the telecommunications and mobile telephony industry. The strategic positioning of the Finnish ICT cluster builds on a high-return and high-risk scenario. Long-term regional competitiveness requires a more focused strategy of diversification, i.e. developing ICT activities beyond the current cluster scope. OECD also mentioned that social inclusion is another crucial issue. The persistent unemployment among the less-educated population and the growing income disparity call for existing policies to be restructured. OECD recommended that the Greater Helsinki Region needs to find ways to promote new opportunities of social cohesion. Rapid

population growth, a result of greater economic competitiveness, requires renewed commitment to managed growth and compact development. (OECD 2002).

Results of strategies. So far, the Helsinki Region has managed to keep up its competitive edge. Results of implemented strategies were employment growth both in research and development and in creative sectors. In the period 1995-2002, the overall employment growth was 3.9% p.a. and GVA growth was 6.5% p.a. The 2002-2008 forecast for employment growth is 1.0% p.a. and 3.2% p.a. for GVA growth. (Laakso & Kostiainen 2004). New campus developments and local test beds for new technologies were developed. Helsinki and its surrounding Uusimaa Region is one of the leading regions in the European Innovation Scoreboard comparison.



European Innovation Scoreboard (EU) 2003

Recent Changes in Regional Governance

The tradition of municipal self-government is very strong in Finland. The discussion concerning cooperation in the Helsinki region has therefore been based on the idea of independent municipalities. During the 20th century, there were several initiatives to form some common administration for the Helsinki Metropolitan Area but they have all failed. Even the discussion about uniting the municipalities was

sometimes taboo in the region. However, during the last couple of years the discussion climate has changed dramatically.

Regional cooperation is now a top priority in local political discussions. There are many reasons for this. The competitiveness of the region in the global economy has opened the eyes of the politicians and pushed some of the local conflicts to the background. The challenges to balance municipal budgets and operate more effectively require looking for new solutions. The territorial review of OECD experts triggered some new ideas. Finally, the actions of the national government concerning new legislation have put pressure on the local politicians.

At the beginning of 2004, the leading elected politicians of the Helsinki Metropolitan Area gathered at a common meeting for the first time. All the four cities of the area were represented at that meeting by chairs of city councils and city boards. All major parties had their leading politicians present.

This was the first time that many of these politicians met personally. The politicians made a statement responding to the proposition of the national government to develop the Greater Helsinki Region. More importantly, the politicians decided to start a new organised cooperation between the four cities.

The Helsinki Metropolitan Area Advisory Board was established after a fast process. Each city council decided to participate in the work of the Board in the spring and the first meeting was held in June 2004. In parallel, a process to formulate a common strategy for the area was started. The proposition of the strategy was prepared in cooperation with the strategy teams of each city.

Subsequently, it was developed further by the Mayors of the cities who presented it to the members of Board. The "Common Vision and Strategy for the Helsinki Metropolitan Area" was approved by the Board in October 2004 (Fig.6). The Board itself does not have any formal powers. Its work is based on a contract approved by each city council. Therefore, all the decisions that it makes have to be approved by the city councils. So far, the system has worked. The coming years will show how effectively the Board can work and how it will solve conflicts.

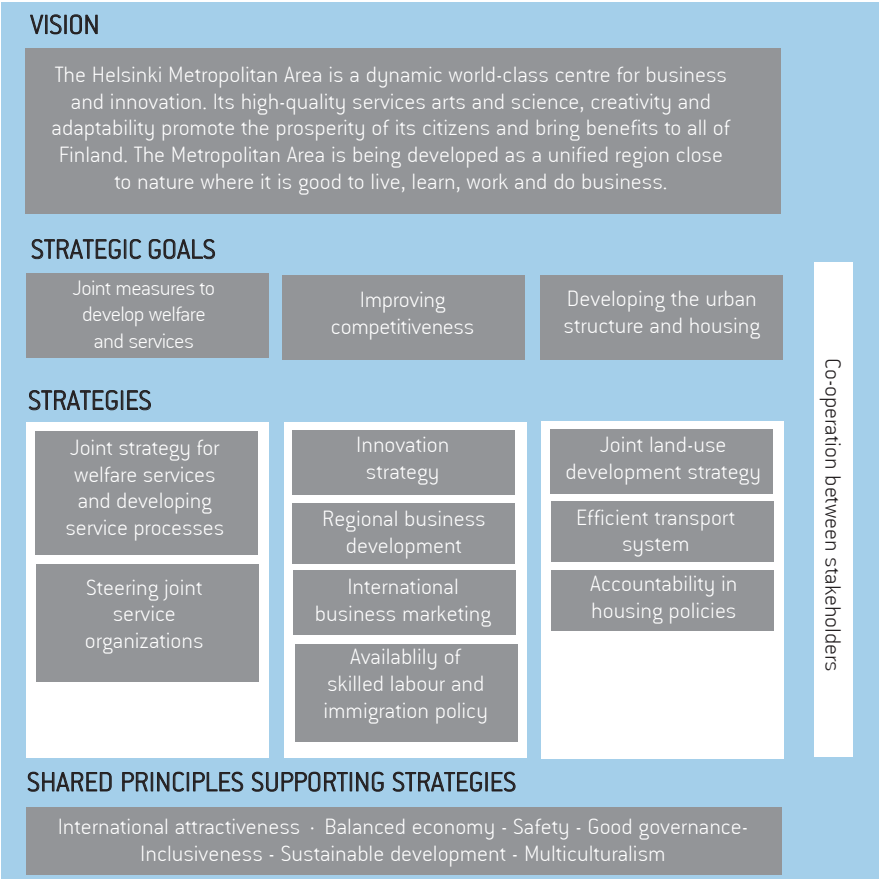
Rapid progress was considered important because concrete cooperative actions between cities in organising services were eagerly awaited by all partners. This actually calls for decisions in the budget-approving phase of city councils. Typically, city budgets for the next calendar year are approved in November. The rapid preparation and approval of a common strategy meant that cities could include operational targets for cooperation in their budgets for 2005. This was a major achievement because budget allocations now favour regional actions.

Municipal elections were held in autumn 2004. The new city councils started their four-year period at the beginning of 2005 and committed themselves to the work of the Advisory Board. The common strategy now approved by each city can develop a planning system that is better organised and functions better regionally within a basic system of independent municipalities.



So far, citizen participation at regional level has not yet been reorganised. Participation is organised through participation channels of independent municipalities in the region. The Board has been proactive in its communications. All documents and meeting material are published on the internet prior to the meetings. At its June 2005 meeting, the Board organised a globalisation seminar open to the public. In spring 2005, the new councils started formulating strategies for the council period in every city. The common vision and strategy is now a strong base for more regionally-oriented targets and objectives. Budget planning for coming years will include more service production across municipal borders. In 2006, comprehensive schools will be reorganised to enable children to enter schools in neighbouring cities more easily. There are plans for a more effective use of real estate (schools, day-care centres, health and social centres) in the border regions. Common quality standards for service production and purchasing have been prepared.

Cooperation in the larger Helsinki region is also currently under way. A cooperation contract between 14 municipalities has been written. It is included in the decision-making process in city and municipal councils. This cooperation should start in October 2005. This work will focus on zoning, housing and transport planning. It will be also open opportunities for common projects in other areas.



Lessons from the Helsinki Experience

Strategically and organisationally. As mentioned earlier, from the Finnish perspective, the basis of creativity in urban planning are strong basic services, equal opportunities in learning and education and possibilities for cultural, recreational and sport activities.

Strategically-oriented thinking and planning necessitates learning by all interested parties. In practice, it means using time to learn and build trust. Politicians have to give total support to strategic work. Leaders of the participating organisations need to have enough competence in strategic work to lead the process. In every case, time is always needed to create a common understanding of the environment where the work is carried out. All parties have to learn to live with uncertainties and unavoidable conflicts. There has to be clear political legitimisation of both strategy formulation and those in charge of it. In Finland civil servants prepare and formulate the strategy documents, while politicians decide and approve the strategies. Programming and project management are key skills in strategy implementation.

Both strategy formulation and implementation have to be coordinated with other national, regional and local programmes. In the implementation phase, prioritisation and focus are very important. There are never enough resources to tackle all challenges at the same time. If there are too many areas of development or projects, the implementation will fail and its legitimacy will be questioned.

Communication strategies have to be formulated and enough resources have to be directed to communication. Finland is a very mono-cultural country with only 2% of the national population and 7% of the population of Helsinki coming from a foreign background. In more multi-cultural societies, communication would be even more important because there all more groups from different cultures and backgrounds and therefore more diverse viewpoints.

In the case of Helsinki, it is also clear that the public sector has a strong role. Finnish work culture is specialist-driven. The flat hierarchy means that people and teams can work independently. Mono-culturalism and flat hierarchy also increases the possibilities of networking and spreading of innovation without formal decision making.

In the Helsinki Region, alternative strategies of regional governance could be: to unite the municipalities in the region as one municipality, or to establish a state law regulating regional decision-making and service production.

In regional strategy-making, the adopted network-based advisory board model can ease some of the burden of growing bureaucracy. A democratically-elected regional government would have more effective implementing powers. However, the interests of partners are bound to face conflicts in regional cooperation. Research shows that even in regional organisations, partners tend to look after their own interests and the building-up of regional interest is rare (Collin et al 2002, 325). Therefore, the development of network-based governance is considered reasonable in the Helsinki Region.

Some common weaknesses in strategy processes and implementation can also be identified in the Helsinki experience:

Leaders and partners of such regional cooperative organisations are uncertain about the goal of the process or project.

If the process is too fast, it can prevent the parties from having enough time to commit themselves.

Leaders and steering groups are too distant from the grassroots level, or they do not have sufficient knowledge of it.

The regional distribution of work may be unclear.

Inadequate project plans.

Projects may expand unduly during the planning phase.

Time may be too short for project implementation.

Developing the planning profession. A strategic and regional working environment requires much knowledge from planners. Individual specialist knowledge (for example, zoning, physical planning, transport, housing, and services) is important but it is only one part of the professional profile. Important professional elements are the capability to make decisions and capacity to execute, implement and organise. The ability to tolerate ambivalence and uncertainty is crucial. Management and leadership abilities are needed, as well as communication and interaction abilities and methods. Programme and project management capabilities are important in multi-actor processes. Project competences can be developed according to the certificates approved, for example, by the International Project Management Association.

Peer groups are effective and a low-cost method of learning. Professionals doing the same work in different organisations can exchange information and methods. Peer groups give also a strong element of support in turbulent processes.

When working in strategic and regional processes it is necessary to develop the following knowledge and capabilities:

Knowledge of the regional working environment: laws, organisations, networks.

Project management: planning, work allocation, delegation, financial planning, personnel administration, monitoring, evaluation.

Understanding the differences of the organisational cultures of different partners.

Communication, interaction and leadership skills.

Negotiation skills and conflict management

Notes

Arts and Culture in Helsinki (2005). City of Helsinki Urban Facts, Web Publications 2005: 6.

Collin, Jean-Pierre, Jacques Léveillé & Claire Poiras (2002). New challenges and old solutions: Metropolitan reorganization in Canadian and U.S. City-Regions. *Journal of Urban Affairs* 24: 3, 317-332).

Co-operation and Local Partnership Between Cities and Universities (2003). Experiences of European Capital Cities. City Of Helsinki Urban Facts, Helsinki.

Howells, Jeremy R. L. (2002). Tacit knowledge, innovation and economic geography. *Urban Studies* 39: 5-6, 871-884.

Laakso, Seppo & Kostiainen, Eeva (2004). The regional economy of Helsinki from a European perspective. City of Helsinki Urban Facts Office: Web Publications 2004: 31.

OECD (2002). Territorial Reviews Helsinki, Finland. OECD Publishing

All photos courtesy of Helsinki City Council.

Markku Juntunen

Mika Lappalainen

Matti Tirri

Suomen Ilmakuva Oy

Paul Williams



Curitiba

From Ecology to Eco Technology

Cleon Ricardo dos Santos
Former Director, Universidade Livre do Meio Ambiente



Context

Curitiba is located in Brazil's "polygon of development," which is the most developed and industrialized region of the country. This polygon includes Brazil's principal urban centres of Rio de Janeiro and São Paulo, and 80% of the Brazilian GDP is concentrated within this 1300 km radius.

The main Brazilian interstate highway, the BR116, crosses Curitiba from north to south, and provides easy access to urban markets in Mercosur, such as Rio de Janeiro, São Paulo, Porto Alegre, Montevideo and Buenos Aires.

Curitiba is the capital city of the state of Paraná, which was a traditional farming region that underwent an accelerated industrialization process over the past twenty years, particularly in the Metropolitan Area of Curitiba, where several car assembly plants were established. Farming input plants have also blossomed in other parts of the state during this period.

The Metropolitan Area of Curitiba (MAC), comprising 25 municipalities, has experienced significant demographic growth, albeit slower now than in the past decades. Currently, the MAC has an urban macrostructure at its centre made up of Curitiba and the urbanized areas of the neighbouring cities, surrounded by wide rural areas harbouring drinking water sources in the outlying municipalities.

First Steps. Founded in 1693 by Portuguese gold miners, Curitiba experienced very slow growth until the early 19th century. Population increase became more significant after 1940. At that time, local authorities started to feel the pressure of the fast and disorderly growth of the urban population that had reached 140,000 inhabitants, so they commissioned the design of the city's first Master Plan.

Designed in 1942, the Plan for the Rearrangement, Expansion and Embellishment of Curitiba, or Agache Plan, ¹ as it became known, was the first systematized effort to define an urban development model for Curitiba. Until then, the local government initiatives had been limited to specific interventions, mostly related to sanitation, though concern with the urban development system was already present.

Implemented only in part and soon rendered obsolete by the rapid growth of the city, the Agache Plan had the great virtue of institutionalizing an urban planning mentality in the local government.

In the late 1940s and early 1950s, Curitiba experienced marked population growth, partly driven by the rural exodus that resulted from the transformation of the state's agricultural economy. In fact, within a few years, Paraná went from a labour-intensive coffee-based economy to intensive soybean cropping, which required vast land areas and is highly mechanized. This led to the layoff of farmhands and small farmers from rural areas.

Part of these farmers settled on the outskirts of the cities in the region, others went to the state of São Paulo and to the new agricultural frontiers of Western Brazil, and, finally, a vast number of people migrated to the state capital. With this new immigration, the city population, that averaged 180,000 people in 1950, doubled to 360,000 in 1960, and virtually doubled again in 1970 when it reached 609,000 people.

This immigration process marked the urban areas of the capital city, where, while some modernization efforts were in place, the overall increase of urban problems was felt. Thus, while some of the Agache Plan projects were built, the number of squatter settlements grew and the housing deficit mounted. The downtown area and the road system evidenced deterioration and problems, such as increased flooding. Once again, the speed and unpredictability of Curitiba's growth placed the issue of urban development on the agenda for discussion.

The need for a review of the Agache Plan grew more pressing with each day, and under the influence of a group of young architects newly hired by the City - including architect Jaime Lerner, who would become the mayor of Curitiba for three non-consecutive terms - "the idea grew of designing another plan, providing Curitiba with a new and innovative urban development system."²

1965 Master Plan. This was a real watershed in facing the urban issues of the city. If the Agache Plan caused the institutionalization of urban planning as a technical area in local government, it was only after its design and deployment that the city set up an innovative development plan that was ahead of its time.

Indeed, based on what were then unheard of premises, the new plan markedly changed the direction of the urban growth and provided a wider and more flexible support system to the development of the city.

Among the basic guidelines, the following are worth highlighting:

The adoption of a linear growth model, in contrast to the pattern that most Brazilian cities followed, which led to the overcrowding of downtown areas. "Structural Corridors" were established to lead urban growth and foster the spread of growth and services. These "structural corridors" go by the inner ring - protecting the centre of city by avoiding it

A proposed integrated planning structure, encompassing the road system, mass transport and land use, emphasizing the integration of urban uses and functions and privileging mass transport over private transport. The

mass transport system was conceived as the backbone of this structure to induce urban concentration along the "structural corridors";

Concern for the urban environment and quality of life of the city inhabitants by creating a distinctive urban landscape and by valuing public areas, including the preservation of the urban heritage. The return of the city to pedestrians, by closing part of its centre to traffic, follows this line of thought;

The creation of a permanent urban planning process, by establishing the *Instituto de Pesquisa e Planejamento Urbano de Curitiba* - IPPUC (Curitiba Urban Planning and Research Institute), charged with developing the guidelines of the plan and adjusting them to the changes required with time, as a consequence of the city growth.

On the basis of those guidelines, it became possible to distribute a mix of functions - housing, shopping, recreation, and services - along the structural corridors in a balanced way, thus enriching urban life.

The creation of the IPPUC and the establishment of a dynamic and flexible planning process allowed the plan guidelines to be maintained up to date, in a rare example of continuity from which the city unquestionably still reaps benefits.

In addition to a technically well-structured planning system and a Master Plan continuously adjusted to the needs of a growing metropolis, Curitiba also enjoys two features of excellence: the transport system and the park system.

Transport System

The integration of land use and transportation is a key element in guiding and organizing urban growth. The option for linear growth, as opposed to the urban sprawl that marks most Brazilian and Latin-American cities, depends basically on creative land use zoning and on a strict control of its deployment, with the additional risk of creating more problems than solutions.

Guided by this concept, and according to the basic premises of the plan, four structural corridors were planned and gradually put in place.

The "structural corridors" are made up of a three-lane road, with a central lane dedicated exclusively to mass transport. This central lane is flanked by two slow-traffic lanes, designed for access to housing and shopping areas, and by two fast-traffic roads, one from the centre to the districts and the other from the districts to the centre.

Along the fast-traffic streets, several crossings were closed and pass-through traffic was restricted, which thereby ensured access only to homes and offices, and resulted in a smoother flow of vehicles.



Building on this system - complemented by ring roads to ensure the connection between structural corridors - a mass transport was implemented with unprecedented characteristics.

Established as one of the pivotal points of the Master Plan, the precedence of man over machine implied both substantial improvement of the public transport system and the discouragement of private vehicle use. Among the several technological options available, and taking into account the existing financial constraints, Curitiba chose to enhance the mode that, because of the relatively low-cost implementation and its flexibility, prevails in Brazilian cities: the bus.

For the sake of comparison, the cost of setting up a metro system was estimated at the time at US\$100 million per kilometre, while each kilometre of the express bus system cost US\$2 million.

The deployment of the Curitiba public transport system started in the early 1970s. The system is made up of a number of integrated bus lines running on the city road network system, comprising dedicated bus lanes (the "structural corridors") aimed at shortening the travel time, particularly in the central area, and roads connecting the corridors so as to ensure the harmonic integration of the different areas of the city.

In 1974, when two express lines connecting the southernmost and the northernmost districts of the city to the centre started running on the structural corridors, the integration process was launched. The lines have stations connecting them to different bus lines, such as local lines, the peripheral or "inter-district" lines (that bypass the centre) and others.

The system employs buses that are specially designed for urban transportation, with their own signage and colour-code by type of route: yellow for local buses, green for the inter-district buses, silver for the direct lines, and red for the dedicated lane lines.

The adoption of the flat fare, or social fare, in 1980, marked the consolidation of the *Rede Integrada de Transporte* - RIT (Integrated Transport Network). With shorter routes subsidizing longer ones, the system started offering more mobility to low-income citizens, the majority of which live in the outlying neighbourhoods of city, and who, for that reason, pay more to travel longer distances in non-integrated systems. The flat fare also allows passengers to take different routes while paying a single fare by changing buses in integration stations, provided they remain within the system.

After this initial phase, new advances were quickly incorporated into the system. A new Dedicated Lane, feeder and local lines were added, peaking in 1991, with the creation of the Direct Lines. The Direct Lines had fewer stops, and therefore an average speed above that of conventional lines. Furthermore, the buses running on those routes can carry more passengers and stop at the so called "Tube Stations," specially designed with level boarding and alighting, like the subway, to help decrease the overall travel time.

Finally, in 1992, the double-length buses started running on the north and south structural corridors. These buses are able to carry 270 passengers per trip, using the same level-boarding system, and can carry up to 18,000 passengers/hour in any direction, which is a performance equivalent to that of modern cable cars.

The benefits were evident: in addition to the substantial improvement of the transport services offered, the International Institute for Energy Conservation (IIEC) in Washington estimated that, as a result of the streamlining of the road system and the priority granted to mass transport, Curitiba consumed 25% less fuel than other cities of similar size, with significant gains in terms of emissions and, consequently, air quality.

The RIT has some distinctive features: the system is managed by a public company in the capacity of mass transport operator, and is operated by private companies as contractors.

Compensation is measured on the basis of mileage, rather than passengers transported. Thus, the advantage of overcrowding buses to obtain more profit disappears, resulting in more comfort for passengers. Contractors are responsible for buying and maintaining the fleet; the city is responsible for investing in infrastructure (roads) and stations (both integration stations and the "tube stations"). It is worth stressing that the system is operated without any subsidies, and the fare charged does not exceed the average fares charged in Brazil, with the additional advantage of being a flat fare.

Presently, the RIT transports about 2.2 million passengers/day and is integrated with the metropolitan transport system, currently serving 13 cities in the Metropolitan Area.

Recently, as part of a wider urban renewal effort, the City of Curitiba proposed the creation of a high-capacity transport system along the BR116, which transverses the city from north to south, as the new "Metropolitan Corridor,"³ which is currently free from heavy traffic.

This is expected to increase the capacity of the system by 190,000 passengers/day, ensure greater integration between Curitiba and the cities of the Metropolitan Area, and once more guide the expansion of urban development.

At present, according to a recent poll carried out by the Mass Transport Operator of Curitiba, about 70% of the people use public transport, 25% use private cars and the remaining 5% do not need any transport.

Park System

Another attribute of the excellence in the planning vision deals with green areas. The concern with the environment is a strong component of the image of Curitiba, and it is also an important factor in the identification of the people with the city.

The preservation of green areas meets one of the main objectives of the Master Plan. The creation of parks is aimed not only at environmental preservation, but also, fundamentally, at enhancing the quality of life by providing new services and facilities, and shaping urban expansion.

The creation of linear parks along rivers and bottomlands is an important element in preventing settlement of improper areas, regulating river flow and helping to control erosion, in addition to contributing substantially to increase the green areas available.

Examples of that policy are the Barigüi, Tingüi and Tanguá Parks, located along the Barigüi River; the Passaúna Park, with a reservoir that is part of the city drinking water supply; the São Lourenço Park and, finally, the Iguaçu Park, protecting the sources of the river with the same name. The latter, encompassing 8.2 million sq m, is probably the largest urban park in Latin America.

Some of those parks render homage to the main peoples that make up the ethnic and cultural diversity of Curitiba inhabitants, such as Italians, Germans, Ukrainians and Poles, who immigrated to this region in the early 20th century. As a result of the continued work over time, Curitiba now boasts an excellent urban park system.



It is interesting to notice that the people have a great affection for the parks, which are widely used and considered an important feature of the city.

In addition to expanding green areas and preserving the natural heritage, proposals related to the environment came to encompass yet another dimension: the recovery of brownfields. This is the case for both the Pedreiras Park and the Bosque Zaninelli, which take advantage of the integrated use of urban design tools and environmental preservation instruments.

The recovery of brown fields, in this case represented by old abandoned quarries in the north of the city, provided new education and recreation areas for the public. The 103,500 sq m Pedreiras Park has an open-air amphitheatre able to seat up to 40,000 thousand people, which is used mainly for shows catering to young audiences. A metal structure theatre, known as the Wire Opera House, with seating capacity for 2,400 spectators, completes the set of facilities. Bosque Zaninelli is a 37,000 sq m park, also located in an old quarry that houses the *Universidade Livre do Meio Ambiente* (Open University for the Environment or Unilivre), a non-governmental organization that develops environmental projects and environmental educational programs for the citizens of Curitiba.

As the result of the deployment of a clear environmental preservation policy, Curitiba now possesses over 20 million sq m of green areas, distributed over 24 parks and woodlands, in addition to squares and gardens of varied dimensions and uses. Some of those areas are connected by a 120 km network of bike paths, which expands the transport options in the city, and also increases the recreation and leisure areas. The creation of those green areas, along with the private green areas listed and maintained under specific local laws, enables Curitiba to keep the highest rate of green areas per inhabitant in the country: 52 sq m.

Another outstanding feature in the quality of the environment in Curitiba is related to the solid waste management, in which the high level of environmental awareness and active citizen participation are key.

This awareness is evidenced by the adherence to the "Garbage that is not Garbage" programme, consisting of pre-sorting garbage at home into organic and non-organic categories. The latter is picked up weekly, while organic garbage is collected within the regular urban solid waste collection and final disposal program. The recyclables collected in the "Garbage that is not Garbage" program are sent to selection centres, where, after duly separated and packaged, are sold as raw material to processing industries. The proceeds of the sale are invested in social programmes maintained by the City.

"By encouraging citizens to sort the garbage at home, we wanted to raise their awareness of the shared responsibility in determining the quality of the environment in which they live. The underlying idea was that recycling garbage encompasses all important aspects the self-sustainability of a city: energy, funds, sanitary landfill useful life, and, above all, higher awareness of the individual contribution in determining the quality of life of the people as a whole. " 4



Additionally, in hard-to-reach urban areas where garbage collection trucks can not go, the City maintains the "Garbage Purchase" program, which contributes to cleaning environmentally vulnerable areas. The program involves local communities by exchanging garbage for food. The bagged garbage is brought by the people to the stationary containers provided by the City, then collected on alternate days. This procedure leads to the decrease of open air garbage disposal and contributes to reducing river and stream silting as well as to a decrease in vector-borne diseases.

These programmes have helped Curitiba reach a recycling rate in the order of 20%, placing it first in this class among metropolitan areas in Brazil.

To help expand environmental awareness in the city as a whole, the City created the Unilivre - later transformed into a NGO - in order to disseminate the initiatives and ideas supporting the local government urban and environmental efforts to the community. This objective is supported by the notion that the knowledge of the city by its people is crucial to obtain citizen participation in projects of collective interest. For that reason, Unilivre was designed as an open institution, offering courses with no admission requirements, in order to reach all the different population strata. Counting the attendees to the varied courses and events offered by the organization, more than 90 thousand people attended Unilivre in its first ten years.

Project Financing

Whenever the urban transformation experienced by Curitiba over the past decades is mentioned, a question is asked: how could a third-world city, located in a developing country, fund that transformation?

The answer is that there was not just a single option to fund the efforts developed in the process, but rather a combination of funding procedures.

The projects to adapt the existing roads to build the development corridors (the 'trinary' system) on which the public transport system was built, and the construction of the integration terminals, for example, were funded by the Inter-American Development Bank (IABD). That same bank later funded the transformation of the dedicated bus lane system by implementing a new system that uses the double-lengths buses that are currently in operation. The buses, in turn, were bought by the private companies (contractors) charged with operating the system.

Urban infrastructure projects and programmes to relocate substandard housing were funded by Fonplata, a fund designated for development programs in countries located in the La Plata River Basin.

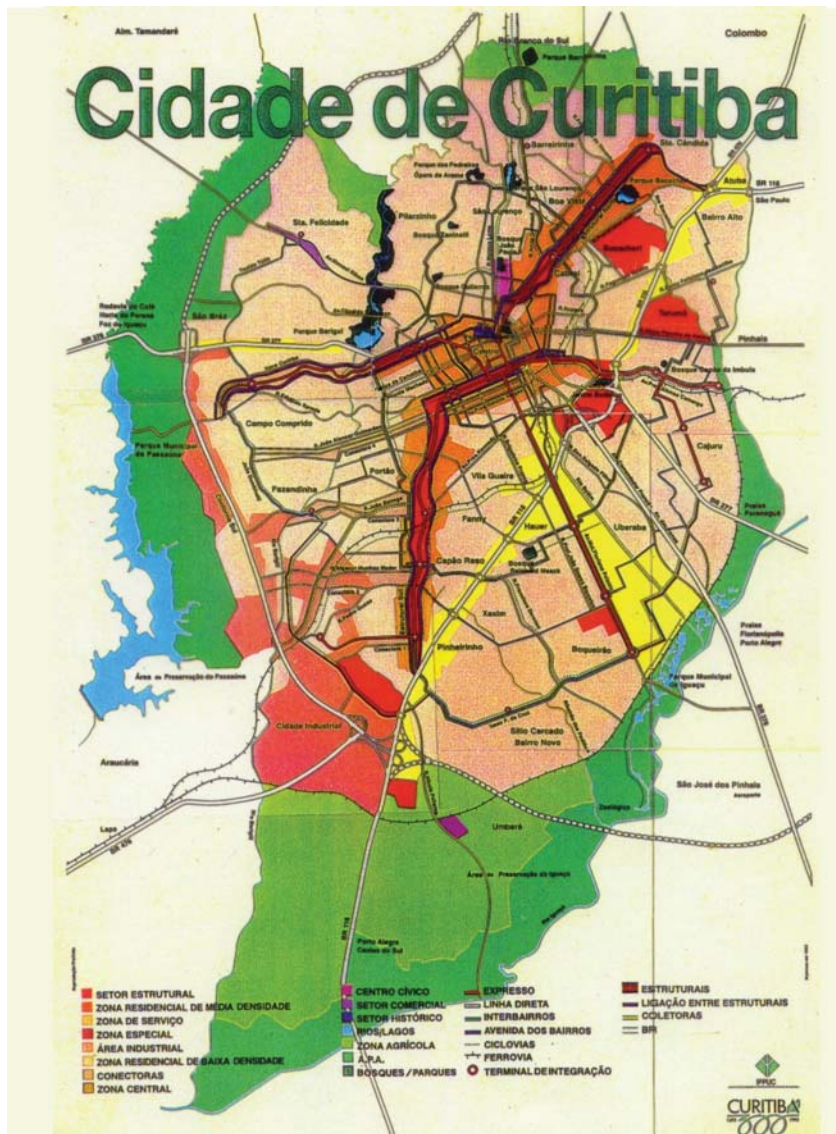
The park system, in turn, used other funding mechanisms. In the case of Barigüi Park, for instance, it was a low-priced flood plain area where makeshift houses were sprouting. The City expropriated the area, built the Park and recovered the

amount invested from the increased IPTU ⁵ (Property Tax) on the adjacent areas, whose values skyrocketed after the Park was complete.

In other parks, such as Tingüi, part of the area was donated by the owners of neighbouring lots in exchange for a permit to increase construction on their remaining lots.

However, it must be mentioned that, unlike most Brazilian cities, the City of Curitiba makes use of its full taxing capacity. According to the President of the Brazilian Institute of Tax Planning in a recent interview to the media ⁶, since Curitiba has reached a ceiling, there will hardly be any increased income from taxes. ⁷

The purchase of additional development rights ⁸ is another tool employed by the City to obtain additional funds, which was used by the City for the Housing Fund to build houses for low income families.





BAIRRO REBOUÇAS —
- REVITALIZAÇÃO URBANA
- GRANDES ÁREAS PARA RECICLAGEM



From Ecology to Eco-Technology

The quality of urban management in Curitiba is a value already embedded both in the local government and in the mind of its people. It would be hard for the city managers (and even harder for the people) accustomed to good quality public services to accept anything less than continued improvement in a process that has distinguished the city from the majority of Brazilian cities for more than three decades.

Without losing sight of the day-to-day management of the city and solving of the problems impacting the daily life of citizens, the City now also wants to focus on tapping into some development possibilities that, in addition to ensuring environmental balance, include a strong technological component.

Among the projects that could steer the city's vocation towards knowledge is the consolidation of a Technopark, denominated in the city zoning as the "Education District."

This area comprises three large Universities: Federal University of Paraná (UFPR), Catholic University of Paraná and Tuiuti University of Paraná, with their respective research centres. The District also includes the Centre of Integration of Entrepreneurs and Workers of the State of Paraná (CIETEP), the Brazilian Institute of Quality and Productivity (IBQP), and the Institute of Technology for Development (LACTEC), linked to UFPR.

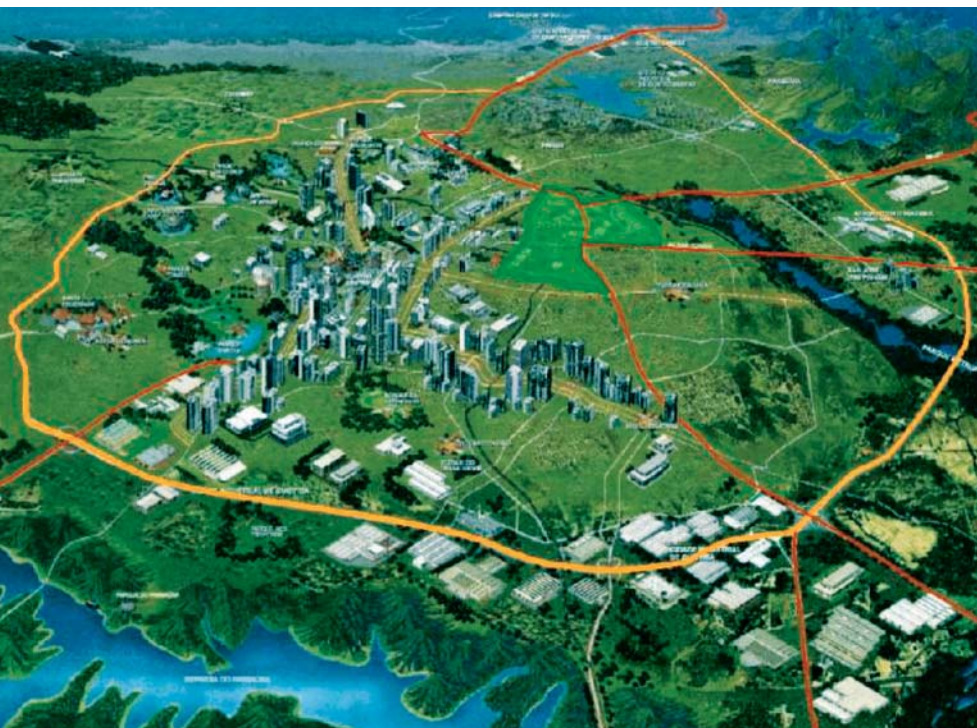
This initiative, which is currently being studied at IPPUC, is aimed at tapping into this great potential, and using the empty lots in the area for the creation of product research and development centres, technological incubators, support and service centres, etc.

The Curitiba Ecological Metropolis⁹ is a project that proposes to create the proper environment in Curitiba and its Metropolitan Area for high technology development, prepared to receive and provide quick answers to the new challenges of the knowledge society.

The proposal is grounded on the assets already found in the city: universities and other institutions geared to the development of technologies; the existence of proper areas for development; and, first and foremost, the credibility Curitiba enjoys in the media and among national and international entrepreneurs. These elements constitute Curitiba's comparative advantages for the knowledge sector.

These and other measures could transform Curitiba from the "Ecological Capital," as it has long been known, into an "Eco-technological" Capital, which assumes the consolidation of a technically-advanced, socially-just and environmentally - sustainable innovation scenario, able to bring the city and its Metropolitan Area into the Knowledge Society.

To retain the competitive edge achieved by Curitiba, it is paramount to consider planning at the city-region scale, and go on producing innovative, creative solutions, to continue leading the growth process in the future.



Within this context, it is key to consider aspects such as: the high demographic growth, with the expansion of the “hub city” urban network towards the bordering cities; the changes in its economic structure, with the implementation of the automobile assembly centres; the need to expand and improve the regional road network and ensure the availability of areas suitable for industrial expansion, in addition to other measures called for by the change in the development profile of the region.

The analysis of the urban transformations the city underwent, in particular over the past three decades, shows that Curitiba, like other cities emerging in the globalization phase, in view of its size, its dynamism and its profile, can play a growing role in the global world. Curitiba now enjoys special opportunities to successfully develop its potential in terms of environment, social cohesion and economic competitiveness. Those are deeply intertwined fields and require a substantial dose of creativity and leadership for the successful consolidation of a sustainable development process, which is arguably a pivotal element for human survival.

Notes

1 Donat Alfred Agache lived in Brazil from 1939 to 1959, and took part in the design of urban plans for some of the major cities in the country.

2 Menezes, Claudino L. Desenvolvimento Urbano e Meio Ambiente: A experiência de Curitiba, 1966.p.76.

3 The urban section of BR-116, main connection between São Paulo and the South of the country was replaced with a road built east of the city, diverting passing traffic from the city center.

4 Menezes, Claudino L, op.cit

5 The City Tax is the main source of own revenues for Brazilian municipalities.

6 Gazeta do Povo February 10, 2005

7 However, this does not prevent the City from using tax waivers to carry out place social and environmental policies: homes with less than 60 m² of floor area are exempted from City Tax, and the owners of areas with vegetation cover enjoy tax rebates as long as it is kept intact.

8 This is basically the purchase of a license to build more than the area determined by the Master Plan for that area or district.

9 Almeida, RA. et al. Curitiba Metrópole Tecnológica

All photos courtesy of Unilivre and IPPUC



Japan

The Eco-Towns Strategy

Hari Srinivas

International Environmental Technology Centre

United Nations Environment Programme



What are Eco-Towns?

In the Japanese context, Eco-towns are urban planning and environmental management efforts where industries located in the designated 'eco-town' area practice resource recycling within their manufacturing process and in between the industries. They are developed in pursuit of synergies derived from combined efforts in waste treatment, environmental preservation, and promotion of industrial development.

Features of Eco-Town. Eco-towns have a number of key features such as:

- Strong legislation shifting the market towards a recycling-based society,

- State and local governments spearheading the drive to bring together industry clusters to be sustainable,

- Increasing product research and development in the public and private sectors, including universities,

- Expanding the large and rapidly eco-business market domestically and internationally,

- Focusing efforts on environmental system technologies (EST), and innovative/cutting-edge solutions to solve environmental problems, and

- Focusing on energy conservation, material development and integrated waste management are also features of eco-towns.

18 eco-towns and 7 industrial clusters have been set up all over Japan, with more than 800 industries and 50 universities participating in them. For example, in the Chubu region of Japan (where Nagoya is located), there are two eco-towns established, and the industrial clusters there have seen 80 industries and 11 universities set up collaborative initiatives and manufacturing activities.

Why Eco-Towns. Eco-towns were developed to address a number of problems and challenges faced by Japan, particularly during the 1980s and the 1990s. Some of these include:

- The 1970s and 80s saw rapid industrial and economic growth, resulting in massive industrial pollution and waste generation. This created a need to develop systems that could handle pollution and waste, and that were, at the same time, environmentally friendly.

The 1990s saw a decline in industrial output. With Japanese industries moving to developing countries to save costs, there was a subsequent decline in domestic industrial output, necessitating the development of new industries and technologies. This also raised a need to develop business and industrial opportunities, including job creation and advanced entrepreneurship.

As a member of OECD, Japan's growing global leadership and influence, particularly in the environmental field, prompted a need to develop model industries that were environmentally friendly. The Kyoto Protocol, which came into effect recently, also spurred this trend.

Eco-towns were seen as a means of addressing these concerns, where they could serve as laboratories where environmentally-friendly activities could be set up not only within a factory, but also between factories. Eco-towns provided opportunities for industries and local governments to collaborate in providing common facilities such as energy generation plants, incinerators and waste recycling centres, etc. Partnerships with local universities to develop cutting edge and appropriate technologies and with citizens groups to raise awareness and influence consumption choices were added attractions enabled by eco-towns.

In order to achieve the eco-town's ecological objectives, businesses wanting to set up their factories in an eco-town are carefully selected and approved by the local government based on a number of criteria. The businesses should use local resources (including technology), human capacity, distribution systems, users of recycled materials, etc. It should develop a new and original business model for effective and stable recycling business. It should aim to be profitable (albeit, in some cases, with support from national and local government and other associations). It should also increase job opportunity for local citizens, and reactivate the local economy.

Proponents and Partners. Eco-town projects are driven by Japan's Ministry of Economy, Trade and Industry (METI) and the Ministry of Environment (MoE). Local and prefectural governments have played a key role in developing and implementing eco-towns, with active participation from industries and universities. Financing of eco-town development is primarily done by METI, with support from the prefectural and local governments. Other stakeholders such as local universities, chambers of commerce, citizen's groups and NGOs, consumer and trade associations etc. are also actively involved in both the production and consumption ends of the product's lifecycle.

Impacts of Eco-Towns. Eco-towns have helped cities with declining industrial and economic growth to look at an advanced and cutting edge approach to revitalizing their local economies, while becoming environmentally friendly at the same time. The impacts of eco-towns initiative can be seen in a number of fronts:

Accelerated local economic development and industrial in-flow.

Job creation for local citizens as a result of new industries.

Opportunities for industry clusters seeking to set up 'life-cycle' chains for raw materials and wastes.

Business opportunities and support for environment-related industries and business.

Emphasis on the need for research and development on sound material flows and zero emissions.

Development Framework of an Eco-Town

Eco-towns have been promoted in Japan with two key purposes: to develop and promote the local economy and society through encouragement of environmental industry using existing industrial congeries, and to establish the recycling economic system through reduction of waste and increasing recycling based on the identity and originality of local industry and society.

Eco-towns largely depend on a number of stakeholders committing to provide different inputs and resources in their development. These range from the national government (METI and MoE), who design the law and legislative system, to the local governments, who create the Eco-Town Plan, and the industries, who judge the relative economic feasibility of setting up operations in an eco-town.

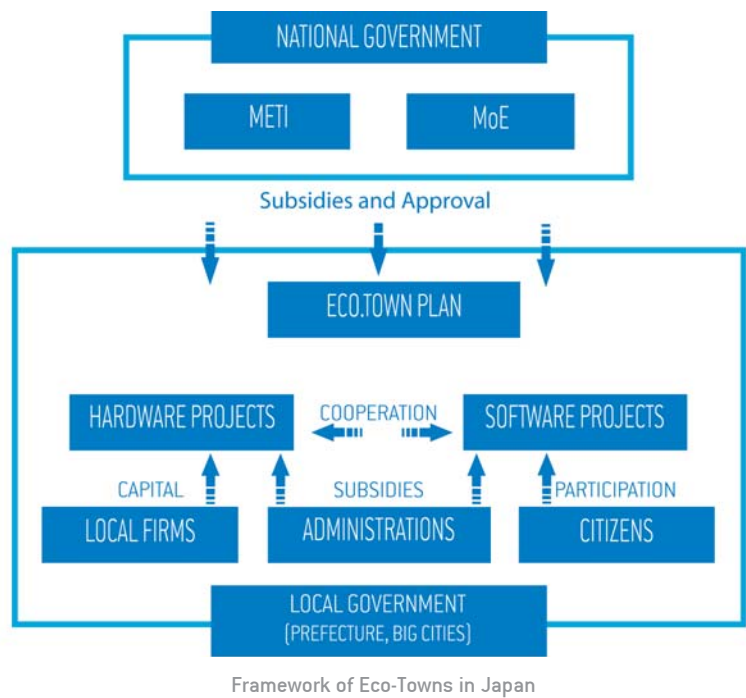
If the basic concepts and concrete projects written into the plan are judged by METI and MoE as meeting designated standards of originality and innovativeness, and are judged to have the potential to serve as a model for other local governments, the two ministries jointly approve the plan. They then provide financial support for projects by local governments and private companies to improve physical recycling facilities, and to implement "soft" (institutional/organizational) projects that can contribute to the realization of a 'sound material-cycle society'.

Establishing an Eco-Town. The establishment of eco-towns are initiated by a local authority developing a basic plan for development that contains an Eco-Town Plan. METI and MoE review the plan using a number of criteria to assess the local government's plan, including:

Originality and innovativeness of the technology and manufacturing process that is environmentally friendly and sustainable, and whether it could serve as a model for other industries.

- Participate and secure implementation of the Eco-Town Plan based on agreement among stakeholders.
- Contribute to reducing, reusing and recycling of resources.
- Have a reliable financial and development plan, including health and safety management of the facility.

Some facilities and schemes may be provided with a subsidy for construction cost, particularly those related to waste recycling facilities, planning, information dissemination etc. While the national government is responsible for the approval of the plan and providing subsidies for the facilities, the local government develops the local plan and gathers the participating industries (including SMEs). The local government also reaches agreements with various stakeholders and provides subsidies for the facilities. The industries themselves participate in the planning process with the local government as a stakeholder, develop recycling and other environmentally friendly technology, and set up and manage facilities.



The success of an eco-town largely depends on setting up an appropriate system for material inputs, facilities and product outputs in order to succeed in reuse/recycling businesses and by-product exchange. Success also depends on legal systems and regulations, availability of raw materials and recyclable 'waste', subsidy systems for technology development and capital investment, and proper treatment of eventual waste and sales outlet for eco-friendly products.

Support systems have been established mainly by the national government in Japan. The Eco-Towns project was set out in 1997, and the subsidy system for the facilities was established.

Afterwards, the framework concerning the issue of input was created by the formulation of the laws for promotion of effective utilization of resources based on the Fundamental Law for Establishing a Sound Material-Cycle Society, enacted in 2000.

As for the output issue, the government enacted the Law on Promoting Green Purchasing to institutionalize the purchasing standards of the business entities, and has encouraged the growing interest in corporate social responsibility (CSR) among consumers and enterprises. The government has also promoted the revision of regulations for proper treatment of waste.

Legislative Foundation of Eco-Towns

Based on the Fundamental Law for Establishing a Sound Material-Cycle Society, a number of other laws have also been enacted, including the Law for Promotion of Effective Utilization of Resources (2000) and other laws such as the Container and Packaging Recycling Law (1995), the Electric Household Appliance Recycling Law, the Construction Material Recycling Act, the Food Recycling Law and the Automobile Recycling Law.

Those laws have made it possible to ensure that activities on using waste as production materials, sales in reuse/recycling businesses, and by-product exchange can be initiated. This has, in fact, resulted in an expansion of the market for reuse/recycling businesses, and by-product exchange, along with the increase in waste covered by the laws. In addition, the market of the waste not covered by the laws has also expanded.

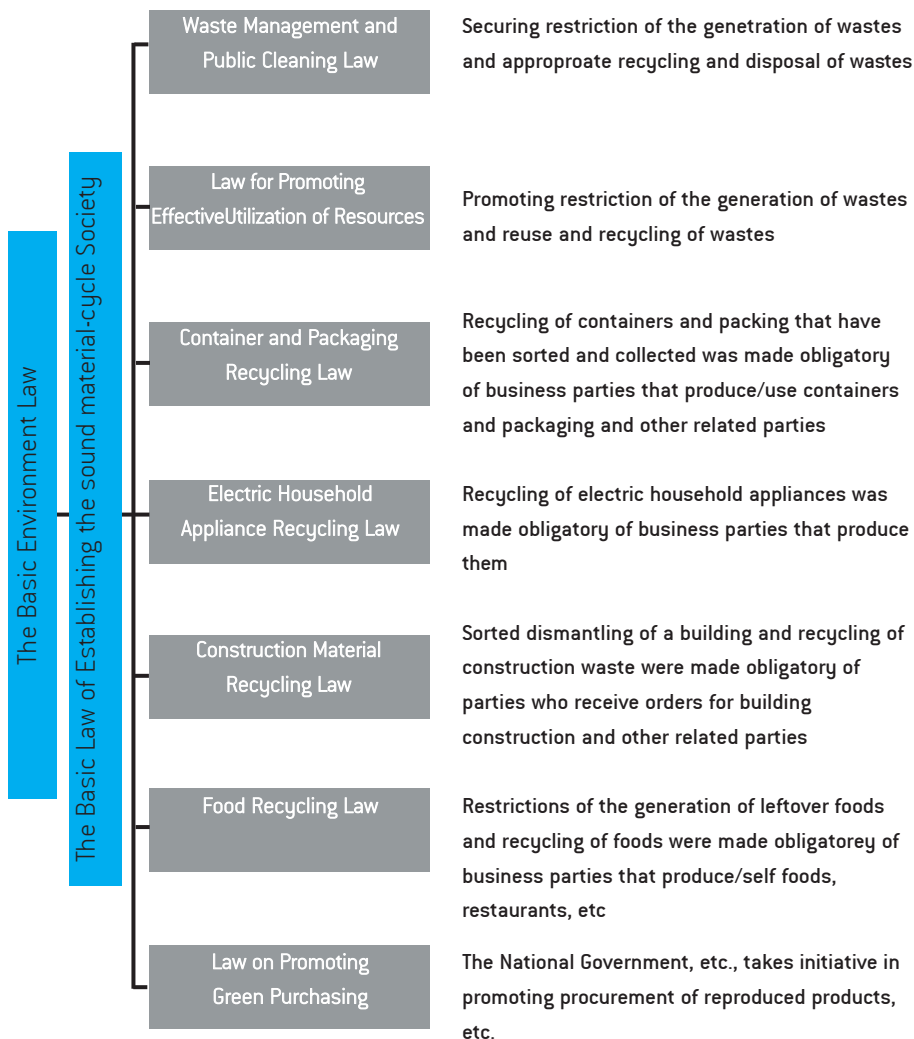
Eco-towns are incorporated into local governments' development plans by formulating 'Eco-Towns Plans.' The Eco-Towns Plan includes the plan to promote recycling facilities (planning, operating body, finance, management, raw material etc.), and projects to enlighten the citizens and provide environmental information through exhibitions, events etc. Thus, each Eco-Town Plan contains industrial, social and regional components, according to the characteristics of each city or town, but the general outline is as follows:

Promoting the establishment of a sound material-cycle society by attraction of enterprises policy. (example, Kita-Kyushu Eco-Town)

Promoting the establishment of a sound material-cycle society by regional industrial infrastructure. (example, Kawasaki Eco-Town)

Waste management and town planning (example, Naoshima Eco-Town)

Promoting the establishment of a sound material-cycle society by citizens' involvement. (example, Minamata Eco-Town)



Legal systems concerning the "3R" in Japan

Case Study: Kawasaki Eco-Town

National Overview of Progress. The national government set up a financial subsidy system for Eco-Towns projects in 1997. Kawasaki City, Iida City (Nagano prefecture), Kani City (Gifu prefecture), and Kitakyushu City were approved as Eco-Towns in the first year, and various recycling facilities were built in those cities.

So far, 23 cities have been approved as Eco-Towns by March 2005 and received subsidies. Funding systems are: Subsidy for Resource-Recycling Local Stimulation Project Costs and Subsidy for Resource-Recycling Local Stimulation Facilities Improvement Costs.

- 1997 Ida City [Nagano Prefecture], Kawasaki City, Kitakyushu City, Gifu Prefecture
- 1998 Oomuta City [Fukuoka Prefecture], Sapporo City, Chiba City/Chiba Prefecture
- 1999 Akita Prefecture, Uguisuzawa Town [Miyagi Prefecture]
- 2000 Hokkaido, Hiroshima Prefecture, Kochi City [Kochi Prefecture], Minamata City [Kumamoto Prefecture]
- 2001 Yamaguchi Prefecture, Naoshima Town [Kagawa Prefecture]
- 2002 Toyama City [Toyama Prefecture], Aomori Prefecture
- 2003 Hyogo Prefecture, Tokyo, Okayama Prefecture
- 2004 Kamaishi Town [Iwate Prefecture], Aichi Prefecture, Suzuka City [Mie Prefecture]

The Kawasaki Eco-Town Project. Kawasaki City is home of one of Japan's oldest and largest industrial parks. Established in 1902, the Kawasaki Coastal Industrial Area houses over 50 heavy industrial enterprises within a 250-acre area. Its largest tenants consist of oil refineries, steel manufacturers, power generators, and chemical manufacturers. The City of Kawasaki is located adjacent to Metropolitan Tokyo, and has a population of 1.2 million.

By the 1970s, the city and the industrial park were considered one of Japan's most contaminated areas. Residents suffering from asthma and other respiratory diseases filed a lawsuit against the central government and industrial park tenants in 1982. Serious environmental problems, along with the restructuring and nationalization of certain industries, resulted in the closing of several plants and stagnation of the local economy. To resolve the situation, Kawasaki decided to redevelop the city by promoting its project for "Making Kawasaki City Environmentally Harmonious."

This project is based on the concept of converting the city into a place where all actions, from people's everyday activities to industrial operations, are conducted in harmony with the environment, and had an eco-town project as one of its main components. The city government and local businesses have taken numerous steps to develop the area into an environmentally-friendly production zone.

Steps include the establishment of recycling and material reuse programs between facilities, restrictions on emissions, higher pollution abatement standards, as well as provision and promotion of logistical support and coordination of material exchange, research and development and public education.

One of the strengths of Kawasaki City is the well-established transportation infrastructure that includes ports, railroads, canals, and energy facilities, which are indispensable to resource-related companies.

In addition, this area has a high concentration of Japan's leading large industrial firms, and also a large number of small- and medium-size enterprises in the field of resource recycling and various environment-related facilities. Through the close integration of existing infrastructure and industrial elements, Kawasaki found an

Eco-Towns in Japan

1. Hokkaido
2. Sapporo City
3. Aomori Prefecture
4. Akita Prefecture
5. Kamaishi Town
6. Uguisuzawa Town
7. Chiba City
8. Tokyo
9. Kawasaki City
10. Gifu Prefecture
11. Naoshima Town
12. Kochi City
13. Hiroshima Prefecture
14. Yamaguchi Prefecture
15. Minamata City
16. Oumuta City
17. Okayama Prefecture
18. Kitakyushu City
19. Suzuka City
20. Hyogo Prefecture
21. Aichi Prefecture
22. Toyama City
23. Ida City



amazing opportunity to create an operationally competitive resource-recycling system.

The Kawasaki Eco-Town Project was set up to achieve a number of objectives. One of the primary objectives was to promote industrial firms' efforts to make their operations and systems environmentally-friendly and ecologically-sound. This was done through the establishment of a model zero-emission plant, and achieving of zero emissions of effluent water and zero production of waste from the manufacturing facilities.

An environmentally-sound transportation system was also set up. In order to encourage industries to locate in the eco-town, a model plant was set up by the local city government.

The project also promoted a programme to create a zero-emission, environmentally-friendly, and ecologically-sound community. This was done

through the establishment of environmental targets, the development of a 'zero-emissions' industrial park, the creation of green-belt networks and the renovation of manufacturing facilities into community amenities.

Activities also included introducing environmentally-friendly vehicles, and implementing recycling as a community activity by promoting joint activities for collecting and recycling of paper, glass bottles, cans, and PET bottles, and the use of recycled goods.

A key feature of the project was the implementation of research and development programmes to promote sustainable development. This was done through the development of energy co-generation systems for utilization of waste heat from plants and factories, undertaking of studies to develop and commercialize recycling systems, and promoting joint research and development of environmentally-related technologies. The success of the project was further strengthened by the establishment of an information system. This created a widely accessible database for information on environmentally-related technologies. The project's achievement in terms of environmental protection could also be assessed as a result of the information system.

In-house information concerning the environmental aspects of the Kawasaki Eco-Town was collated by the system and disseminated to communities outside the Eco-Town. The Kawasaki Eco-Town was not just an industrial complex. It also contained an eco-town centre, which was designed as a place for environmentally-related human interactions and training, as well as for the gathering and dissemination of environmentally-related information. Citizens wanting to learn about the environmental activities of the factories in the Eco-Town could visit the centre, and also carry out seminars or workshops.

Some of the processes and technologies currently in place include ecologically-sound cement production, which uses fly ash and bottom ash from incinerator plants as inputs. Waste oil is used for energy to heat the kilns for production. Electronic appliance recycling provides input for steel manufacturing.

A new type of blast furnace utilizing municipal plastic waste as a reducing agent in place of coal was finished by NKK, one of Japan's leading steel makers. This system received funding from METI as a part of the Eco-Town project and is in operation with the capacity of recycling 40,000 tons of waste plastic every year.

The Kawasaki Eco-Town's infrastructure was located in an abandoned site of a steel manufacturing plant, in cooperation with Japan Environmental Corporation (JEC), and several tenants have already moved in. The Park serves as the hub for a resource-recycling society. The individual industrial firms within the industrial park will not only reduce their own emissions but also will effectively utilize or recycle, into usable resources, the emissions from other facilities located there.

The tenants will also collectively integrate their energy use to improve overall energy efficiency. The Kawasaki Eco-Town is a joint effort between government and local business. While still in the early stages of development, it represents a

promising example of the industrial area redevelopment model, focusing on environmental technologies and by-product utilization efforts.

The City will benefit from the reduced burden of municipal waste treatment by having an advanced recycling facility on site, and private business can achieve cost savings by utilizing recycled materials, which in turn will result in revitalization of the local economy.

The greatest challenge centres on the coordination of activities necessary to achieve effective by-product and energy exchanges. Bilateral exchanges among the old tenants have always taken place as an efficiency improvement effort in the area. The City then analyzed material flows throughout the area to recruit new tenants that would function to close the material cycle and help achieve the optimal by-product exchange model. This attempt to facilitate new links, however, turned out to be a difficult task.

Under the long-lasting recession, most small- and medium-sized enterprises are reluctant to venture into a new investment, and some of the candidates for the Zero Emission Industrial Park decided not to move into the Park. The plan to cascade the heat energy from a tenant next to the Zero Emission Industrial Park is also facing problems because this tenant couldn't find any short-term economic benefit from this arrangement.

These examples point out the potential difficulties when a third party facilitates new arrangements. The current economic circumstances in Japan encourage industries to increase energy efficiency and recycling efforts by using an industrial ecology approach.

However, conditions also discourage them from taking risks by making new investments or new arrangements which don't give them immediate tangible economic return. Even though firms are recognizing environmentally-related business opportunities, their financial bottom line continues to be their first priority. Further assistance, such as business incentives or subsidies and education and information sessions conducted by local and central government will be needed to overcome this dilemma.

Conclusions

Eco-towns in Japan were developed over the last 10 years by utilizing regional technology and industry in Japan. Local governments and enterprises have worked in partnership to build such complexes. Eco-towns have enabled a number of developmental objectives to be met simultaneously. It has helped to stimulate the local economy, secure employment, dispose waste in an environmentally-sound manner, and to protect air and water resources.?

Many industries have been set up and a number of environmentally-friendly production processes used that are based on Eco-Towns Plans. The usual concern for businesses establishing themselves in an eco-town is whether they will manage to generate profits from their initiative.

While many businesses receive considerable support from the national government (up to half of the initial capital costs), most undertake their business without any special support. They see the opportunity in belonging to the eco-town community, the exchange of information and knowledge, special training and education, as well as using their presence in an eco-town as a product-sales feature. For businesses with factories in an eco-town, a number of advantages are facilitated, including satisfying requirements concerning the 3Rs (Reduce, Reuse, and Recycle), responding to sound waste management and recycling needs of general waste and refuse incineration ash, hard-to-treat refuse, etc.

They also benefit from the extensive utilization of common and shared facilities of eco-towns, existing commercial distribution networks, recycling industrial complexes, and active citizens' involvement.

For urban planners, the development and implementation of eco-town projects provide incentives on a number of issues that may go beyond their professional boundaries. This, therefore, calls for comprehensive multi-disciplinary partnerships that will enable the achievement of the goals and objectives of an eco-town. The urban planner will need to provide inputs and facilitate such partnerships to plan and develop an eco-town.

Policy and Strategy Development. Eco-towns clearly need critically-focused environmental laws and regulations to succeed. Clear standards and codes, targets and development goals need to be set up. Besides integrating eco-towns into larger development plans of the city, it should also have financial and other incentives to ensure that industries will locate themselves in an eco-town.

Market Creation and Networking. Eco-towns can literally become 'brand names' that industries can use to sell their products and services as environmentally friendly. Common facilities in eco-towns provide opportunities for companies to meet and exchange information, as well as with consumer groups and NGOs.

Application and Implementation of Environmentally-Sound Technologies. Eco-towns can implement cutting edge and innovative technology demonstrations that are environmentally-friendly, and also provide opportunities for capacity building and training on related issues.

Information Access. Providing reliable and credible information on an eco-town's industries and its products and services is a critical aspect to ensure its success. This is delivered through focused workshops and training sessions to raise awareness, decision support tools and strategies, and technology and material marketplaces.

The views presented in this chapter are those of the author alone, and should not be attributed to the UN, or construed as official policy of UN. Further information on the Kawasaki Eco-Town is available from its website, accessible at: www.city.kawasaki.jp/ecotown/ecoen.htm

Photo on page 100 courtesy of Flickr.



Dubai

Creative Dynamics of a City Vying a Global Stature

Amer A. Moustafa

Associate Dean, School of Architecture and Design, American University of Sharjah



Introduction

"Make no little plans. They have no magic to stir men's blood." - Daniel H. Burnham

This chapter seeks to understand contemporary Dubai as it strives to transform into a city of a global stature.¹ It is both baffling and fascinating how in the mid-20th century a desert-edge, small town of a few thousand inhabitants east of the Arabian Peninsula could, transform into a world-class city of a global recognition and repute in a handful decades. By all accounts, Dubai today is one of the fastest-growing cities in the world. While oil exports have certainly played a role in this transformation, it evidently has had a very limited role in the overall growth, development, and transformation of this city-state. The chapter attempts to elucidate the creative dynamics that have contributed to the city's current transformation.

As the city strives to chart the course of a future marked with wealth and prosperity, it has created an impressive state-of-the-art infrastructure to support its communication, industrial, tourism, and financial sectors, *inter alia*; it has balanced its free market economy with considerable state control and state provision of public goods and services; and it has engaged quite effectively the forces of global economy in creating an aura of a safe, rewarding, and a sought-after destination for foreign direct investment.

Dubai has been quite innovative and surely relentless in its pursuit of grand schemes and big plans. For many Dubai is a city whose name has become synonymous with big plans, which have been advanced as a vehicle in the city's transformation into a global standing.

Dubai, it seems, has taken Burnham's dictum to heart. Dubai is undergoing a huge, unprecedented boom. Grand urban projects and big development initiatives are announced almost daily: from office and retail centres to industrial and educational facilities, high-end housing developments to entertainment and leisure attractions, public infrastructure projects to grand institutional complexes. The magnitude of what is in the making is quite stunning.

"What's the drive behind Dubai's transformation?" "How is this transformation unfolding?" and "Who are the main actors in shaping the city's present and its path to the future?" Of particular interest, and as the backdrop of all these questions, is to understand the transformation of the city's urban space, its production, consumption, and role in mediating this urban drama.

From Humble Beginnings to a Global Stature

"What is good for business is good for Dubai" - Sheikh Rashid bin Saeed Al-Maktoom (Ruler of Dubai, 1958-1990) ²

Dubai began as a small trading port city on the southern shore of the Gulf at the eastern edge of the Arabian Peninsula. Evidence suggests that the site might have been inhabited as early as the first millennium BC. However modern Dubai is a recent phenomenon whose origins go back to the mid -19th century when it was settled by Bani Yas, a nomadic tribe from the central Arabian Peninsula. With no viable hinterland to support the settlement's economy, inhabitants turned to the sea as their primary source of sustenance: fishing, pearl finding, and trade constituted the basis of the city's economy and growth.

By the turn of the 20th century, Dubai became one of the most prosperous cities in the Gulf region, attracting a flood of population from the Arabian Peninsula, from Persia on the other side of the Gulf, and from the Indian subcontinent. The prominent position Dubai acquired as the preferred destination for merchants and traders that cruised the Gulf was due to a simple, shrewd formula: Dubai became to a tax-free port. Trade increasingly became the focus of the city's economy especially after the decline of the pearl industry in the early decades of the 20th century due to fierce competition from the Far East, especially Japan. It had also gained repute as the gateway for smuggling, particularly of weapons.

The discovery of oil in the 1960s gave impetus to an already thriving Dubai. Unlike its neighbouring Abu Dhabi, where oil constitutes the chief force in the Emirate's economy,³ the city-state of Dubai has been less fortunate. Today, the contribution of oil exports constitutes only around 7% of the Emirate's GDP. This figure has been shrinking annually with the remaining oil reserves expected to be fully depleted within a decade.

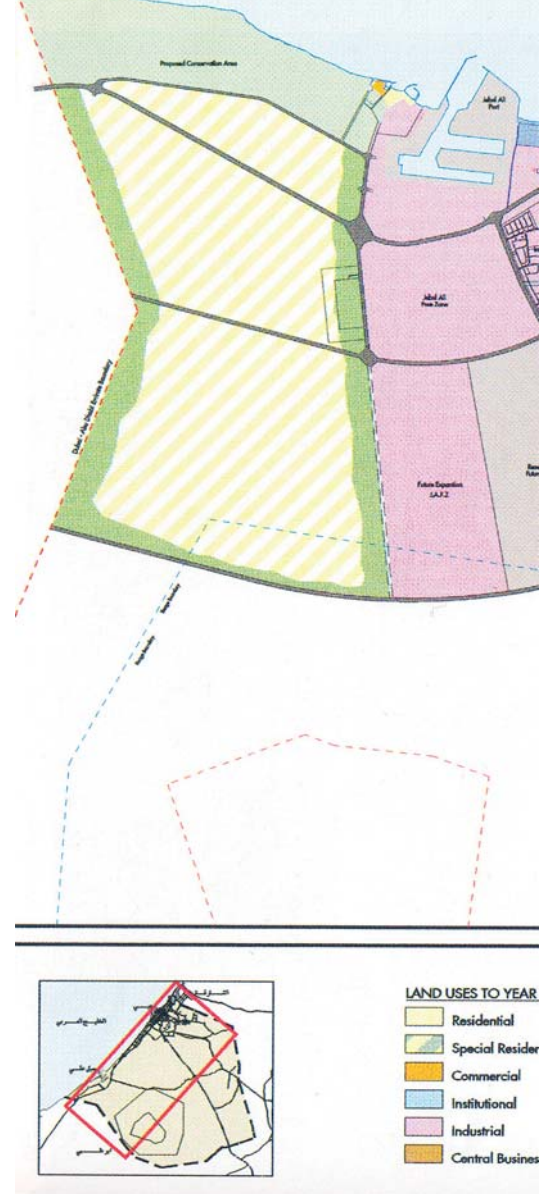


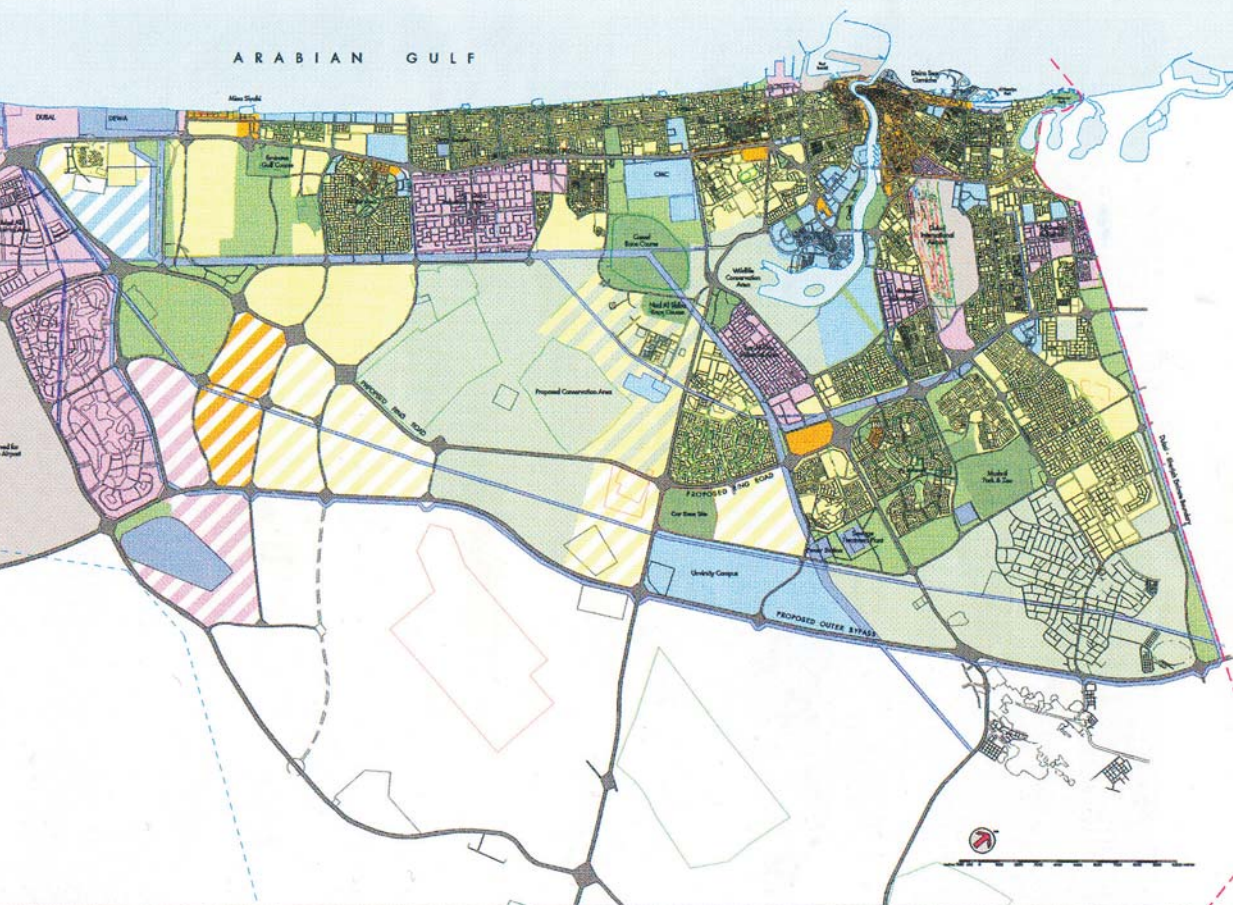
With oil revenues limited, Dubai continued the old habit of turning outwards to the sea in order to pursue alternatives, sustain its growth, and to enhance its wealth. Trade, manufacturing, and service industries were the basic tenets of a diverse and continually growing economy. Yet human will, leadership, and vision were equally imperative in shaping the city's fortunes.

Dubai is clearly undergoing unprecedented growth and transformation. A recent newspaper article declares "The three words that best sum up Dubai are construction, construction, construction" (*Travel Trade Gazette*)⁴. Dubai Municipality alone has civic projects and construction contracts worth over AED 2.26 billion (about US\$617 billion). Furthermore, at the time of this writing, Dubai has attracted over US\$150 billion of investments in the real estate sector alone.⁵

The rate and nature of urban development in Dubai belongs more to the realm of fantasy, then of reality. In the past decade or so Dubai has embarked on an unprecedented development schemes aimed at attracting transnational corporations and global investors to establish a base, and to engage in the city's transformation. To that aim, dedicated, admirable efforts have been led by Sheikh Mohammed bin Rashid, Dubai's Crown Prince and *de facto* Ruler, to develop the infrastructure necessary to "plug" Dubai in the circuit of global networks as elaborated by Castells (1996) and Sassen (2002).

Such efforts range from upgrading and expanding Dubai International Airport, to providing an efficient transport and communication infrastructure, to heavily investing in a wide range of supporting services in banking, entertainment, and tourism. Reminiscent of London's Docklands and Le Defense developments in Paris, these mega projects appear intended to "shock and awe" today's global investors and to lure foreign direct investments.





A few examples of the new developments will make the point clearer:

The Airport expansion is a US\$4.1 billion, 480,000 sq ft addition to the existing structure that was completed only in 1999. The purpose of this expansion is to accommodate a projected passenger increase from the current 20 million to around 70 million towards the end of the decade.

The sail-shaped, US\$1 billion Burj Al Arab is a seven-star hotel built on a man-made island off Jumerah Beach, the high-class strip west of the city. Not unlike the Eiffel Tower in Paris, Burj Al Arab (Arabic for: "Tower of the Arabs") has become an icon for Dubai. The building has not only made it to the Guinness Book of World Records (as the tallest, most luxurious hotel on earth), but the symbolic shape of the building now adorns car plates of the Emirates of Dubai. While the hotel may not be making money, its real value has been to serve as an icon to the city—a great value in the image-driven global culture.

The twin Emirates Towers, currently the tallest in the Middle East and Europe, add distinction to the city's skyline. ⁶

The "Palms" islands are one of a kind development dubbed as the "eight wonder of the world." The three man-made islands, each shaped as a palm tree, are presumably recognizable by the naked eye from the moon.

Jumerah Palm is about three miles across while the *Jabal Ali* Palm, is 4.5 miles across. The latest, *Deira* Palm, is the largest with nine miles in length by five miles in width. ⁷

Future attractions include:

Burj Dubai, a steel and glass tower, more than 2000 feet high piercing into the skies of Dubai, and intended to be the tallest tower on the planet. It is slated to be completed in 2008;⁸

DubaiLand, a mixed-use repertoire of 45 separate theme parks billed as the Middle East's answer to Disneyland; and

Dubai Mall, a five-million sq ft retail development that will dwarf the Mall of the Americas, the largest shopping mall in existence.

Understanding Dubai's dynamics and its transformation into a city of a global stature is significant and timely as the city-state with just one million inhabitants is the envy of its competitors. Dubai is increasingly perceived as the successful development model to emulate by its neighbours, and throughout the Arab and developing world. Fascination with Dubai and its success can also be gauged by the auspicious coverage the city receives in world-class press.

Dubai's current 'experiment' at city building does have a profound impact not only on the city itself, but throughout the larger spectrum of emerging cities in the developing world. This is especially the case for neighbouring Gulf cities like Doha (Qatar), Manama (Bahrain), and Kuwait City (Kuwait).

Dubai's Imperatives

"Hustle, imagination, a willingness to indulge a degree of hedonism and determination to fulfil a romantic conception of itself have helped Dubai prosper." - James Bennet (New York Times)

Every city has its own "eccentricity," so to comprehend its inner workings, to elucidate what "makes it tick" requires a deeper, multifaceted investigation of its history, socio-economic condition, political structure, cultural confines, and environmental conditions, among many others.

Explaining the current achievements of Dubai is not an exact science. I suggest that there are primarily three forces - or "imperatives" - that have made Dubai's current achievement possible. First, Dubai has been fortunate to have the human will guided by an enlightened and visionary leadership that helped focus the human energy into a collective, purposeful action. Second, the city has, from very early on, embraced the free market ethos as the most effective mechanism to achieve wealth and prosperity. This commitment has, ironically, been balanced by considerable state intervention tools intended to tame any potential market externalities. Third, the city has simply been lucky to be able to benefit from the geo-political, economic, and other conditions of its wider region and even at the global level to make the best of all circumstances and to advance the city's competitiveness and leadership among its competing metro-regions.

The Human Imperative

In many instances, the human will has played an instrumental role in the history of many cities. When human will is combined with visionary leadership, cities can thrive and become the locus of profound contributions to civilization.

In the past half century, Dubai has had two charismatic and visionary leaders who have been the driving impetus in making modern Dubai: Sheikh Rashid bin Saeed Al-Maktoom and his son Sheikh Mohammed bin Rashid Al-Maktoom. With little formal schooling, Sheikh Rashid was a brilliant leader with an intuitive knack for business deals. His famous maxim, "what is good for business, is good for Dubai," sums up his *modus operandi*. By the late 1950s, with Dubai lacking any significant natural, human, or financial resources, he initiated some of Dubai's early big plans: namely improving the efficiency of Dubai Creek and establishing the foundations of a new sea port that is now the largest man-made port on Earth. To pursue his plans, he relied on creative financing schemes that involved entering into partnership with the city's business leaders and obtaining loans from outside sources (including neighbouring Kuwait). An egalitarian tribal chief, all his grand plans were thoroughly deliberated in his *majlis* ("reception halls") by his associates, businessmen, or whoever happens to have a worthy idea.

However, most of Dubai's global repute today is credited to Sheikh Rashid's third son and hand-picked heir, Mohammed, the Crown Prince. It is the charismatic Sheikh Mohammed that the city has begun gaining world recognition and a global

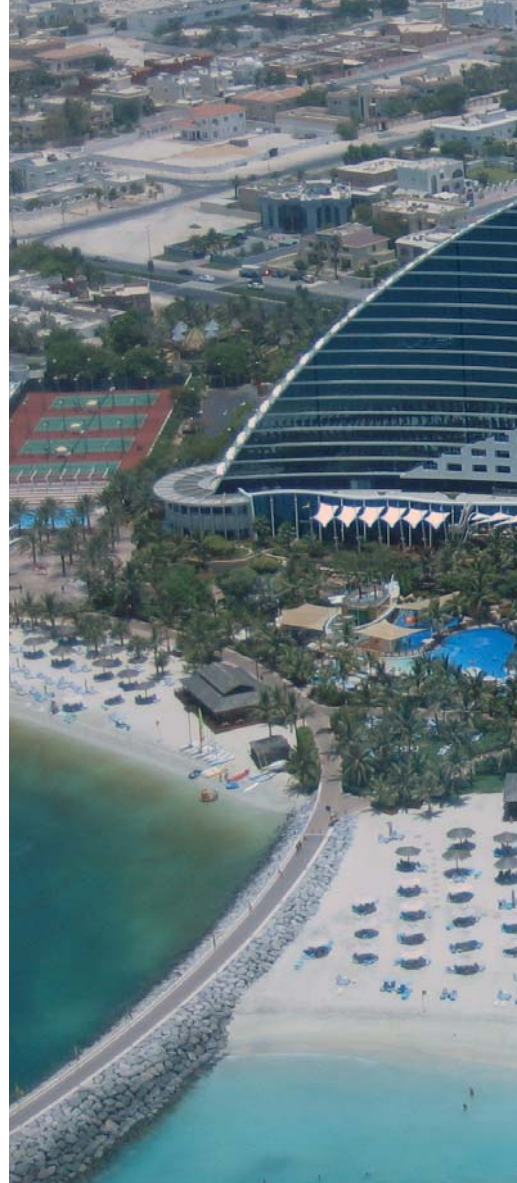
stature. He is determined to advance Dubai's stature as a leading, vibrant, and successful metropolis at both the Gulf and global levels.

Like his father, Sheikh Mohammad has a deep faith in *laissez-faire* capitalism as an essential mechanism to foster wealth and prosperity. He has gone out of his way to minimize government intervention in the workings of the free market and has been relentless in his efforts to loosen governmental regulations and cut red tape. He considered a lean and efficient government to be key in nurturing an entrepreneurial spirit, sustaining the inward flow of investments, and generating robust economic growth. He insisted on advancing the city-state's reputation as a tax-free destination for direct foreign investments in industry, trade, and tourism. His record of achievements is quite impressive: the expansion of Jabal Ali Port, one of the largest sea ports in the world with its Free Zone (the largest in the Middle East)⁹; the founding, in 1985, of Emirates Airlines, a government-owned airline which is today ranked among the most successful in the world.¹⁰ More recently, in addition to building the necessary environment and infrastructure for a solid development and growth, some of his most daring ventures have been realized: Burj Al Arab, the Palms, DubaiLand and Burj Dubai.

The Economic Imperative

It has been suggested that Dubai is blessed by the lack of resources. Indeed, that Dubai lacked reliable natural resources (e.g., oil and natural gas) has been the catalyst for the incessant and creative quest for alternatives to generate wealth and prosperity while its neighbours are cashing in on their larger oil and gas resources. As it has espoused and nurtured a free-market economy, Dubai has sought to diversify its economic portfolio. Investments were made in building the necessary infrastructure to support commerce, (heavy and light) industries, and services. Most significant is that the city-state has effectively developed the tools to engage in the emerging global economy.

Dubai's engagement with globalization has been quite remarkable and is a culmination of a long tradition as a trade entrepôt, a centre for commerce, and, more recently, as a destination for tourism. It has relentlessly strived to carve its niche as a command-and-control centre for the flow of capital, products, services, people, and ideas. As





such, it has, in less than two decades, been able to place itself on the grid of other global cities with a considerable stature. According to the *New York Times* (Sherwood 2005), Dubai is now the world's leading centre for gold trade. The gold sector accounts for US\$5.8 billion, or 14% of the Emirates' economy.

Dubai's Port Authority, which administers both Rashid and Jebel Ali Ports, is ranked among the top 20 worldwide in the value of container throughput. Over 21 million passengers passed through Dubai International Airport in 2004, a 20% growth over the previous year. With the US\$4.1 billion expansion, it is projected that this figure will increase to 70 million passengers by 2008.

Tourism is a booming industry in Dubai. Over three million visitors made Dubai their destination in 2003 and the Department of Tourism and Commerce Marketing aims to increase this figure to 15 million within the next five years. Sampler and Einger (2003) suggest a four-phase, "strategic trajectory model" to explain Dubai's economic development and growth in the past half century.

The first phase is "asset creation," which began under Sheikh Rashid in the 1950s when modest "big plans" such as dredging the Creek to enhance navigation and building the first (now called Rashid) Port began.

The second phase is "asset acceleration" which involved enhancing the city's economic infrastructure by building the international airport, founding free zones to strengthen the trade and industrial sector, and the establishment of foundations of a service economy. This second phase began in the early 1960s and continued until the mid 1990s and is characterized by an increasingly diversified and accelerated mode of growth in the various sections of the economy.

The third phase is "asset leverage," where the first two phases constitute the basis for a robust growth, when, simply put, "things begin to pay off in a big way." This is the phase with such initiatives as the Internet City, Media City, and the intensive growth in the real estate market made most visible in such projects as the Dubai Marina, the Palms, and a series of real estate ventures of housing communities (e.g., Emirates Hills, Arabian Oasis). The fourth phase - the "closing the loop" phase - is characterized by asset harvesting, reinvestment, and reinvention. Underway now in Dubai, this is a phase where, having established the necessary infrastructure for a diverse economic portfolio, the city begins a process of reassessment that would lead to scaling down in some less-successful ventures, more support for others, and a cross-fertilization of various assets that can lead to creative innovations. The Sampler and Einger model follows a chronological, causal mode but it falls short of explaining urban development in a city. The model does not account for the complexity of urban development and the roles of historic, social, and geopolitical forces that influence development.

The city's intransigent faith in the "invisible hand" has been balanced with very effective "welfare state" tools that have acted as the necessary safety net for a healthy development. While the "sky is the limit" for a *laissez-faire* system, the state, supported by a home-grown culture of tribal solidarity (that can be considered a variation of a "democratic" system of governance), has acted to guarantee that "nobody is left behind" due to market externalities or failure. Understandably, this "nobody," refers to UAE nationals (i.e., Emirati citizens). They constitute only one-fifth of the only UAE residents and less than one in ten in the case of the Emirate (city-state) of Dubai.

While the government of Dubai is the catalyst of a flourishing capitalist enterprise, it has developed a series of government-supported programs of social welfare reminiscent of those in mid 20th century socialist countries. This paradoxical combination is not totally novel (Scandinavian countries are a case in point), but in the case of Dubai, it takes on extreme dimensions. Like the rest of the UAE, Dubai nationals are guaranteed free public education and healthcare, as well as a host of other benefits including the entitlement to receive land grants, housing at no or minimal costs, and access to generous low- or no-interest loans to encourage entrepreneurial initiatives. In Dubai, additional programs have been put in place to support local Emiratis.

As Dubai pursues a top-down approach to development in which the state plans, initiates, and facilitates economic development (in part through the "big plans" approach), it frequently ventures into considerable risks that defy the certitude implied in the Sampler and Einger's model.

Consider the housing sector. Al Nakheel, one of Dubai's three major actors in the city's development,¹¹ has recently announced plans to add 200,000 new housing units over the next five years. This is an average of 40,000 new units per year for a city-state of one million people. The magnitude and scale of this addition to the housing market becomes clearer when this figure is compared to that of the city of London, which has more than seven million inhabitants, and which added only 20,000 new housing units in 2003. While all such new units are planned to enter the housing market, there is no compelling evidence of an impending need. So, how do we explain this model of development?

According to the Financial Times (18/02/2004),

"Dubai has turned the conventional process of urbanization-build to meet rising demand-on its head. It practices a supply-led 'build it and they will come' philosophy. The theory is that decent, affordable homes will woo upwardly mobile workers to Dubai from the 1.6-billion-population-pool in the neighbouring Middle East and Indian sub-continent. They will provide professionals for world class hospitals, universities and tax-free businesses."

Astoundingly, this approach has so far been working. Much of this success can be attributed to the geopolitical circumstances detailed below. This is not to argue that the economic imperative is irrelevant, but that it has a limited role in complementing a more complex growth machine that is supported by the human will and facilitated by geopolitical circumstances.

What has made Dubai particularly attractive to investors are its wise economic policies. Such policies include loosened regulations leading to the ease with which foreigners can acquire property in the designated developments, including all "big plan" projects such as the Palms, Dubai Marina, etc. This explains the "rush" for free-hold properties. Buyers of these new, primarily housing, developments have come from as close as Dubai, the UAE, and Gulf states, and as far as the Indian subcontinent, Europe (especially the UK), and Africa.

In addition, the tax-favorable free zones (such as Jabal Ali Free Zone, Internet City, City of Knowledge, and Medical City) have also contributed to fueling the growth and the flow of cash to the city. For example, a number of multi- and transnational corporations (such as Microsoft, Dell, HP) have chosen Dubai's Internet City as the location of their regional headquarters to facilitate their high-tech industry plans. Over 500 companies have been attracted to Internet City alone creating over 8,000 jobs.

Another important force that has played a significant role in making Dubai a safe heaven for investors is Sheikh Mohammad's credibility. Persistently, he has shown willingness and determination to intervene so as to avert any market failures. He

has personally stepped in to bail out dysfunctional partnerships, unprofitable initiatives, and failing ventures. For him, the city's reputation is paramount, and he consistently put his money where his mouth is.

The Geopolitical Imperative

Dubai has simply been lucky. The city-state has succeeded in large part because of the failures of its neighbours and potential competitors. For example, Saudi Arabia has much more natural, human, and financial resources than Dubai. Yet, a combination of state inefficiency, cultural considerations, and entrenched bureaucracy have created conditions that discourage the kind of entrepreneurial initiatives, foreign investment, and economic growth witnessed in Dubai.¹²

Other Dubai neighbours - from Pakistan to Iraq, Egypt to Iran - suffer from big bureaucracies, inefficient administration, and unstable political regimes-conditions that are hardly conducive of any effective development, let alone prosperity for all. In contrast, Dubai offers a dramatically reduced "red tape", business-friendly environment, and considerable stability. In peacetime as well as during the most turbulent, uncertain times, Dubai has reaped the benefits of all circumstances. During the recent US-led intervention in Iraq that began in 2003, Dubai was a major base for the supplies (e.g., food, equipment, etc.) required by the US-led forces. Dubai is also the regional base for the command and control of the United Nations operations in Afghanistan that began after the US-led intervention in 2002. All these examples demonstrate the city-state's success in becoming the locus of action, energy, and attention at the regional, even global scale.

The city's close proximity to South Asia and the Indian subcontinent has not been without benefit-it has provided Dubai with a resourceful pool of badly needed human resources. From Bengali construction workers to Sri Lankan teachers; Pakistani cab drivers to Indian accountants; Filipino housekeepers to Nepali nurses all attracted to Dubai with a strong will and genuine aspiration for personal economic betterment. They work long hours, accept relatively low wages, and, thanks for a British colonial legacy, are well-versed with the English language. This expatriate population constitutes the critical human mass needed to fuel the unstoppable growth machine.

Global turmoil has also proven beneficial to Dubai. The events of 9/11 and their subsequent fallout have, ironically, furthered Dubai's fortunes. In the wake of 9/11, wealthy Arab investors with substantial investments in the US have grown apprehensive, and many have opted out of the US market and are choosing to relocate their portfolios in the Gulf region. An estimated US\$500 billion of cash and other liquidated assets belonging to Arab (and especially Gulf) investors have been withdrawn from the US market and have been floating between Europe and the Middle East. It is this unexpected flow of cash that is fuelling Dubai's current boom.¹³ Dubai has benefited immensely from this shuffling of cash assets and has become the attractive destination for investors.

Dubai has been an attractive place for all kinds of people, due in part to its geographic location: European tourists escaping winters; entrepreneurs from across the globe seeking venues for investments; businessmen with cash to deposit in a Dubai bank; and those interested in the city's nightlife.

Dubai is a regional heaven for shoppers who flock to the city especially during the Dubai Shopping Festival (DSF) and the Dubai Summer Surprises (DSS) festival. A month-long event, the DSF is a major event attracting over three million visitors in 2004. In addition to the two events, the city also has over twenty-five shopping malls.

As a city with global ambitions, Dubai has been particularly determined to host major world events. Such events afford a most valuable opportunity to showcase the city, its achievements, and its suitability for inward investment. The Dubai World Cup is a US\$16 million equine event, considered the world's richest. Other events include the Dubai Jazz Fest, and Dubai Tennis Open. Dubai also hosted the 2003 meetings of the World Trade Organization and the World Bank.

Concluding Remarks

If the rate of growth and the magnitude of development are any indication of success, then Dubai is an astounding achievement. The city-state has become a dynamic arena where billions of dollars of investments change hands and reverberate throughout its growth machine. Goods and services are provided, adapted, and transformed to meet the needs of flexible and ever-mutating market needs. Visitors, investors, business people, professionals, and labourers criss-cross the city, each with a contemplated mission and a deliberate purpose. Big plans, pursued by the Dubai government, are the tools and catalyst for a creative dynamic of growth unparalleled in pace and scale in this part of the world.

However, "Big Plans" are not always the ideal solution, or the way to a purposeful progress, prosperous future, or an urban utopia. As Kenneth Kolson notes in "Big Plans: The Allure and Folly of Urban Design", they

"compete with one another, which means that the execution of any particular one may require a measure of force or fraud. When imposed, they often have unintended consequences, or consequences that were intended but not advertised at the outset. Big Plans have a way of becoming ends in themselves. And not infrequently, they contain the seeds of their own destruction"

While some of Dubai's big plans seem to be successfully humming along (in terms of enticing inward investments, generating revenues, and providing visitors with a novel, refreshing, one-of-a-kind experience), they produce, as Kolson suggests, various unintended consequences that can, in the long run, be detrimental to the city's future and the quality of life of its inhabitants.

First, is the question of the impact of the ensuing urban growth on the city's environment and eco-system. How environmentally sustainable are the new

developments in Dubai? Have the impacts of such developments on the natural environment been adequately assessed? What measures have been put in place to rectify any potential negative effects? Given the city's unique environmental conditions, limited developable land, and fragile coastal setting, these are pertinent concerns.

While some environmental impact studies have been undertaken for some projects, the pace, scale, and nature of the new developments are cause for concern. The expansive green lawns, 18-hole golf courses, and the burgeoning new (artificial) oases that mark much of the new developments stand in large contrast with the hot, arid desert environment.

Development schemes have been quite ruthless when it comes to altering the natural landscape: Gulf (sea) water has been brought inland to adorn a "community on the lake" (e.g., Dubai Marina) or just to have a river-like setting with old style *dows* (traditional boats like in *Madinat Al-Salam*). In some other instances, entire islands have been erected where none previously existed. The "Palms" projects (two already completed and a third under way) together with "The World" and *Burj Al Arab* are all new additions to the shallow and quite fragile coast of the Gulf.

Moreover, while the land made available for new developments is basically desert, and seemingly with little value, it remains a valuable ingredient of the natural landscape heritage of this part of the world. Emirates Road, a major highway circling around Dubai demonstrates the diversity of the seemingly empty desert. While the desert landscape along the segment of the highway in the adjacent Emirate of Sharjah appears quite barren (and possibly a continuation of the Arabia's Empty Quarter), the area of Barsha in Dubai, about twenty miles away, renders a rich variety of natural trees and shrubs. This area, like many others in Dubai, is destined for new developments.

Evidently, the development challenges for Dubai have been cogently reduced to meeting the only "the needs of the present", while "the ability of future generations to meet their own needs," it does not appear to be factored in the development exuberance mode permeating the city. Dubai is one of the most consumptive places on Earth. According to the Living Planet Report 2004, prepared by the World Wide Fund For Nature (WWF), of the 140 nations studied, the UAE has the highest ecological footprint (EF)¹⁴ in the world with the United States and Kuwait a close second and third. The EF of the UAE is almost 10 global hectares per person. This means that if every individual on Earth consumes as much as the inhabitants in the UAE, we will need more than five additional planet Earths will be required to sustain our existence.

Second, the new development to the city will inevitably reduce the public nature of the city. That is because the overwhelming majority of the new developments are intended for either real estate investment (e.g., The Palms, Emirates Hills), office or business use (e.g., *Burj Dubai*, Dubai Financial Centre), or entertainment and tourism (e.g., DubaiLand). Public realm in Dubai is on the retreat. In extensive conversation with senior planners and city functionaries, it is evident that amidst

the development frenzy for new private pockets, there is little provision in sight for enhancing the public realm of the city: its public parks, beaches, or even walkable streets.

Most of the new housing developments are "gated communities", that is exclusive developments barricaded behind security gates, surrounded by formidable walls, and monitored by sophisticated closed-circuits surveillance cameras and security systems. The three Palms, "The World," and all the tourist attractions are private entities that can add little to the city's public life. Moreover, most of the new developments (e.g., *Madinat Jumierah*) are physically segregated from the city continuum making it impossible to reach them walking, biking, or by public transport. While these new developments are the building blocks of a city vying a global stature, the city falls short on providing the necessary balance to strengthen its public realm. A city that has the best hotels, world-class office towers, and an international airport rarely matched in its elegance and service quality, does not have a decent library, a spacious plaza, or an exciting public park worthy of a "global stature."

Third, there is the issue of agency. As the city pursues big plans as a means to articulate a (utopian) vision for the future, it is quite legitimate to ask whose vision is it, how was it formulated, and who help to formulate it. Today, in liberal Western democracies, big plans and strategic visions are normally the outcome of a collective public discourse within the framework of civil society. Thus, it is quite disconcerting that the entire future vision of Dubai, together with present undertakings leading to such a vision, is formulated by a limited circle of advisors and experts that report directly to Sheikh Muhammad. The local Emirati community, not to mention the expatriate community, has little, if any, input into the making and pursuit of this vision.

The question of "whose city is it?" and "who is entitled to force a particular change?" are becoming very significant for an increasing numbers of Emiratis who perceive their city as being "sold on the auction block." While the process of attracting direct foreign investments and generating an entrepreneurial city is symptomatic of cities seeking global stature, the process also leads the notion of citizenship: who is a "citizen" of Dubai?

Dubai is becoming an increasingly "transnational" city. While vying a global stature, Dubai also remains a young city-state where a sense of local identity remains saddled by colonial legacy and national and cultural self-insecurity. The sense of citizenship in its symbolic connotation remains high for the people of this city-state that in less than four decades has transformed from a tribal society to a member of a nation-state (the United Arab Emirates). Urban development of the magnitude witnessed in Dubai, with its transnational dimension, is inviting outsiders from all over the world: a global "cocktail" of investors, developers, entrepreneurs, or mere tourists. They make, and will continue to make, the city their destination for work, residence, or leisure. The new inhabitants, while adding to the city's diversity and cosmopolitan nature, are also exacerbating the city's demographic fragility. While the current Emirati-to-expatriate population ratio is

about 1:10, this proportion will shrink dramatically when the population grows to three million by 2020 as projected. Are the citizens of Dubai engaged in the process of transforming their city? Are they ready for the emerging demographic and cultural reality? There is no doubt about the sincerity and dedication of Dubai's visionary leaders and particularly those of Sheikh Muhammad, who represents in many ways, modern Arab renaissance. It is clear that Sheikh Muhammad's leadership will remain a fundamental "imperative" for the making of Dubai, present and future. At the same time, it is also clear that only a collective and shared vision can offer the best "insurance" policy against any future revisit (or possibly revision) of history.

There is little evidence to support the contention that the vision for a future Dubai as pursued today is fully consistent with what many citizens of Dubai need, let alone want. Local Emirati professionals and ordinary citizens privately share their unease about the ongoing development frenzy. With the "transnationalization" of the city-state at such an unprecedented magnitude, are Dubai's (indigenous) Emirati citizens prepared for these changes? Are they supportive of (if at all susceptible to) the fact that they are becoming a shrinking minority in their own homeland? These questions will inevitably force a fresh rethinking, and possibly reworking, of the entire notion of citizenship in the aspiring global city of Dubai. Some of these discontented crowds may be poorly informed of the vision being pursued in the city.

They may feel disenfranchised as they are reaping little, if any, of the city's real estate or stock market bonanza. They may be at the receiving end of the negative, spillover effects of the new developments, such as traffic congestion and rising costs of living. Perhaps they may simply be unprepared for or feel threatened by the changes with which they are surrounded. Irrespective of where discontent might lie, the citizens of Dubai have a right to participate in the making of the vision and the future of their city.

The initiation of a public discourse on Dubai, on where it stands now, and on what it wants to be, is one step towards creating a more inclusive vision for the city. It can also bring to the forefront, the significance, meaning, and implications of being a citizen. It can lead to formulating a shared vision based on participation and consensus. By calling for the public to engage in the making of the present and future of their city, I may be applying idealist Western ethos to a non-Western, developing world context. However, if the city leadership purports to seek standards worthy of a city of a global stature, then a serious consideration of a more inclusive approach to city making seems appropriate and timely.

Notes

- 1 The use of "global stature" (rather than "global city") is deliberate so as to avoid the contentious debate revolving around the definition of a "global city."
- 2 This statement appears as an alliteration of the well known "What's good for General Motors is good for the country," attributed to Charles Wilson (1890-1961), U.S. industrialist, Secretary of Defense, and head of General Motors Corporation (1941-1953). It is reported that the statement is part of a testimony by Wilson before a U.S. Senate Committee hearing in January 1953.
- 3 The UAE has the fifth highest proven oil reserves in the world (National Geographic, June 2004, p. 91) and the Emirate of Abu Dhabi has the mother lode of the country's oil production and reserve.
- 4 Dubai's current urban and economic growth and its growing status in the global scene have received scarce attention in the professional urban planning and design literature. This accounts for the author's considerable dependence on journalistic and news media resources. "Hard data" (e.g., statistical figures, demographic profiles, and growth projections), while most likely available in relevant agencies, are rarely made available to the public. Such data is used when available, but alternatively, relies on other sources for hard data such as interviews with key actors in the urban growth process as well as on personal observations.
- 5 According to Dr. Imad Haffar, senior consultant, Nakheel. Interviewed March 25, 2004.
- 6 Emirates Tower One is a 355-meter-high, 54-story building that ranks the top 12th building in the world.
- 7 Dubai has 45 miles of coastline on the Gulf, all of which has already been either developed or braced for development. As before, the city turned to the sea to enhance its fortunes. The three Palms will add over 250 miles of new, mainly private, shoreline to the city.
- 8 The exact height of Burj Dubai has been kept confidential due to fierce competition among cities eager to have the honour of having the tallest building on earth.
- 9 UNCTAD's Review of Maritime Transport (2004) lists Dubai as the number 11 worldwide in terms of container terminal throughput.
- 10 Emirates Airlines is not the flagship carrier of the UAE. Emirates is owned by the (local) Government of Dubai. The Flagship carrier of the UAE is the new, emerging Etihad Airways.
- 11 The other two being Emaar and Dubai Development and Investment Authority (DDIA). Details based on an interview with Ahmad Mansour, a DDIA executive (February 18, 2004).
- 12 Obtaining a country entry visa shows the immense difference between Dubai and most of its neighbours, including Saudi Arabia. It takes an immense amount of paperwork and a few weeks to obtain a Saudi entry visa, but Dubai offers an entry visa automatically with the purchase of an Emirates airline ticket, or is obtainable (for most internationals) on arrival at the Airport.
- 13 The contention that Arab money, withdrawn from the US market, is being invested in Dubai has been further validated in a discussion I had (November 20, 2003) with a high-ranking Dubai official with intimate, inside, and credible knowledge of Dubai's investment environment. He requested that his name not be used in this research.
- 14 An indicator of people's natural resource consumption, a country's ecological footprint (EF) is "the total area required to produce the food and fibre that it consumes, absorb the waste from its energy consumption, and provide space for its infrastructure. People consume resources and ecological services from all over the world, so their EF is the sum of these areas, wherever they are on the planet" (Living Planet Report 2004, 10). As Dubai is the most populous city in the UAE (Gulf News, 2002), it is reasonable to deduce that the city's EF is at least as high as that of the entire UAE.

*Photo on page 112 courtesy of Amer Moustafa
Image on page 117 courtesy of Dubai Municipality
All other photos courtesy of Flickr.*

Cambridge

The Cambridge Phenomenon

William Wicksteed
Director, SQW Limited

Introduction

Cambridge, UK, is a historic but small city, with a population of 110,000, with a further 200,000 in the wider sub-region. The city is located in a predominantly rural area in the East of England, some 100km from London. For many years, Cambridge's chief claim to fame has been its setting for a world class university and a range of associated scientific research institutes. The mediaeval buildings of the university and its constituent colleges together create an historic city centre of international renown. The city's most vivid symbol is the west front of King's College chapel.

Forty years ago, the Cambridge area was a graceful backwater, fairly close to London but poorly connected both physically and functionally. It had a world class University, but, that aside, the area was relatively inward-looking and unexciting. Apart from the specialist instrumentation sector that had previously grown to service the University, the industrial structure was traditional and rural in character, with few large private sector employers; Philips, Pye and Marshalls, a locally-founded advanced engineering business, were the chief exceptions.

Since the 1960s, however, there has been an increasingly visible economic dynamic of the development of small firms and growth of the "Cambridge Phenomenon." At the same time, there have been several improvements in Cambridge's physical connections including: the electrification of rail routes to London, the completion of the A14 road link from the East Coast Ports to the West Midlands industrial areas, and the rapid growth in the third London airport at Stansted, 50 km from Cambridge.





In terms of population, Cambridgeshire had the fastest rate of growth of any English county during the past decade, and much of the pressure has fallen on the Cambridge sub-region. As a result of the green belt that rings the city, there has been considerable housing development in the surrounding villages and the market towns of Royston, St Neots, St Ives, Huntingdon Ely and Newmarket (15 to 20 km away). This has led to longer work trips and unwelcome road congestion.

These trends have been recognized to be undesirable on sustainability grounds and major changes are now being made in the system of regional and sub-regional plans to make provision for the Cambridge sub-region to grow by 40% in the period to 2015. A new organization, Cambridgeshire Horizons, has been established (bringing together all the key public sector bodies) to help ensure that the growth is achieved and, in particular, to co-ordinate the provision of the infrastructure needed to service major new development schemes.

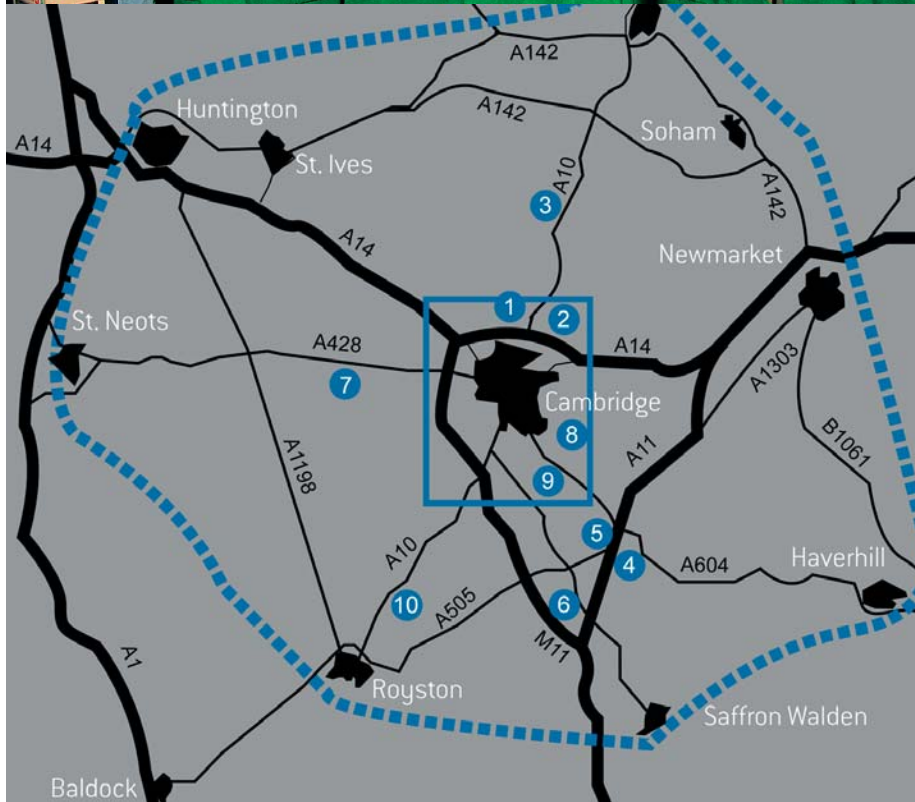
The Cambridge Phenomenon

The phrase 'Cambridge Phenomenon' first appeared early in the 1980's. It was given considerable currency by SQW's book¹, written by Nick Segal and bearing that title, which appeared in 1985. The book showed the myriad interconnections between Cambridge high tech firms; with many originating in University departments and many others spinning out from companies that had had University origins. A follow up piece of work provided further data and estimated that there were 400 high tech firms employing 16,000 people in 1985. These data drew a crucial further distinction in showing that around half of the 16,000 jobs were to be found in eight big firms.

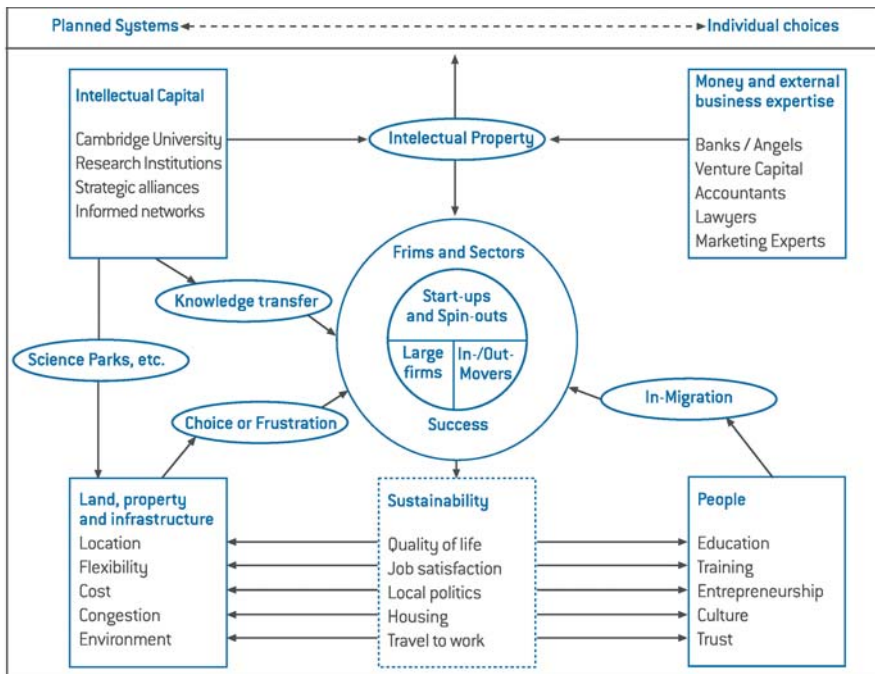
By 1998, which is when SQW's second surveys² were undertaken, the scale of high tech activity was much greater (and it has increased further since then, despite recent global setbacks). Total high tech employment had risen to rather more than 32,000: despite the number in the 8 large firms having fallen to 4-5,000 as against 8,000 hitherto. Indeed if the large firms are netted out of both the 1986 and 1998 totals then the 'pure' phenomenon shows an annual compound rate of employment increase in the Cambridge area of around 10% over the 12-year period.

In 1985, SQW's illustration of the Phenomenon showed the university in the middle and firms spinning out from the different departments (and then from other firms that had done so previously). By 2000, the economic dynamic (which continues on a positive path in 2005) had a changed balance.

The diagram in our second book showed the university/research institutes as one of four vital factors of production (the others being people, capital/specialist business expertise and land and premises (see below)). Much of the continuing dynamic now comes from within the business community (including new starts).

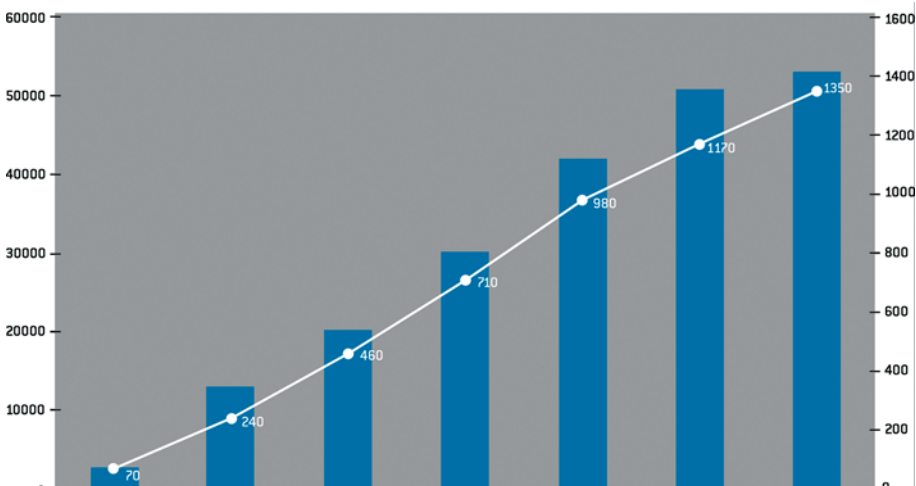


- | | |
|-----------------------------------|-------------------------------|
| 1. Cambridge Trinity Science Park | 6. Hinxton Hall |
| 2. St. John's Innovation Park | 7. Cambourne |
| 3. Cambridge Research Park | 8. Peterhouse Technology Park |
| 4. Granta Park | 9. Adderbrooke's Hospital |
| 5. Brabham Institute | 10. Melbourn Science Park |



Cambridge High Tech Cluster

Serial entrepreneurs, some who became wealthy through early successes, are influential in the provision of seed and equity finance (Herman Hauser, founder of Amadeus Capital Partners is the most widely recognised).



Granta Park - Cumulative Floor Space and Employment

Changing Characteristics

In the early years, much of the knowledge-based activity was housed within the city. New companies started life in corners of university laboratories and then graduated on to a variety of workspace. Old mills, factories, offices and some larger

houses were converted for multi-tenancies and a good proportion of these were within the urban fabric of the city. This pattern persisted for many years, and, to some extent, does so still today. Some new employment space has been developed within the city, but much of this has been taken by the public sector (administration and education) or the professional service firms (accountants, lawyers, financiers) who are now important players, in their own right, within the high tech cluster.

Cambridge University has many sites within the core of the historic city and a number have been redeveloped or radically re-furbished in recent years. In some cases the funding for these has come from major research-rich firms that have made substantial capital contributions to new laboratory developments in university departments, and established their own research groups within them in embedded laboratories.

These have their own staffing, facilities and systems but adjoin university researchers working in similar areas-the concept being to encourage serendipitous interactions and stimulate creativity.

Only very limited expansion of research and development activity is achievable within the historic core. Significant growth has only been possible through development of employment sites on the outskirts of the city, and further afield. Apart from disciplines that naturally seek a rural environment (such as agriculture and veterinary science and astronomy), the first strategic move out of central Cambridgeshire was made by the teaching hospital (Addenbrookes), which moved to a site fin the south fringe of the city some 45 years ago.

The increasing importance of bio-medical science, together with the presence of the world-renowned Laboratory for Molecular Biology or LMB (its website features twelve Nobel Laureates), has led to a steady build-up of research activity at the Addenbrookes site.

This has now been drawn together through an ambitious development plan (2020 Vision) for a 32 ha expansion to accommodate a new building for the LMB, and 11ha expansion for a biomedical research campus. A recent success, which indicates the type of activity that it is hoped to attract, is the decision to establish the 200 staff strong Cambridge University Hutchison/Cancer Research UK Cancer Centre at Addenbrookes.

When this was announced, the head of the Clinical School, Professor Sir Keith Peters, commented:

"One of the great strengths of the Addenbrookes' campus is the integration of effort towards a common goal between the Clinical School, the Medical Research Council and the National Health Service. It is of incalculable benefit to patients and it is unique."

Cambridge Science Park (CSP)

The next major development, this time on the northern fringe of the city, was the Cambridge Science Park. In 1970, when the Science Park was first being considered, the site was a derelict area of land still blighted by previous wartime use. The main road to Ely (A10), ran along the site's eastern boundary, but the major dual carriageway to the north (A14, now heavily congested and due to be replaced) was not even firmly planned.

Nationally, there were no science parks in the UK when discussions in Cambridge started, and the other early scheme at Herriot Watt University in Edinburgh, which just predates CSP, was also just a possible scheme. It was, therefore, not at all obvious that a science park would be an easy project at the chosen site (the land being far from attractive and the concept being a pioneering one), or that it would become a commercial success. The fact that a commercially-successful and physically-attractive development has been achieved should not lead one to suppose that these were, in any way, pre-ordained outcomes.

Trinity College, which has owned the CSP site for several hundred years, is the largest college in Cambridge University. It has substantial assets, spread over many types of investments. The College also has a large Fellowship, whose members have played important roles in the wider University and nationally. In the late 1960's, the Government at the time, led by Harold Wilson, saw national economic progress being forged in the "white heat of the technological revolution." They urged universities to increase their contact with high-technology industry and Cambridge University set up a committee, under the chairmanship of Sir Neville Mott, to consider how it should respond.

The Mott report, in 1969, was strongly influenced by experience from the USA and, in particular, successes in technology transfer and the community of technological scholars which was evidenced at Stanford University. Mott recommended a moderate expansion of "science-based industry" close to the City. Firms would benefit from the excellent international scientific expertise and facilities in the University and nearby research establishments, and their work would feed back to the University, thereby enlivening both teaching and research.

Trinity College had a general commitment to the findings of the Mott report, together with both a possible land holding and the financial resources to invest in its development; taking a long term view on the potential payback. The returns from success were seen to be both commercial, in bringing a blighted landholding into productive use, and academic, in helping achieve University policy. The early development of the Science Park was cautious, but the vision has always been ambitious. Initial planning permission was sought for 14 acres, and the first buildings were simple, though good quality, light industrial units of single storey construction with a limited provision for offices (no more than 15%). Development density was, however, low and there was a significant investment in landscaping with, as a nice touch from the College, trees for every letter of the alphabet (taking their Latin names).





Initial development was slow but reasonably steady, with most property being developed through the College's own finance and leased to tenants. The College has, throughout, been willing to take a less rigid view than that of traditional property landlords, on the strength of covenants that tenants can offer. Generally speaking though, the CSP has been run on commercial lines. Overhead costs have been kept low through the delegation of aspects of management to local companies: notably the chartered surveyor Bidwells, which has had responsibilities for the Park since its inception.

Over its 25-year development history, the balance of CSP tenants and the nature of its physical development have changed. Buildings have become taller as land values have increased, and the need for load-bearing ground floor space decreased. The average size of tenant firms has increased, and some of the small unit schemes developed in earlier years have been amalgamated for letting to single users. More firms have had their own purpose-designed premises built, and



The site in 1970

land has been released to private developers who have, speculatively, developed buildings for lease.

When SQW undertook an evaluation of the Science Park in 1997, we noted that with maturity, its social capital seemed to have weakened. Major employers inevitably give priority to internal networking and are less concerned, particularly as they become more mature and have well-developed and widely-dispersed relationships, with other companies to make an effort within the Science Park community. At the same time, the evaluation commented that what had, at the time, seemed good provisions for social and sporting activities were looking inadequate after 25 years. Partly prompted by feedback from the evaluation, Trinity College has since brought forward a major new conference facility which has re-established the CSP as one of the key venues for networking events.

The College has kept to a minimum, any prescriptive involvement with the design of buildings, preferring to allow tenants to make their own choices. This has led to an interesting variety, with some excellent buildings and other less distinguished ones. It is a matter of taste as to whether a more coherent urban design approach might have been better. Factually, the approach adopted has been simpler and CSP tenants tend to stay. The first firm came in 1973 and is still on the park today. Cambridge Consultants Limited, the major technology consultancy which is now part of the AD Little Group, has grown steadily on the Park since 1979.

Planning permission has limited activities to: Scientific research associated with industrial production; Light industrial production of a kind which is dependent on regular consultation with the scientific staff of the occupier or of other institutions in the area; and Other appropriate ancillary activities.

The spirit, as well as the letter, of these limitations has been generally observed. Venture capitalists and patent agents were positively welcomed, though not specifically courted. The College has never sought to engineer a preordained tenant mix or to create a particular sectoral image for the CSP. In the early years, efforts were made to ensure that a supply of small units was developed in order to assist business incubation and early growth. The need to do so was reduced for a time because of the

nearby development of St John's Innovation Centre (see below), but that Centre is now nearly always full. In June 2005, Trinity College completed the refurbishment and modification of a substantial existing building for the Cambridge Science Park to establish the Cambridge Science Park Innovation Centre, offering flexible small space on one month notice with a rent that includes shared services, meeting rooms etc.

A policy of enabling rather than initiating has marked CSP's involvement in links between tenant firms and the University. SQW's discussion with a range of senior academics suggested that few had regular contact with CSP companies, though most has had some. In our surveys of companies, their employees showed, in some cases, that contacts exist, but these are typically intermittent and informal rather than intense. This is probably both predictable and desirable. Firms seeking an intimate relationship with University research have located much nearer to the relevant departments and, in important instances, set up embedded laboratories. Other firms, such as CSP tenants, can be expected to need highly specialised external assistance at particular points in time and to seek it from whichever source is most relevant, irrespective of where it happens to be located.

In short, when looked at in a broad context, the CSP is one of the few European science parks to have reached maturity and to have started the process of redeveloping its earliest development phases. It has managed to sustain throughout its existence an enviable visibility in the UK and overseas, and has brought valuable visibility to the Cambridge area as a whole. It has a number of exciting companies which have provided valuable role models for others in the area, and helped to attract high profile visits from countries all around the world. Some research commentators have been critical, setting as a benchmark their own credo as to what a "pure" science park should be and do. CSP has few pretensions of purity, but rather has sought to respond quickly and flexibly to market needs whilst generating reasonable levels of profit for its owner to reinvest in the academic community.

St John's Innovation Centre (SJIC)

St John's College is reported to be the second richest Cambridge College (after Trinity) with a large land holding around Cambridge and further afield. The site housing the Innovation Centre and the subsequent Innovation Park, which offers larger premises, comprises 9 ha in total. It lies directly across the A10 trunk road from CSP.

In 1993, when the plans for the SJIC were evolving, the first tenant had already been on the Cambridge Science Park for 10 years. From the outset, SJIC sought to differentiate its role from that of CSP. Rather than being generally responsive to market needs, the philosophy was to tap latent demand by offering both specialist advice and a supportive physical setting; providing space on a basis which minimised the entrepreneur's financial commitment by "easy-in, easy-out" leases.

The underlying perception was that "there are people in the University and other research establishments with a process, product or idea that they wish to develop commercially." SJIC has become a key networking centre for technology transfer activity within the Cambridge area, and provides the natural venue for new product development clubs and the like.

Careful deliberation was given to the design of the initial Innovation Centre building (which was significantly influenced by the Innovation Centre at the University of Utah) and to the landscaping plan. Following an architectural competition, one of the more expensive options was chosen in order to give the impression of quality and unity, and provide a generous allocation of common space in which entrepreneurs from micro enterprises could meet and mingle. In order to fulfil its vision, St John's College was prepared to take risks that a private developer would have shunned.

Some 25% of space in the initial building was non-lettable as compared to a more customary figure of 12-15%. This can be judged with hindsight to have been a sound decision, as these common areas also serve the additional lettable space developed in subsequent phases. Somewhat surprisingly, larger firms occupying later development phases did not want their own front door image, but preferred to be accessed instead via the common reception area and internal corridors of the original Innovation Centre building.

In terms of physical characteristics, all the units available for lease in the SJIC have offered space more akin to an office than a laboratory. There is no wet lab space for rental in SJIC, though a privately developed bio-technology incubator was constructed in an adjacent freestanding building some 5 years ago.

Despite offering highly flexible "easy-in, easy-out" tenancies, SJIC has seldom seen occupancy levels fall below 90% in recent years, and its space is often fully taken. The attractiveness of flexible lease terms has been such that it has been possible to match, and perhaps exceed, the top rental levels achieved in Cambridge. This is vitally important because, as a charity, the College is responsible in law for ensuring that its investments produce good commercial returns.

Partly as a result of this duty, there has always been caution about the costs of management. There has, nonetheless, been a strong and continuing commitment to there being effective management on site which deals with day-to-day matters in running the building and front-line tenant relations; though a local firm of chartered surveyors, Carter Jonas, handles the legal aspects of tenancy agreements.

Equally important, there has always been a commitment to helping tenant companies with their business development needs. Initially, this help was provided through the part-time efforts of a university technologist assisted by an administrator, who was also active in seeking to develop a specialist mini incubator. Experience showed such resources to be insufficient; moreover it was found that

tenants mostly needed business advice and assistance rather than scientific/technological help.

Business expertise was brought in through the recruitment of a former manager with Barclays Bank and consultant with Coopers and Lybrand. Walter Herriot initially made an input for two or three days per month. He was then sponsored by Coopers and Natwest Bank to work full time at SJIC for two years.

Since then, Mr Herriot has been the full-time director and based in the Centre. The role played by his team has been greatly appreciated by tenants and the College alike. Company failure rates have been encouragingly low; according to Garnsey and Reid, "of the 53 firms graduating from SJIC over the period from the Centre's foundation to [a] survey in mid-1996, only 5 (9%) were definitely known to have ceased trading."

With an eye to its charitable purposes, St John's College has not been prepared, after the SJIC's start-up phase, to subsidise Mr Herriot and his team beyond what can easily be justified in terms of the scheme's performance as a commercial investment.

The team's involvement in activities outside the Centre, which have been widely recognised as valuable for the evolution of the sub-region's high tech cluster, have had to be financed through consultancy earnings, operation of an EC Innovation Relay Centre, direct subventions from public sector funds for business support work and imaginative assistance from the Gatsby Charitable Foundation.

The need to earn funds from outside has, in some senses, imposed considerable strains on the management team. From another point of view, however, it has assured a sustained focus on market needs and helped bring experience of success and failure from elsewhere in Europe.

Firms have not been keen to leave SJIC and, for sound commercial reasons, the College has not wished to use its power to force firms to move out after three years. For much its life, continuing expansion of SJIC has ensured an inflow of new blood. There has also been a steady turnover of space from natural progression, as several of the Centre's companies have achieved substantial growth. At some time, however, there may be a need to reconsider whether the developmental aims of SJIC's call for a more energetic approach to moving companies on to other premises.

To summarise, the original aim of Dr. Christopher Johnson, the founding chairman, for the St John's development to complement the contribution of CSP to the development of the Cambridge high tech cluster has demonstrably been met. SJIC continues to nurture a significant proportion of the cluster's knowledge-rich new starts and constitutes a key element in the networking infrastructure. On all this the Centre's director, Walter Herriot, has set his distinctive personal stamp: sustaining the profile, keeping in touch with grass-roots realities and cautioning against complacency.

Granta Park

In the wake of the success demonstrated by the CSP and SJIC, a number of further developments have come forward to meet the needs of firms in the high tech cluster and to cater for major new research institutes (notably the Sanger Centre on the Genome campus at Hinxton). Depending on the definition chosen, there are now variously between 10 and 14 science park development in the Cambridge sub-region. Granta Park is perhaps the most interesting of these, both because of the partnership through which it was developed and because all its tenants are from the life sciences.

TWI, the operating arm of The Welding Institute, is a Research and Technology Organisation with an international membership (50% of its income is from overseas). Since 1946, TWI had its base at Great Abington, some 10 miles from Cambridge. In the mid- to late-1980s, its longstanding director, Bevan Braithwaite, developed the idea for a science park adjacent to TWI.

He could see the dynamic in the Cambridge economy, which was booming in the late 1980s, and identified that there was no significant property provision south of the city. He saw a science park development as providing an opportunity to raise TWI's profile further and to generate an additional income stream.

TWI acquired land options from two local land owners, and in 1990, was given outline planning for a research park to accommodate companies linked to TWI. Market conditions promptly deteriorated at the end of 1990, and by early 1991 the asking rents at a prime new development in Cambridge had fallen by over 40%.

It took some three years for market conditions to improve to the point where the TWI scheme began to look attractive, and TWI then sought possible development partners. It selected MEPC, a property development and investment company that had acquired and further developed a successful scheme at Milton Park, near Oxford, which had a number of science park buildings.

The entrepreneur who had originally developed Milton Park was appointed as project manager by MEPC, and he commissioned SQW to undertake research into market prospects. This concluded that there was a reasonable level of potential demand, but questioned whether there would be sufficient businesses with links to TWI.

Detailed planning permission for the 36 ha site (which was achieved in three tranches) secured a relaxation of the requirement for firms to have links to TWI. Following complex negotiation (at that time, the development equation still looked marginal), an agreement setting out the rights and obligations of both parties was signed in November 1997. MEPC and TWI each contributed cash, though in unequal amounts, to provide a total equity investment of £5 million in the Granta Park Partnership (GPP). MEPC provided, in addition, £45 million of development capital which attracted a priority return.

Work on infrastructure started in mid-1998 and the first building was completed at the end of 1999. By mid-2005 buildings, which are all owned by the GPP, account

for a total of 53,000 sq m. Roughly 75% of this comprises buildings that have been built on the basis of a pre-let (15 or 20 year lease), but 25% has been developed speculatively. Some of this 25% is laboratory space (mostly for offices), and it was probably the first laboratory space to be developed speculatively in the UK by a private developer.

Essentially, the physical approach for the speculative laboratory space (since adopted elsewhere in the area) was to provide a building with core services suited to a variety of fitting out solutions. This was accompanied by a leasing package which could finance both the core building and the subsequent fitting out but a higher rental on the latter.

As with all buildings on the Park, the speculative developments were to a good standard. Granta Park has essentially met the needs of companies embarking on a rapid phase of growth and needing to convey a good image and provide top quality laboratory space, in order to reassure large pharmaceutical companies and to attract good staff.

Companies on the Park use TWI facilities, which include dining rooms, a conference centre, a photographic unit and a quality print shop. There are now eight companies on the park with 1,350 employees, and they all have reasonably strong links to the Cambridge science base. None, however, has links to TWI science, though it is hoped that some links may emerge from the recently established Faraday Centre for Bio Materials.

It is hoped to expand the scheme further by 37,000 sq m, up to a total of 90,000 sq m, which is a ceiling that respects undertakings on maximum scale given to the residents in surrounding villages. If the expansion is approved, then there is an aspiration to broaden the company base. As well as bio-materials, this could include nano-science and bio-informatics.

To sum up, the original intention to attract companies on the basis of TWI's technological strengths and facilities (both of which are excellent), have proved illusory. When Granta Park was coming on stream, the main market opportunity was from biotechnology businesses that needed to grow. The Park director, Roger Quince, was a former partner in SQW with considerable reputation as an applied economist. In the first instance, Grant Park happened on biotechnology more by chance than by foresight. However, once the opportunity became apparent, there was considerable time and effort invested to understand the business models of biotechnology firms and their physical and financial requirements.

The appropriateness of the combined property and financial packages developed through this analysis is evidenced by the rapid and high quality development which has been achieved. The Cambridge area is now home to about 40% of British biotechnology.



The University's West Cambridge Site

Given the number of sciences parks and similar projects in the Cambridge area, it might be supposed that the University of Cambridge would feel there was no need to become involved directly. However, it has concluded otherwise, on the grounds that there are major potential advantages from close proximity of university researchers and research groups from leading knowledge-rich firms.

In March 1999, the University was given outline planning permission for 228,000 sq m of new built space on its 66.5 ha West Cambridge site (existing uses account for 22,000 sq m). The site is adjacent to the Cavendish Laboratory, housing the Department of Physics and it is expected that, along with new institutes coming onto the site, the Engineering Department (the largest in the University) will move out from the centre of Cambridge.

The projected mix of uses in the planning application was:

Academic	73,000 sq m
Research and Development (private firms)	24,000 sq m
Housing (220 units)	10,000 sq m
Communal Facilities (plus a nursery)	18,000 sq m
Sports Facilities	10,120 sq m

An early indication of the development philosophy has been given by Microsoft's decision to establish a major research group in Cambridge. The original concept was that Microsoft would provide a building that would be shared with the University's Computer Laboratory (the University Department of Computer Science). However, the amount of space required made that option unfeasible, and two separate buildings were constructed adjacent to each other through an arrangement which, in effect, gave the Computer Laboratory Building to the University as a gift. At the same time, the Gates Foundation made a major donation of US\$21 million to endow visiting scholars.

A second example is the Centre for Advanced Photonics and Electronics (CAPE), which is a new research facility for Electrical Engineering, housing the Electrical Division of the Department of Engineering and the new Centre for Molecular Materials for Photonics and Electronics (CMMPE). This research and technology centre will focus on encouraging research activities to proceed to development and exploitation in close collaboration with industry.

Finance for the building, costing £14 million, came from the national education budget. However, four strategic industrial partners-Dow Corning, Alps Electric, Marconi and Advanced Nanotechnology Limited-are contributing £8.5 million to fund research. Scientists from these companies will work in laboratories that are embedded within the building.

By being located at the West Cambridge site, it will be possible to develop synergies with work being undertaken in the multi-disciplinary Nanoscience Centre, the Computer Laboratory and the Cavendish Laboratory.

In summary, the science parks around Cambridge play a major role in accommodating research-intensive firms, many of which have links to the research community. There is, however, a demand from these research-intensive firms for space that enables their research teams to have the possibility of closer interactions with academic researchers.

From the University standpoint, this means working with the firms' researchers rather than just for them. In the view of Lord Broers, the former University Vice Chancellor, it is far more likely that firms will bring their really important scientific endeavours to Cambridge through their embedded laboratories and in-house research. The University's scientific excellence will be stimulated by the influx of top talent and the new insights and research agendas that the scientists bring.

A Broader Perspective

This chapter has focused on some of the physical approaches to developing workspaces within which talent and creativity can flourish. There are also important current initiatives to create quite new places near to Cambridge through which the high rate of projected growth can be accommodated. Notable amongst these is the proposed Northstowe new town of 8,000 houses which is to be connected to Cambridge, some five miles away, by a high-speed guided-bus system.

The goal for Northstowe is to create a new community that, by broadening choice, will enhance the global competitiveness of the Cambridge area. To help achieve this, close attention is being paid to design approaches that will integrate the town centre with an adjoining 20 ha employment area; thereby providing the option of working in an urban setting which offers both excellent accessibility by public transport and access to a wider range of shops and other amenities.

It will complement the current portfolio of campus-style science parks that ring Cambridge - with links through the guided bus to both the Cambridge Science Park and the Addenbrooke's hospital site.

Much of the initiative for Northstowe, which was clearly identified in the County Structure Plan, has been taken by a private firm, Gallagher Developments, which has assembled the land options required to ensure an early start with the project. There has, however, been important support from the public sector (notably in taking forward the legislation required for the guided-bus system), and it now appears likely that the central government development company, English Partnerships, will enter into a joint venture with Gallagher.

The development of such major projects highlights the importance of partnership working and the last ten years have seen a progressive strengthening of various aspects of networking which have contributed significantly to the competitiveness of the sub-regional economy.

Networking in Cambridge

The then Vice Chancellor of the University of Cambridge summed the position up well in his introduction to SQW's latest book, in which he says:

"In earlier years, one of the city's great strengths was its local networking and this remains vitally important. What we see today is an equally vital and complementary enthusiasm for international links. I am sure that the years ahead will see us collaborating - and competing successfully - with the other centres of excellence around the world."

In the early years of the cluster, it was the academic rather than the business sphere that had a developed infrastructure for networking. This included the Society for Applied Research, open to all with an interest in research whether from the business community or academia.

A subsequent initiative, Cambridge University Local Industry Links (1989), seeks to balance the learning and social dimensions of networking. CULIL runs a series of dinner seminars on topics of interest to business and academics alike, with three 20-minute presentations before dinner, followed by dinner and a general discussion. Topics covered have been diverse: new approaches to seed finance, international experience in fostering innovation, and doing business with China. There is usually a speaker from the University, from the local business community and from a non-Cambridge expert. The events are open to all (who pay!) and attendances are often in the 100-120 range.

It was at one of these CULIL events that the concept of the Cambridge Network was formed. Three of the attendees, the then University Vice Chancellor (Alec Broers), the serial entrepreneur/venture capitalist (Herman Hauser) and the ICT specialist (David Cleevely) from Analysys) pondered together how networking in the Cambridge cluster could acquire a sharper business focus and greater inclusiveness.

Their thinking was:

"To create and support a community of like-minded people from business and academia in the Cambridge region and link this community to the global high-tech network for the benefit of the Cambridge region."

Cambridge Network Limited (www.cambridgenetwork.co.uk) was formally established in 1998, and has an inner circle of founder members that guide its forward development (and pay £5,000 per year) that include major local firms, finance and other business services providers, Cambridge City Council and the University of Cambridge. However, there are important 'outsiders' too, such as the London Stock Exchange, BTextact and Cranfield University. The Cambridge Network undertakes a variety of activities aimed at encouraging both local and global business processes. They involve both physical networking and activities in virtual space. Interestingly, specific efforts are made to involve younger entrepreneurs, and a number of companies make a point of encouraging their younger middle-management colleagues to attend CN meetings in Cambridge.

ERBI is a specialist network for the biosciences (launched at around the same time as the Cambridge Network, which SQW was contracted to manage during its launch year). Whilst there is a strong concentration of new biomedical companies in Cambridge, the rest of the Eastern Region has significant complementary strengths, with major pharmaceutical businesses in Harlow and Stevenage and plant biology (John Innes) focused on Norwich. ERBI has drawn these, and other elements of the sectors, together into an active membership based network which has considerably raised the region's international profile, and increased mutual awareness of strengths and collaborative potential across the region.

Finally, mention must be made of the Greater Cambridge Partnership (GCP), an organisation that brings together local government, private firms and the academic/research community. The GCP has played a crucial role in helping the local community, in particular local politicians, to understand the important contribution that the Cambridge cluster makes to the regional and to the national economy. It has helped change previously very negative attitudes towards growth, and shifted opponents from outright opposition to focusing on how to make the most of opportunities that growth can bring (and to avoid the pitfalls). Such has been the success of the GCP that local authorities in a 20-mile radius from Cambridge, some in different counties, have asked to become members.

In conclusion, both forward-looking physical planning and imaginative developments are essential for places that aspire to be competitive nodes of creativity and innovation in the global economy. They are not, however, sufficient, and there is a need for social capital to develop abreast of the pace of physical change. Leadership by elected representatives can play a part in this, but the Cambridge experience is that diverse 'voluntary' initiatives that bring people together to exchange ideas and experience are essential to sustaining a vibrant creative 'buzz.' Cambridge has only a small number of such social entrepreneurs, but they have played vitally important roles within their different spheres of influence.

Notes

1. The Cambridge Phenomenon Segal Quince and Partners 1985 ISBN 095 10202 0X

2. The Cambridge Phenomenon Revisited June 2000
ISBN 095 10202 18

*Photos on pages 131 and 133 courtesy of
www.wikipedia.com*

Photos on page 137 courtesy of Flickr.

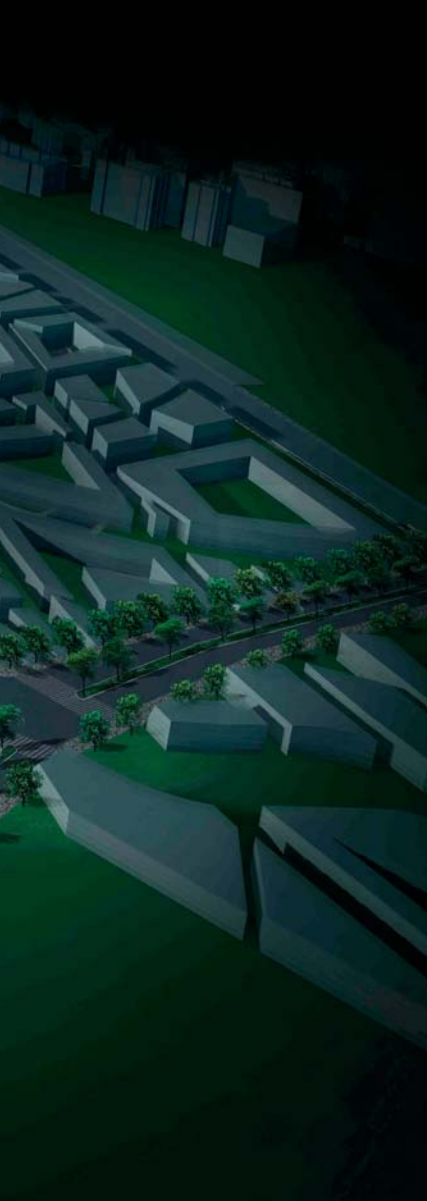
*Photos on pages 138 and 145 courtesy of William
Wicksteed, SQW*



Singapore

One-North Initiative : Where Ideas Grow

Arthur Aw, Director, Land Planning Group
Cindy Koh, Land Resource Analyst
JTC Corporation



Introduction

The Republic of Singapore is a young tropical nation in Asia. A former British colony, it gained independence as a sovereign state in 1965. Singapore is a city-state covering a land area of approximately 685 sq km, with a population of over four million. It consists of one main island and a number of islets. Like most major Asian capitals, Singapore is also a densely populated city. Despite its dense living environment, its judicious land use planning have earned it the reputation as Tropical Garden City, Singapore has no natural resources but its strategic location at one of the crossroads of the world has helped its growth into a major centre for trade, communications and tourism. Singapore is linked to Malaysia by two causeway bridges and a few key islands of Indonesia by quick ferry trip. Thailand and Philippines are also only a short flight away. With an airport that is served by more than 69 airlines and ranked internationally among the best in the world, Singapore is the principal gateway to South-East Asia .

Singapore has grown from a tiny port depending on entrepôt trade and providing services to its British military bases into a thriving world-class centre of commerce and industry. It went from being a third-world country to a first-world country in just one generation, which has made Singapore known as one of the great success stories of Asia. It is the second-most competitive nation globally after the United States , and also the world's second-most network-ready country after the US . In 2004, Singapore was ranked the third-best place for doing business among 145 countries worldwide, according to the World Bank's Doing Business 2005 report . Singapore is also the fourth-largest foreign exchange trading centre in the world . Singapore has one of the busiest ports in the world with over 600 shipping lines sending super tankers, container ships and passenger liners to share the busy waters.

Notwithstanding these worldwide recognitions, Singapore strives to remain a compelling hub for investments in both manufacturing and services, maintaining its global manufacturing leadership in products ranging from disk drives to oil rigs, and sustaining a healthy economic growth of 8.1 percent in 2004. Over 3,000 multinationals from America, Europe and Asia have set up their operations here. To name a few as examples: Carrier Transicold from USA, the world's largest refrigeration container manufacturer; Seagate from USA, the world's largest producer of hard disk driver; ExxonMobil from USA and Shell from the Netherlands the world's two leading oil companies, making Singapore the world's third-largest oil refining centre; Media Tek from Taiwan, the world's sixth-largest fabless IC design company; Vopak from the Netherlands, one of the world's largest chemical logistics service providers; LVMH from France, one of the largest and most diversified luxury conglomerates in the world, and many others. These companies are helping to put Singapore on the world map as one of the most robust cities.

On the demographic profile, the four-million multi-racial population of Singapore comprises Malays, Chinese and Indians accounting for approximately 98 percent. Singapore is also one of the most densely-populated cities in the world, with roughly 6000 persons per square kilometre. There are four official languages in Singapore (Mandarin, Tamil, Malay and English) and the literacy rate of the population is close to 94 percent.

Origin of Project

In late 1990s, while the manufacturing sector continued to support Singapore's economy, the government recognized the need to move the nation beyond a competitive manufacturing base and into a knowledge-based economy in which knowledge-intensive R&D activities are emphasised. In April 1996, a multi-agency team was formed at the request of the Deputy Prime Minister Dr Tony Tan to look into the feasibility of developing the Buona Vista area into a focal hub to stimulate R&D and "technopreneurial" culture and environment. It was termed the Technopreneurship 21 (T21) Initiative, and the development of a science hub was suggested.

To give a stronger identity for the science hub, which is Singapore's icon of new economy, it was then renamed to "one-north" to represent the location of Singapore at one-degree north of the equator.

The development of one-north is a long-term strategic investment to lead Singapore's economic development towards a knowledge-based economy in order for the country to maintain its cutting-edge position within Asia. Thus, one-north differs radically from those previous technopreneurial developments such as science and business parks, and the mandate for out-of-the-box thinking is pursued with enthusiasm across the public community.

Conceptually, the vision of one-north is to create more than just an extension of R&D space. It will be a magnet attracting international and local talent to pursue R&D and technopreneurial activities within a physically and socially diverse



community to "work, live, play, and learn". It is envisioned as a place where creativity thrives and new ideas grow. It would be a place where a community of innovators, technopreneurs, venture capitalists, corporate lawyers, investment bankers, business consultants, media stars and artists can live, work, congregate and interact with each other to exchange ideas, collaborate, strike deals, or just to have fun.

Such vision does not take off simply by demarcating a development boundary. To create the critical mass and make it vibrant and abuzz with activities, it was important that a dedicated agency plan and lead the developments, as well as provide the "soft" support services to sustain the developments.

Site and Location

One-north covers an area of approximately 200 ha in the western part of Singapore. The site lies at the heart of the "technological corridor," which stretches from the edge of the CBD on the eastern end of the corridor to the Nanyang Technological University at the western end. The presence of various established tertiary institutions, such as the National University of Singapore, the Singapore campus of the Insead Business School, Singapore Polytechnic, and the teaching hospital at National University Hospital, as well as the R&D facilities at the Singapore Science Parks within the site's immediate surroundings, enhances its potential to be developed as a hub for research-based, high-technology and knowledge-driven activities.

Coupled with the largely greenfield nature of the area, and the already-available public transportation network, these appealing factors finally led the Singapore Government to decide in 1999 to anchor the science hub here at one-north.



On the physical environment itself, the natural undulating landscape and heritage of one-north are the essential physical assets that give it a distinctive character. The black-and-white bungalows at Rochester Park and Nepal Hill (formerly military barracks), and the low-rise apartments at Wessex Estates that are distributed throughout various strategic spots together represent significant architectural patrimony. Retaining them will create an interesting built environment when modern buildings are inserted into the existing urban fabric. They also add historical value to the site, creating a unique place where the old meets the new.

Actors and Agencies

In April 1996, the then National Science & Technology Board (NSTB) led a multi-agency team to study the feasibility of developing a Science Hub in the Buona Vista area. A comprehensive development plan was proposed to transform the Buona Vista area. Later, an inter-agency Science Hub Study Team was formally set up by Ministry of Trade and Industry (MTI) to validate the concept and to examine the relevance of the Science Hub to Singapore. The Study Team concluded that the Science Hub Concept should be implemented as soon as possible.

After the government had given the green light to the project, a Steering Committee for the Buona Vista Science Hub (later renamed as one-north Steering Committee) was quickly established in early Oct 1998. The Committee is chaired by a Cabinet Minister in order to reflect the government's total commitment in this project and to set clear directions. Various key agencies in charge of national planning, housing, transport and park developments are brought in as members of the Committee to give advice and to help streamline the whole development process.

To create and sustain the vibrancy of one-north, the Steering Committee acknowledged that it would be better for the hard and soft infrastructures to be coordinated and managed by a single agency. JTC Corporation with its 30-year experience in infrastructure planning and implementation as well as business facility development was delegated as the master planner and master developer for one-north, and the lead agency to develop it. To make one-north a "first of its kind" development and a true test bed for fresh and creative ideas/concepts, JTC called for an international master plan design competition to find the best possible planners, and to solicit interesting ideas from the international pool of planning talent. The competition attracted entries, from various world renowned firms and professionals such as OMA, SOM, Gensler, HOK, NBBJ, Richard Rogers, Toyo Ito, Kenzo Tange, Nikken Sekkei, etc. From more than 20 entries, the master plan concept by the Pritzker Prize Winner Zaha Hadid Architects was chosen as the winning scheme by the Design Evaluation Advisory Committee .

Since one-north is a large real estate development spanning a timeframe of more than 20 years, it is essential that each phase of development always stay relevant to the evolving market needs. A Resource Advisory Panel (RAP) was set up to give advice on the strategic directions for planning and development of one-north. The Panel is chaired by a top government official and consists of a number of locally

and internationally known gurus in architecture, planning, lifestyle business, real estate, education, etc. It is convened once a year to deliberate key development strategies and issues.

Within JTC Corporation itself, two departments work in close collaboration with the common goal of bringing the one-north vision to fruition. one-north Development Group (ODG) oversees the marketing and development efforts of one-north, while Land Planning Group (LPG) oversees the master planning and urban design efforts of the site.

Objectives

The objective of one-north is to give Singapore a competitive edge to enlarge and upgrade its own high-tech industries by establishing a strong R&D base. R&D is essential for companies to move up their value-added chain in order to remain competitive. One-north will demonstrate Singapore's commitment and to R&D, and to provide the infrastructure to meet the needs of R&D companies for an attractive and dynamic working environment at competitive rental rates.

Well-qualified and experienced foreign researchers bring with them knowledge and skills. This foreign talent will create multiplying effects through the formation of spin-off companies, as well as strengthen the pull factors for technology build-up in Singapore. The clustering of these professionals also creates a climate for enlightened career choices and makes R&D and engineering professions more appealing to young Singaporeans.

A dynamic environment of interaction will nurture and sustain a thriving R&D culture at one-north, help develop a base of dynamic technopreneurs, foster strategic collaborations and stimulate the exchange and generation of ideas. With electronic networks linking up and bridging the distances among companies, one-north will heighten the awareness and appreciation for physical interaction.

The planning objectives of one-north are formulated towards an overall vision of a vibrant and sustainable community for the new economy. Such a community would attract both multi-national high technology firms as well as local start-ups. Both economic and social infrastructures would be put in place to create round-the-clock experiences of "work, live, play and learn".

Dynamic urban cultures are, by nature, well-connected at every scale. They involve people in the regular interactions of everyday life, and also promote associations beyond the local. They are tied to the events of the metropolis, and respond to global information. The goal of one-north is to maximize productive connectivity within the site and beyond its borders, and this goal is pursued through formal and infrastructural systems. In general, the development of one-north is guided by four key planning principles:

Organic Growth and Constant Rejuvenation. In order for one-north to be sustainable in the long-term, the development has been designed to allow for, and promote, organic patterns of growth that respond to ever-changing demands.

Non-Contiguous Growth. Rather than starting at one point and growing uniformly across the site, overall site development and the establishment of linkages to adjacent communities benefit from the simultaneous growth of several starting points that address the site as a whole.

Dynamic Mixed Use. A community is based on the juxtaposition of multiple activities taking place at the same time and complementing one another. As distinctions between “Work, Live, Play and Learn” break down, and their boundaries blur, the discreet separation of programs into distinct zones is increasingly inappropriate for the needs of the community. New strategies are needed for zoning to accommodate the ever-changing program on the site.

Seamless Connectivity. The objective of “seamless connectivity” touches upon several aspects of one-north, whether in transport, infrastructure, communication or spatial quality. Seamless connectivity will permit real-time responses for the residents and workers in one-north.

Finance

As the master developer, JTC plays the role of coordinating the development phasing and basic infrastructure provision. The government provides the funds for basic infrastructure, while JTC acts as the infrastructure service agent to ensure that the land parcels are readily available for developments to take place. Though assuming the dual roles of the master planner and master developer, JTC has to purchase land from the government at the prevailing market land value like any other private developers in order to ensure clear accountability for disposal of land from the government.

The only difference is in the mechanism through which the land parcels are sold. Since JTC is to lead the development of one-north, the government will sell the land to JTC directly, unlike the public tender system governing land sale to the private sector. Nonetheless, JTC still has to fund its own land acquisition by whatever financial instrument it finds suitable.

The decision to let a public organization (JTC) to lead the one-north development instead of a private developer was arrived after much consideration of the following key factors:

The Government has important development objectives of nurturing the growth of start-up companies. These objectives would be compromised if this were done by the private sector which operates only on bottom line returns;

The size of the land area is too large for a single local developer to take on single-handedly and the implementation timeframe is also rather long for private developers to see through the entire development; and

The development could be construed as a property play.



Urban Components and Systems

The one-north project aims to redefine the spatial relationship between research, business and urban life. The strong affinity between the research and business communities has already been acknowledged, and attention today is directed towards the role of urban life in sustaining the quality of relationships most conducive to their long-term success. The starting point for grouping buildings for business and research is to concentrate shared, industry-specific resources and associations. The challenge is to define the common resources most likely to draw investment and sustain associations over time, and to position these so as to be conveniently and regularly accessed by the researchers and businesses that they service.

For planning purposes, one-north is divided into seven districts. The major districts are each represented by a "new economy Xchange", which is part of a tailored spatial constellation. Each "Xchange" is characterised by its own distinctive focus on a particular industry or business cluster, and offers a range of locations and building types to attract both the large corporations and new start-ups. Since Xchanges are defined by the business ecology being fostered, the commercial, residential, leisure and institutional components are tailored to these ecologies. The three Xchanges in the first phase of development are "Life Xchange", "Vista Xchange" and "Central Xchange".

Life Xchange is a state-of-the-art bio-medical research campus cradled in an urban park. Research institutes share frontage around a central plaza, establishing the centre of gravity for the research community. The plaza presents an ideal location for casual conversation among colleagues, and opens to an extended avenue of shops, services and entertainment, linking the research core to the urban variety of Life Xchange. The broad buildings of the research institutes give way to a fine-grain network of paths and forms crossing the avenue. Waterways are a special feature of this urban district, offering a variety of micro-environments to support conversation and contemplation. A mixture of residential and business uses are arranged along the Buona Vista Park to bring diversity and a 24 hour presence to the park edge.

Vista Xchange is established as the corporate and business services centre for the greater technology corridor. This Xchange is the gateway to one-north's development in its earliest phase. The focus here is not on a single industry, but rather the promotion of one-north as a centre of business excellence and public/private partnership. The Bus-MRT (Mass Rapid Transit) interchange opens onto a broad tropical courtyard which is a counterpoint to the towers, while the adaptive reuse of the "black-and-white" bungalows of Rochester Park signals that this is a distinctly Singaporean landscape. In addition, pocket parks buffer local residences from the developments along Buona Vista Road and the transport interchange.

Central Xchange is designed to be the heart of one-north, and is the location most associated with new economy growth and dynamic collaboration. This district establishes the ground for the multiple synergies between the Information

Communication Technologies (ICT) and Media industries. It is the future site of the one-north MRT station, and will be well-served by the planned "People Mover System" (PMS), conveniently linking Central Xchange with the rest of one-north, the existing Science Parks, and the National University of Singapore. Central Xchange is also at the intersection of the primary roads connecting one-north to the surrounding city. For these reasons, Central Xchange will have an intensive, densely built, distinctly "uptown" feel, reminiscent of the world's most dynamic urban centres. This district has the highest building density and the greatest concentration of retail and leisure space of one-north's seven districts. A significant residential population, together with its comprehensive transport infrastructure, will bring urban vitality to Central Xchange around the clock.

In addition, three of the seven districts contain designated Heritage areas- Rochester Park, Nepal Park and Wessex Estates-that are natural counter-balances for the urban intensity of the Xchange districts. Adapted to new uses, these areas will nevertheless maintain their unique historical and environmental significance even as new built forms are introduced around and among them. The spatial pattern of the heritage elements at one-north suggests the feel of a relaxed order, allowing the master plan to juxtapose calmer and more vibrant urban areas.

At Rochester Park, the adaptation of the black-and-white bungalows as a compact collection of shops, restaurants and galleries creates a leisurely terrain linking housing units and corporate towers. At Nepal Park, the re-use of heritage elements around the hill-top helps establish a "village-common" amongst the live/work studios, media companies, and rooftop terraces that add vitality to the developments below. At Wessex Estates, clusters of flats are adapted to house local services for a mainly residents and the community artists' "incubator". Similarly, the winding Portsdown Road provides not only a reminder of a local cultural heritage, but an ideal path for more relaxed modes of transport to bring residents of Wessex Estates conveniently to Central Xchanges and the new one-north MRT station.

At one-north, the master plan meets the challenge of reconciling land intensification with high-quality open space. The major guiding feature of the open space plan is Buona Vista Park, a contiguous, multi-purpose spine of landscaped spaces running the length of the site. Natural spaces give one-north a distinctive urban quality. The park's sinuous form provides a strong counterpoint to the sharp edges of future buildings; its calm emptiness balances the vitality of the Xchanges. The park and its terraces can also be the venue for informal gatherings and spontaneous events.

The park contains much of the infrastructure for surface water management, converting necessary engineering into opportunities for the visual play of light and water. Future development at one-north is built up around a collection of linked parks, plazas, paths and linear atria. These are designed to promote a dense web of ground level activity, encouraging a vibrant social life containing opportunities for both work and play.

Development and Process

As the one-north zone comprises an area of approximately 200 ha, with staggered land availability, there is a need to manage the potential supply of the future land uses by phasing the developments over the next few years, while creating a conducive environment as early as possible.

There are three distinct phases in the development of the one-north master plan, and these will take place over the next twenty years. The three Xchanges in phase one allow for the development of the dynamic core of one-north, creating a platform for the development of Phases 2 and 3. The master plan has sought a balance between ensuring critical mass in Phase 1 while optimising the resources and synergies for specific industries. Each of the three Phase 1 Xchanges responds to a particular business ecology, and also provides the catalyst for the residential, commercial, retail and leisure development which will sustain the vitality of the Xchanges.

As the development in Phase 1 will take time to complete, there was a need to provide makeshift incubation space to sustain the momentum of technopreneurial activities in Singapore. For this reason, in 1999, while the master planning was being prepared, a site was identified for the development of "Phase Z.Ro", a short-lease incubator park to provide attractive and affordable incubation space to nurture technopreneurial start-ups.

The goal of the master plan is also to encourage continued growth and investment within new-economy industries, and this was the reason for the distribution of the research and business constellations around the site. This optimises the availability of strategically-attractive spaces for targeted businesses. Growth is shaped and organised through the pattern of districts, each with access to Buona Vista Park and the existing urban fabric. This guides the growth of each of the business constellations along an axis of urban facilities and amenities. Future development serves only to develop the richness and clarity of the axes.

The integration of industry clusters and their neighbourhoods will guide organic growth without compromising the distinctive spatial mix of one-north. Since innovation in one area fuels ideas in another, new linkages and synergies are expected to develop.

Situation Today

Currently, key developments are already taking place in the first three Xchanges of Phase 1, ie, Life, Central and Vista Xchanges.

Life Xchange. In 2004, the first development in Life Xchange, Biopolis I, was completed. Biopolis I is a seven-block 185,000 sq m complex envisioned to be a world-class bio-science R&D hub in Asia. The complex is dedicated to providing space for biomedical R&D activities, and is designed to be an environment that fosters a collaborative culture among the private and public research community. Several key government agencies, publicly-funded research institutes and R&D

labs of pharmaceutical companies are located here. Biopolis I also has restaurants, a childcare centre, a fitness centre, a 500-seat auditorium, four 250-seat lecture theatres and 13 meeting rooms. To reduce their costs and encourage interaction, 6,000 sq m of space has been allocated to expensive medical research equipment that will be shared by the research institutes and companies.

Currently, construction of Biopolis II has just commenced. With the growing demand for bio-medical space, JTC has engaged private sector participation for the development of the Biopolis II, which will be a multi-tenanted bio-medical research facility. The proposed development is located south of Biopolis I and will comprise two multi-tenanted research buildings with a gross floor area of approximately 37,000 sq m. Biopolis II is targeted mainly at private biomedical research activities, and will therefore be purpose-designed to provide an integrated environment to encourage bio-tech interests and the progress of private incubator companies.

Central Xchange. In Central Xchange, the construction of the 25-storey "Fusionpolis" towers is well underway, and is expected to be completed by early-2007. Comprising two towers and a podium, it is designed by the well-known Japanese architect Kisho Kurokawa. Fusionpolis will anchor the info-communication technology cluster in Central Xchange, and will be an "intelligent" building providing the advantages of direct satellite access, and shared facilities such as conference rooms, meeting rooms, auditorium, production and audio studios, etc. IT infrastructure will also be put in place to provide broadband connectivity within the entire one-north complex, and to support intensive computing needs. This will mean affordable internet bandwidth and computing power, and thus saving business costs and time. Besides business space, there will be a fairly large area set aside for residential, retail and entertainment uses. Essential amenities will be easily available.

To continue partnership with private developers in the development of one-north, JTC launched a residential development near Fusionpolis to add a residential component to this district. The housing concept here is planned to experiment with new housing typologies that may set a trend of new economy housing in Singapore, and is set to be different from the conventional high-rise private residential developments found in other parts of the country. One of the experimental concepts is to create a "fenceless" environment at the ground level to allow seamless pedestrian movement from one point to another, and to offer unrestricted meeting places for people to interact. Retail activities are distributed at the ground level to enable street-level vibrancy, in addition to their primary function of serving the residents and the working community. A condition is imposed on the developer to retain two former military barrack buildings within the site, which further poses a challenge to the developer/architect to come up with a workable development solution that can offer both an attractive public space and an exclusive living environment for residents.

On the "Learn" component, a graduate campus and alumni clubhouse is scheduled for completion in mid 2005. The juxtaposition of Nanyang Technological University (NTU) City Campus and Alumni Clubhouse will bring together entrepreneurs,

education professionals and graduate fraternity. This new 15,000 sq m development will comprise premium teaching facilities and an extensive array of social and recreational amenities. When completed, the NTU Alumni Clubhouse will offer facilities such as a business incubation centre, a resort pool, a spa, a jacuzzi, a gymnasium, a bowling alley, a tennis and multi-purpose court, etc.

Finally, the European business school, INSEAD, which has established its first full Asian Campus in Singapore in one-north, is carrying out its expansion plans. This campus is a centre for world-class teaching and research activities, including MBA programmes, executive programmes and Asia-related research.

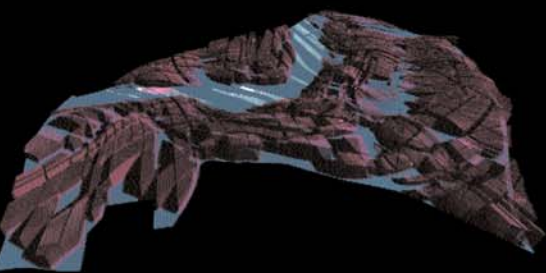
Vista Xchange. For Vista Xchange, the corporate and business services centre of one-north, JTC has invited proposals from real estate developers and hotel operators for an integrated business-hotel development in order to obtain business-support facilities in one-north as early as possible. The development site, the 4,000 sq m 'South Park Quadrant', is expected to yield approximately 18,800 sq m of space and up to 350 hotel rooms. To give the development flexibility, an adjacent 8,900 sq m land parcel, was also released to give developers an option to take up both land parcels for a comprehensive mixed-use development. This additional parcel with a plot ratio of 6.0 may yield another 53,400 sq m of space for flexible usages ranging from retail, office, leisure, institution to residential. To complement the "Work" and "Live" elements, some civic programmes such as public libraries, art performance centre, and gallery-museums are introduced as "infill" developments within the heritage area of Rochester Hill.

Meanwhile, construction has also commenced on the initial phase of the heritage development in Vista Xchange. Rochester Park is one of the three designated heritage areas in one-north, with old houses of both architectural and historical significance. The existing bungalows, set among undulating grounds and tree-lined winding roads, will be adapted to a variety of lifestyle-related uses, such as retail shops, restaurants with al-fresco dining, galleries, studios, spas and executive training centres. To retain the heritage and rustic environment in Rochester Park, the exterior façade of the bungalows will be conserved, while the interior of the bungalows can be altered to suit individual requirements.

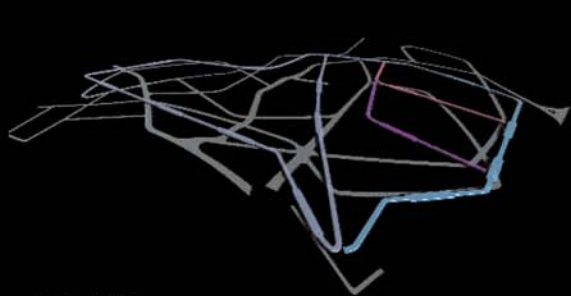
Urban Innovation and Creativity

The development of one-north is provoking a paradigm shift in the belief and thinking of both private and public sectors in the country. Dedicating such a large track of prime urban area as an experimental zone to test new development concepts is itself a big risk for the government to take, given the limited land area in Singapore. Government funding for infrastructure provision is evidence of its commitment to the project, and resources will be allocated to the one-north project to ensure its success.

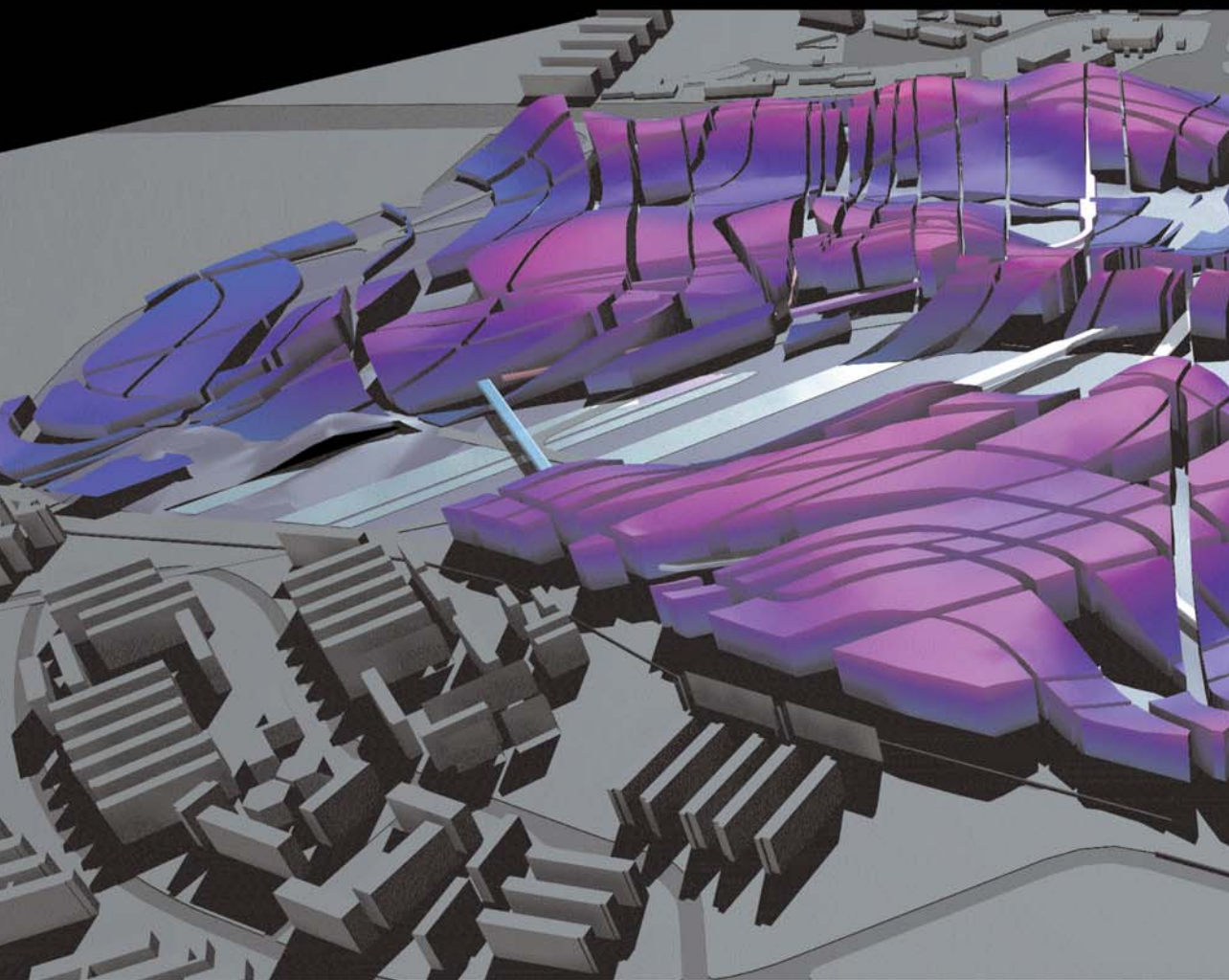
The private sector, on their part, is learning to take on a different business model to participate in the development of one-north. For example, the developer of a



LANDSCAPE



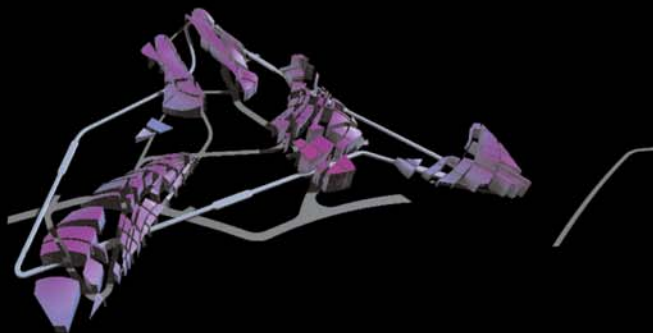
INFRASTRUCTURE



MEGAFORM AND MICROENVIRONMENTS

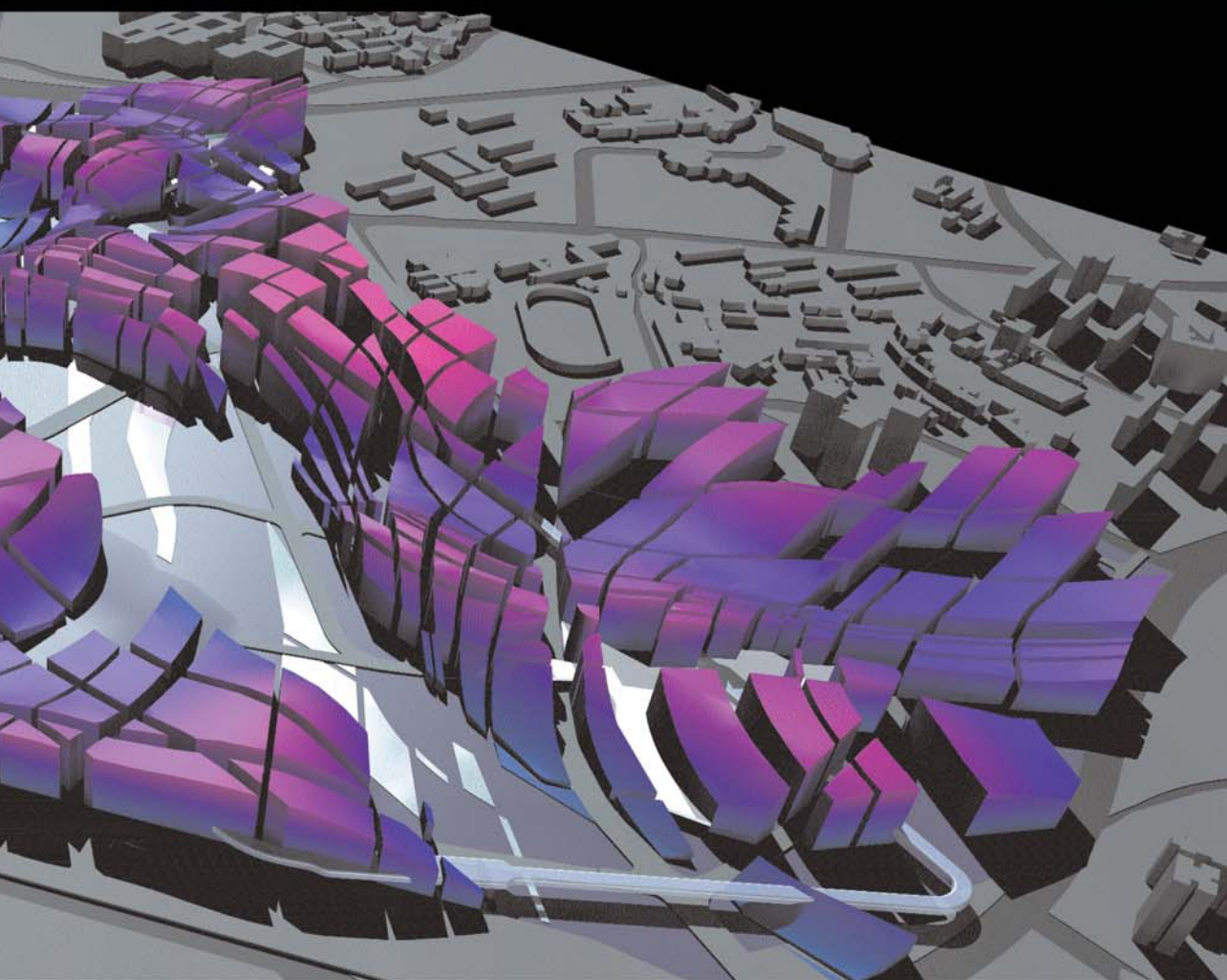
Our urban philosophy is expressed in the form of our spatial plan for Vmea. It represents a form which can accommodate dynamic growth, and yet also organize and project an abiding civic culture. For us, the key is the ground, for it is the ground which organizes urban life and deploys its rich tapestry of everyday patterns and relations. The plan is the vehicle for the manipulation of the ground, multiplying, renewing, and intensifying. Our project generates a fluid ground-form, where programmes meet and draw out latent energies and potentials.

The groundform directs the densification of urban life. It promotes density without the vertical exclusion and spatial fragmentation of tower landscapes. Perhaps more importantly, by linking density intimately with movement, the groundform enables the multiplication of programmes both in space and in the time-bound pursuit of daily life. By contrast, tower environments, like the segregated research blocks of recent decades, tend to isolate activity into discrete programmes. The movement necessary to connect different activities becomes exaggerated in space-time, exacting an expenditure which dissipates social energy.



PHASE 1

PHASE 2



housing project cannot simply apply development concepts it has comfortably used before, since one-north is a place to experiment with new concepts. In Singapore, almost all private housing developments are designed with their own amenities and facilities within a totally enclosed environment for the exclusive use of their residents. Such concepts have been widely-adopted in the real estate market, and considered the norm. To meet the objective of a seamless environment with fenceless developments in one-north, developers need to be convinced that it could be feasibility (and profitable). To alleviate the resistance from developers concerned with the bottom-line, JTC organises Developers' Workshops to articulate the experimental concept so that developers and their architects can understand and embrace the one-north vision.

In the early stage of one-north planning, the adopted master plan drew criticism because of its unusual design pattern that may have challenged certain conventional planning philosophy. Nonetheless, it was acknowledged that this out-of-the-ordinary concept would create a unique and distinctive character for the area. For example, roads in grid pattern are usually popular among planners and traffic engineers because of its high efficiency and effectiveness in dealing with traffic movements. The adopted master plan, while recognizing such strength, has twisted the conventional thinking by replacing it with a bent grid model in order to respect the natural landscape and topography. Another example is the extent of mixed-uses that are allowed within a development parcel. With the belief that multiple activities may generate vibrancy, many parcels in one-north are designated with different degrees of mixed-uses, which is a another new concept for local planning in Singapore.

In terms of the development model for one-north, the guiding principle is the private-public partnership, with the former taking a larger stake. Out of the total 200 ha of land in one-north, 80 percent would be developed by the private sector, and the remaining land will be administered by JTC as the master planner and developer. Such a model was never done before in the history of estate development in Singapore. The spirit of taking this new approach is to create more development opportunities for the private sector with the public sector playing a facilitator role.

Concluding Reflections

Given the short development history of just five years, it is very premature to form any conclusive judgement on the workability of the one-north development concept and its business model. In fact, the challenge of pushing several (about seven) developments at the same time within such a short timeframe has been compounded by the sluggish global and local economies.

Nevertheless, some early results can be observed in one-north. The Phase Z.Ro development, providing an interim and affordable incubator facility to nurture the growth of innovative technology start-ups, has been well received with an occupancy rate of above 90%. To groom the local research capability of the



biomedical industry in Singapore, international and local researchers are clustered in a centralised and well-equipped facility, the Biopolis, so as to enable greater collaboration among them. The completion of the seven-building Biopolis I complex, designed by Jurong International, is an important milestone for a new urban concept in Singapore. The public plaza at its epicentre is becoming a landmark and a popular meeting place for visitors, researchers and workers. The tightly-woven building lines and roofscape, linked by "skywalks" between buildings, presage the making of a new urban community. Biopolis I, as the pioneer development in one-north, will also be a sounding board to examine which urban design elements work and which need to be reviewed and fine-tuned for other developments in one-north. Within the first year, Biopolis I enjoys almost full-occupancy, which is a good signal of the industry, and a vote of confidence for the development of Biopolis II.

Looking ahead, it is clear that the journey to realize the whole development of one-north and to reap its success is still long and full of challenges. Nevertheless, the developments in the past five years have been positively received. It appears that one-north is right path that Singapore is to take in the years ahead.

Acknowledgements

Zaha Hadid Architects - the Masterplanner of one-north

Lawrence Barth - Urbanist in partnership with Zaha Hadid for the master plan

Cicada Pte Ltd - Landscape Masterplanner

MVA - Masterplan Traffic Consultant

Jurong International - Consultant for Biopolis

Peridian Asia Pte Ltd - Landscape Consultant for Biopolis

All photos and images courtesy of JTC Corporation

Barcelona

22@Barcelona: A New District for the Creative Economy

Miquel Barceló
Chairman, 22@Barcelona S.A.



Introduction

Faced with the globally competitive environment of the knowledge economy, Barcelona has undertaken a profound technological and cultural regeneration in order to position itself among the major metropolises of the global knowledge society.

Among the various initiatives shaping this vision for a culture of excellence, the 22@Barcelona project stands out on account of its ambitious scope and innovative conceptualisation. 22@Barcelona is leading the transformation of 200 ha of industrial land in the city centre into a privileged environment for the creation, transfer and attraction of knowledge.



Barcelona and its Metropolitan Area

The Metropolitan Area of Barcelona (MAB) houses one of the biggest industrial and demographic concentrations in Europe. The MAB covers more than 3,200 sq km, and is inhabited by 4.5 million people. The MAB also acts as a service centre for an extensive hinterland populated by 17 million inhabitants, including Valencia, Saragossa, the Balearic Islands and southeast France.

Thanks to its strategic geographical location and an extensive and fully interconnected transport network, Barcelona is a natural link between Europe, the Mediterranean and Latin America, and provides access to a potential market of more than 40 million people. This is why, throughout history, the city has been a natural point of exchange and attraction of ideas and business.

Barcelona's economic structure is composed of a polycentric network of cities with high levels of industrialisation, strong external connections and highly-diversified production. These circumstances have created an economically-stable structure, and a dynamic environment that employs synergies to drive the growth of new companies and projects. As a result, Barcelona has experienced sustained economic growth in recent years (above the European average), and has become one of the EU regions with a highest growth potential for the near future.

In addition, Barcelona has an excellent climate, along with rich cultural, entertainment and educational offering. These assets have helped Barcelona become a leading European city in terms of quality of life, and one of the preferred locations in Europe for international businesses.

Regarding knowledge creation and transfer, Barcelona is home to one of the main university communities in Europe, including various highly-prestigious business schools at the international level. It also avails of an extensive network of research centres, innovation centres and technology transfer centres which have placed the city at the forefront of research in Spain.

Nevertheless, despite these key assets, international indicators show that Barcelona is currently missing from the list of the most interesting cities for innovation and development of clusters. This is primarily due to the fact that the principal knowledge creation and distribution systems are still often based on a linear conception, which belong more to the old industrial production model than to the new demands of the creative society in terms of organisation, functionality and connections.

For this reason, the main public and private entities in Barcelona decided to jointly undertake an ambitious strategy called "Barcelona, the City of Knowledge," which is aimed at turning Barcelona into an innovation metropolis at the global level. The 22@Barcelona project constitutes a paradigm in terms of the overall regeneration plan, given that it is transforming the old economic heart of the city. The project area was formerly based on the industrial production model, but today, its development is being guided by a new concept of "knowledge space" based on networks and corporate cooperation.





Renewal of Poblenou

For over a hundred years, Poblenou was the industrial area par excellence in Barcelona, and Catalonia's principal economic engine. The 22@Barcelona project is aimed at recovering Poblenou's productive economic vocation by transforming its obsolete industrial areas into an innovative productive district, equipped with modern infrastructure and high levels of urban quality to attract and develop highly-skilled activities.

Known throughout its time as the "Manchester of Catalonia", Poblenou was one of the most important centres of industrial innovation in Southern Europe up until the 1960s. Throughout the latter half of the 20th century, the development of transport infrastructure and the building of specialized industrial facilities on the periphery of Barcelona led to factories relocating from the city centre out to the metropolitan ring. This trend gained momentum during the oil crises and resulted in the loss of more than 1,300 industries in Poblenou between 1963 and 1990. Transport-related activities ended up occupying the major share of the space, and subsequently the space was gradually abandoned by other activities. These factors contributed to the deterioration of the urban surroundings.

The regeneration of Poblenou began with the interventions that took place as part of the Olympic Games efforts, and involved important infrastructure and urban renewal projects. Two significant operations performed during this period are particularly relevant to the regeneration of Poblenou. The first project was the construction of the Barcelona ring roads, which removed the tramlines that used to cover the entire industrial heartland and greatly improved its connections with the rest of the metropolitan region, the port and the airport. The second project was the construction of the Olympic Village in this part of the city, which signified the first

modern residential neighbourhood in Barcelona's coastal district. This project initiated the revival of Poblenou's seafront through the creation of new beaches and parks for civic use. The positive outcome of the Olympic Village project led to new improvements in Poblenou that connected it to the rest of the city, and continued the coastal transformation by creating new residential areas. As a result of these operations, Catalonia's traditional industrial heartland was gradually transformed into an accessible, central area, equipped with modern dwellings and quality public space.

Citizens' Debate

This new perspective ignited an interesting citizens' debate over the future of Poblenou's industrial areas, which, by the late 1990s, had still not been renewed. On the one hand, a section of public opinion supported the transformation of the industrial areas into residential space, as had been taking place up until that point. The market exercised major pressure in terms of maintaining this trend towards transforming these strategically-located seafront areas. On the other hand, some sections of the public opposed transforming Barcelona into a predominantly residential city and, instead, were in favour of reviving the area's historic vocation as a production centre by adapting the urban and economic fabric to create new forms of wealth.

It was in this context that Barcelona's Economic and Social Strategy Plan, in its 1999-2005 programme, proposed the creation of a new urban model to encourage the development of emerging sectors of the knowledge economy. During this period, the Pacto Industrial de la Región Metropolitana de Barcelona (a public agency established to promote regional competitiveness) commissioned the Catalan Institute of Technology to study the development of skill-intensive activities and their impact on the transformation of the area. The study, entitled "The Digital City," showed that the most innovation-intensive activities are naturally concentrated in major urban nuclei all over the world, where there are high standards of infrastructure, flexible production space, a varied cultural, educational and entertainment offering, and a high quality of life. The study concluded that on account of Poblenou's privileged location and the extensive space available, regenerating the old production areas was a unique opportunity in Europe to create an important platform for innovation that would fulfil all the requirements of skill-intensive activities.

Barcelona's City Council decided the debate on the future of the industrial areas in Poblenou in favour of the regeneration of its historic production activities. Following this decision, a group of experts from various disciplines were given the task of drawing up new urban regulations that would control the transformation of this privately-owned space and direct it towards the objectives established by the public sector. In July 2000, the modification of the General Metropolitan Plan concerning the renovation of Poblenou's old industrial areas, popularly known as 22@Barcelona project, was definitively and unanimously approved by the City Council.



Urban and Economic Strategy

Given its dimensions and its implications, the 22@Barcelona project represents both a necessity and an opportunity. On one hand, the project satisfies the need to promote the renewal of degenerated areas of the city in order to revive their traditional economic and social vitality. On the other hand, the transformation of these extensive, centre city production areas present a unique opportunity to return Poblenou to its original status as the economic heart of the city by creating an important scientific, technological, and cultural node aimed to consolidate Barcelona's position as one of the principal international innovation platforms.

As an urban regeneration project, 22@Barcelona reinterprets the function of the old industrial fabric of Poblenou in a contemporary way, applying a new town planning model based on sustainability, efficient infrastructure and quality of life. Under this premise, the project establishes a new model for compact, combined urban space by promoting the coexistence of production activities with residential areas and cultural facilities. In this way, the project seeks to create a more diverse, sustainable, balanced city, characterised by enhanced economic strength and cohesion.

As an economic regeneration strategy, the 22@Barcelona project propels the dynamic "Triple Helix" innovation model, based on the interaction between science and technology, and government and business, by concentrating the main institutions of the innovation system and creating new networks of cooperation. As such, the project creates areas of excellence to the overall competitiveness of the production fabric, and consolidate it in terms of international projection.



22@ Code: A New Urban Space Model

The transformation brought on by project 22@Barcelona rests on substituting the former "22-A" zoning code, which designated Poblenou's productive space exclusively for industrial purposes, with a new urban classification called "22@". This new classification creates an innovative productive district that meets the requirements of the knowledge economy. Through an effective balance of incentives and duties, the new urban regulations allow the public sector to lead the transformation of private space towards the following objectives:

Mixed uses. The coexistence of complementary activities encourages innovation in production processes and creates an urban environment that is more balanced and sustainable. This ensures the vitality of the public areas throughout the day and allows people to live close to their places of work. Thus, the 22@ zoning code breaks with the traditional zoning model of the manufacturing economy, and clearly focuses on a model of a mixed and diverse city where production activities and research centres coexist with continuous training and technology transfer, commerce, housing units and green areas.

Urban density. In order to generate the critical mass necessary to develop agglomeration economies (and to promote a more rational use of space), the 22@Barcelona project avoids the low density that characterised industrial areas and advocates a dense and complex urban space. The new 22@ zoning code ensures the feasibility of this transformation through a system of incentives that requires every development project to contribute to financing the re-urbanisation of each street. This system helps to create new public spaces for green areas, facilities and housing through compulsory and gratuitous land transfers from

developers to the community. Thus, the gradual renovation of industrial space promotes the revival of the social and commercial energy that characterised Poblenou in the past, and creates a space with a high standard of living in the centre of Barcelona.

Focus on Knowledge-Intensive Activities. The 22@Barcelona project also aims to concentrate the most innovative activities of the creative society (the so-called "@ activities") within its area.

These activities are characterised by their intensive use of information and communications technologies, space and highly-qualified human capital. In order to ensure that these strategic activities are present in the new production spaces, the 22@ zoning code creates a link between the building ratio of projects and the type of activity to be performed in the buildings. Thus, renewal plans that contain a specific percentage of the "@ activities" in their functional programs are entitled to a higher building ratio than projects that do not involve skill-intensive activities.

Through this system of incentives, urban regulations encourage promoters to reach agreements with the most dynamic and competitive companies to construct spaces that are tailor-made to their requirements.

Innovation Support Centres. In order to promote knowledge transfer in the production system, it is important that creation, transmission and knowledge distribution centres be located close to companies. This is why 22@Barcelona seeks to create a new system of facilities that provide support to the production system, instead of being linked exclusively to housing, as has traditionally been the case.

Therefore, 10% of the converted space is obtained from the compulsory land transfers, and are to be used in relation to the so-called "?@ facilities" to house universities, centres of scientific and technological innovation, laboratories, design and R&D departments and on-going training centres. With this measure, the project encourages proximity and exchange between the principal innovation partners and ensures the on-going availability of highly-qualified human capital.

Modern Infrastructure. The most dynamic companies of the creative economy require a high level of services so that they can develop their activities in the most effective way possible. In this regard, 22@Barcelona has undertaken the overall re-urbanisation of the sector through a new infrastructures network that is adapted to today's urban, social and environmental requirements. As a consequence, free competition is promoted among urban service operators, and priority is given to energy efficiency, acoustic comfort and the responsible management of natural resources.

This new standard of urban services includes modernised networks for electricity, telecommunications, centralised air conditioning and waste collection, and improves mobility of the sector, along with the quality and sustainability of the public spaces.

Flexibility. Given the complexity and extent of the old industrial areas in Poblenou, gradual and flexible renewal is envisaged. This means that each regeneration plan adapts to the environment's urban, economic and social characteristics without causing traumatic changes from the current land use. In order to accelerate the transformation of the district, the 22@ zoning code is also flexible in terms of the agents involved, given that the envisaged transformation will be a combination of both public and private initiatives.

Barcelona's City Council originally defined planning for six strategic sectors to act as focal points for urban revitalization, in addition to promoting the renovation of the remaining areas on behalf of the private initiative.

Finally, the project is also flexible in terms of its transformation mechanisms. In contrast to traditional urban planning, 22@Barcelona does not define the detailed, precise planning of the district. Instead, it allows for different kinds of initiatives that vary in magnitude and building typologies, while respecting the typological and morphological diversity of previous industrial designs. In this way, the design of the district meets the quality, functionality and presentation requirements for a diverse range of final users.

Transformation Management

22@Barcelona is a municipal corporation created by Barcelona City Council to manage and promote the regeneration of the old industrial areas in Poblenou, which now have the new 22@ zoning code.

As an agency for urban development, the Council-run company 22@Barcelona is aimed at promoting and managing the creation of more than 4,000,000 sq m of new GFA, the re-urbanisation of 35 km of streets and approximately 240,000 sq m of new public land for facilities, green spaces and subsidised housing in the former inner city industrial areas.

As an agency for economic development, 22@Barcelona's mission is to promote the introduction and development of strategic content in these new areas, and to favour the international projection of the new economic, scientific, training and cultural activities in the district.

Status Report

In the project's first phase, the transformation has been focused on developing facilities for knowledge-based activities as the vital step towards enabling economic regeneration in the area.

Consequently, since the project was approved, urban transformation of the 22@Barcelona district has been very intense and sustained. Over the past four years, refurbishment has begun on over 50% of Poblenou's industrial areas, guided by a total of 42 approved plans for urban amelioration. These plans have brought approximately 1,300,000 sq m of potential productive space to the market, and

have concentrated 60% of the supply scheduled for Barcelona in the coming years. The plans also designate more than 100,000 sq m of land dedicated to new facilities, open spaces and approximately 2,300 subsidised housing units, of which a minimum of 25% must be used as rented accommodation.

In the business sphere, 22@Barcelona has also received a very warm welcome. More than 90 companies, leaders in their respective sectors, are already installed in the 22@Barcelona district, or are in the process of having their corporate headquarters built. In the new locations alone, productive activity in the district has increased by almost 280,000 sq m. As a consequence, since approval of Plan 22@, Poblenou has seen a significant increase in its productive structure, which is clearly evolving towards knowledge-intensive urban activities. Approximately 90% of the new companies and institutions setting up in the 22@Barcelona district are intensive users of ICT, space and qualified staff. In other words, they respond to the prototype for "@ activities".

After this initial phase that boosted the creation of new spaces and infrastructures, 22@Barcelona has begun a new, highly intensive phase of economic transformation of the area. A new set of projects, known as the "Seven Motors" for the 22@Barcelona district, have been designed to attract and create high value-added activities.

Attracting Talent : Seven Motors For District 22@Barcelona

The Council-run company 22@Barcelona promotes a set of initiatives, based on the dynamic "Triple Helix" innovation model, with the objective of structuring the area's economic transformation, and promoting the creation of areas of excellence in certain spheres of knowledge, to boost Barcelona's leadership in the knowledge economy. These initiatives, known as the "Seven Motors" for the 22@Barcelona district, reflect strategic objectives in terms of their present and future growth potential in Barcelona, and involve the main public and private agents in the processes of innovation. The "Seven Motors" are:

22@Media. Directed at encouraging the culture of excellence in the audiovisual sector, the 22@Media initiative promotes the creation of a large multidisciplinary centre to bring together currently dispersed and atomised major public and private agents in the sector. The objective of concentrating agents is to multiply their competitiveness and international projection.

The first phase of the 22@Media engine is the "Barcelona Media Park", a 60,000 sq m facility that will be operative in mid-2007, and will bring together technical areas and offices related to the audiovisual sector. It will include university and continuing education, research and technology transfer centres, areas and services for incubating audiovisual companies, as well as temporary residences for students, teachers and entrepreneurs, and exhibition and interaction areas.

Barcelona Media Park is the result of collaboration of a public university (Universitat Pompeu Fabra), a leading private company in the Catalanian

audiovisual sector (Mediapro), several entities from Barcelona City Hall (Department for Culture, Local Development Agency, 22@Barcelona) and the regional government (Centre for Corporate Innovation and Development). This is a clear example of an innovation medium in which public-private collaboration has made it possible to create an emerging system by bringing together leading players in the audiovisual sector.

22@TIC. Aimed at the Information and Communication Technologies (TIC in Spanish) sector, 22@TIC covers a set of initiatives to generate the critical mass required to position the 22@Barcelona district as a European leader for the ICT sector. To its advantage, Catalonia already has several highly renowned groups in the field that are able to attract investment and R+D.

The creation of this critical mass is based firstly on recruiting leading companies and institutions, and in creating spaces for small- and medium-sized enterprises. The recent re-location of some important public institutions and private companies to Poblenou is a good example of this. These include the Department for Universities, Research and the Information Society of the Catalanian Government, as well as companies such as T-Systems, Indra and Auna. As a result of an agreement between 22@Barcelona, the property developers Castellví and the Dutch firm of consultants Zernik, the 22@Barcelona district will also begin construction of a landmark building for software and telecommunication SMEs, with high value-added exclusive services.

Secondly, the productive fabric need requires infrastructures for knowledge generation and transfer, such as the ICT Technological Centre promoted by the Catalanian Government. Areas for diffusion and interaction, such as the future ICT and Productivity House promoted by Barcelona City Council, are designed to help spread the impact of ICT into society and business innovation.

Finally, mention should also be made of other initiatives directed at creating specialised business environments, such as the E-learning cluster promoted by the Open University of Catalonia and the Multilingual cluster led by the Digital Barcelona Foundation. 22@Barcelona will also include projects that promote the development of innovative services, such as GeriaTIC, a new welfare centre model which puts ICT developments to work for the well-being of the elderly.

22@Bioempresa. Catalonia has a strong clinical and biological base and great biotechnical potential, and 22@Bioempresa aims to support new companies ("empresas" in Spanish) in this sector that are in the growth and maturity phase by creating new services and areas adapted to their specific post-incubation needs.

Towards this end, 22@Barcelona has concluded agreements with both the Barcelona Scientific Park and the Biomedical Research Park to promote the creation of post-incubation areas for new companies. In conjunction with the Catalanian Investment Agency, 22@Barcelona has also undertaken a programme for attracting biotechnical companies to help create a business environment that encourages competition and exchange of experience among both consolidated and newly-created companies.

22@Campus. Located in the area which housed the Universal Forum for Cultures in 2004, 22@Campus is designed for excellence in themes related to sustainability, which was one of the central themes developed during the cultural event. The new inter-university Campus for Technology and Business is specialised in mobility, energy and water technologies, as well as architecture, town-planning and construction. 22@Campus is aimed at concentrating teaching, research, innovation and production activities related to each of these areas of knowledge.

The objective of this initiative is to become a clear exponent of the dynamic "Triple Helix" innovation model. 22@Campus itself is the result of an agreement between the Department for Universities, Research and the Information Society of the Catalan Government, the City Halls of Barcelona and Sant Adrià del Besòs and the Barcelona Provincial Council. Construction of the first elements in this new space will begin shortly, thanks to the relocation of the Barcelona Industrial School and the recent agreement with the *Consorci de la Zona Franca* (Duty-Free Zone Consortium) to create a business incubator. The construction will include a building for the temporary residence of teachers, students, entrepreneurs, professionals and researchers.

22@Emprendedores. The aim of 22@Emprendedores is to develop suitable conditions for district 22@Barcelona to become a magnet for entrepreneurs ("emprededores" in Spanish), and to consolidate its position as an international platform for business creation and development. 22@Emprendedores has an integral and transversal programme, which includes various initiatives directed at creating a complete network of support infrastructures for national and international entrepreneurs, such as specialised incubators, temporary residential areas and finance programmes.

Among the programme's main assets is the presence in the district of the "Barcelona Activa", a Local Development Agency, which is the largest public business incubator in Europe. 22@Emprendedores signed an agreement with the *Consorci de la Zona Franca* to construct a new building for entrepreneurs, which will be dedicated to the incubation and growth of technology-based spin-off companies developed in the area's research centres, such as the Polytechnic University of Catalonia and the Ramon Llull University.

22@Tecnológico. The technology centres amass in-depth knowledge of the optimum environment in which new technologies are generated in order to transfer this to the productive system. Therefore, these centres are one of the main intermediation structures between research and business. 22@Tecnológico is transversal in nature, and includes several initiatives to attract technology centres linked to those sectors with the greatest potential for future development in Catalonia. 22@Tecnológico then encourages centres to locate within the district's vicinity in order to promote the advantages of proximity and interrelation.

Mention should also be made here of the agreement to locate Alstom's Centre for Research, Development and Innovation in the 22@Barcelona district, along with leading technological centres such as the Centre for Technological Innovation



"Barcelona Media", promoted by the Catalan Regional Government's Department of Industry.

22@Poblenou. To foster quality of life and employment in Poblenou, 22@Poblenou encourages interaction between different urban agents through the creation of new links and cooperation channels. It consists of several initiatives, including:

The Association of 22@Barcelona Companies and Institutions, whose objective is to foster environments that facilitate cooperation between "@" companies or institutions located in Poblenou, and to become actively involved in configuring district 22@Barcelona as a European platform of innovation. • "The Poblenou Digital project, with a distinct social emphasis, aims to bridge the "digital divide" by introducing new technologies to those inhabitants in Poblenou who are not yet integrated in the knowledge society. In addition, this programme offers support to innovative projects which use new technologies to improve services and living conditions in the area."

The Educational Project, the result of a joint agreement between 22@Barcelona, Barcelona City Hall and the educational institutions in Poblenou, is designed to encourage the use of new technologies with students and promote work internship experience at companies in district 22@Barcelona.

Vision 2010

In summary, the 22@Barcelona initiative is a paradigmatic example of ambitious strategic planning and close public-private collaboration which has characterised Barcelona's transformation over the last 25 years, and which some have termed the "Barcelona model."

With to the support and involvement of the key urban institutions, 22@Barcelona has done well in the first phase of implementation; far exceeding initial expectations. However, the second phase of development will be decisive for the project's success, given that the competitiveness of other emerging regions will be decided over the next years as well.

Barcelona firmly believes that by maintaining a creative culture, the city can make the leap forward to obtain a leading position in the global knowledge society. The vision is that in the next five years, 22@ would become more than a local town-planning zoning code, and would become a symbol of innovation. To this end, collaboration networks will be woven through leadership, perseverance and collective enthusiasm to turn the 22@Barcelona district into the geographical expression of the culture of excellence, and consolidate it as an international reference for Tolerance, Technology and Talent.

Project Details

Scope of the transformation: 22@Barcelona transforms 200 hectares of inner city industrial land.

New area for economic activity: The transformation increases Barcelona's present capacity to cater for economic activities with 3,200,000 m² of new productive Gross Floor Area.

New job creation: The increase in quality productive spaces allows for the creation of between 100,000 and 130,000 new, highly qualified jobs in the inner city.

Increased community funding: Industrial land regeneration provides the City Council with 145,000 m² of land at no cost for new facilities and centres for the creation, transfer and diffusion of knowledge linked to the productive system.

Recognition of existing dwellings: Diversity of urban use established by the new 22@ zoning code allows for the conservation and refurbishment of 4,614 housing units within the heart of the industrial area, which had been previously outside the scope of planning regulations since 1953.

The creation of subsidised housing: To encourage social diversity in the area and facilitate access to housing by social groups with lower purchasing power, the project has allocated 10% of the land under compulsory transfer to the council for the construction of a total of 4,000 subsidised housing units.

Increased public spaces: Under Plan 22@, the Council obtains 75,000 m² of land under compulsory, gratuitous transfer to create new green areas.

Real estate investment: The real estate potential of the transformation is 12,020 million Euros. An effective system of planning incentives ensures the feasibility of the transformation of privately-owned land. As a result, approximately 90% of the investment is borne by the private real estate sector, while the remaining 10% corresponds to facilities and subsidised housing financed by the public sector.

Infrastructure investment: With the Special Infrastructure Plan, 35 km of streets are being re-urbanised at a total cost of 168 million Euros. 60% of the investment is financed by property developers through urbanisation charges, which correspond to part of the value-added generated by the town planning. Service operators finance almost 30% of the total anticipated investment by deploying their own networks, and the remaining 10% comes from the City Council's own technical facilities.

Photos on pages 168, 171 and 172 courtesy of 22@Barcelona

Photos on pages 174-175 and 181 courtesy of Alberto Oto



Guadalajara

Generating Spaces for the
Creative Economy

Francisco Pérez Arellano

Francisco Pérez Arellano y Asociados

Former Director General of Planning, Government of Jalisco



Introduction

Guadalajara, Mexico's second largest city has enjoyed different eras of growth that are reflected in a number of important urban and architectural projects.

After a period of rapid growth, during which public projects gave priority to correcting deficits in infrastructure rather than further equipping the city with facilities and local businessmen were not involved in large urban projects, recent years have seen the promotion of a number of projects related to economic productivity. Together, these represent great potential and invite analysis.

The present paper discusses ten projects selected on the basis of their potential impact and overall interest. The promotion of these initiatives was begun a decade ago by very different parties, including public authorities, groups of local businessmen, the state university, and other associations. For the task of description and analysis, these projects can be divided into three groups:

Public infrastructure projects

- Macrolibramiento bypass system

- Arcediano Reservoir

Urban facilities projects

- Voltea a la Barranca

- Tierra Mojada

- Ciudad Judicial

Projects providing facilities for tourism and cultural activities

- JVC Centre

- University Cultural Centre

- The Guggenheim Museum

- Expo Guadalajara (extension)

- Torrena Torre

Context of the City and the Region

The Metropolitan Region of Guadalajara-birthplace of some of Mexico's most typical traditions, such as Tequila, Mariachi and Charros-is located in the east of the country. It is the nation's second largest urban and demographic conglomeration, and one of the 70 largest urban areas in the world. It occupies some 56 million ha and is inhabited by four million people. The Region is just 240 km from Manzanillo, Mexico's main commercial port on the Pacific, and falls within the NAFTA corridor, which runs across the United States up to Canada. This puts Guadalajara within the framework of large economic blocs, and makes it play a major role in the economic relationships developed with the Asia-Pacific.

Currently, services and certain branches of industry are the primary sources of economic growth and well-being for the Region's population (which represents 4% of the national employed population and generates 5% of the GNP).

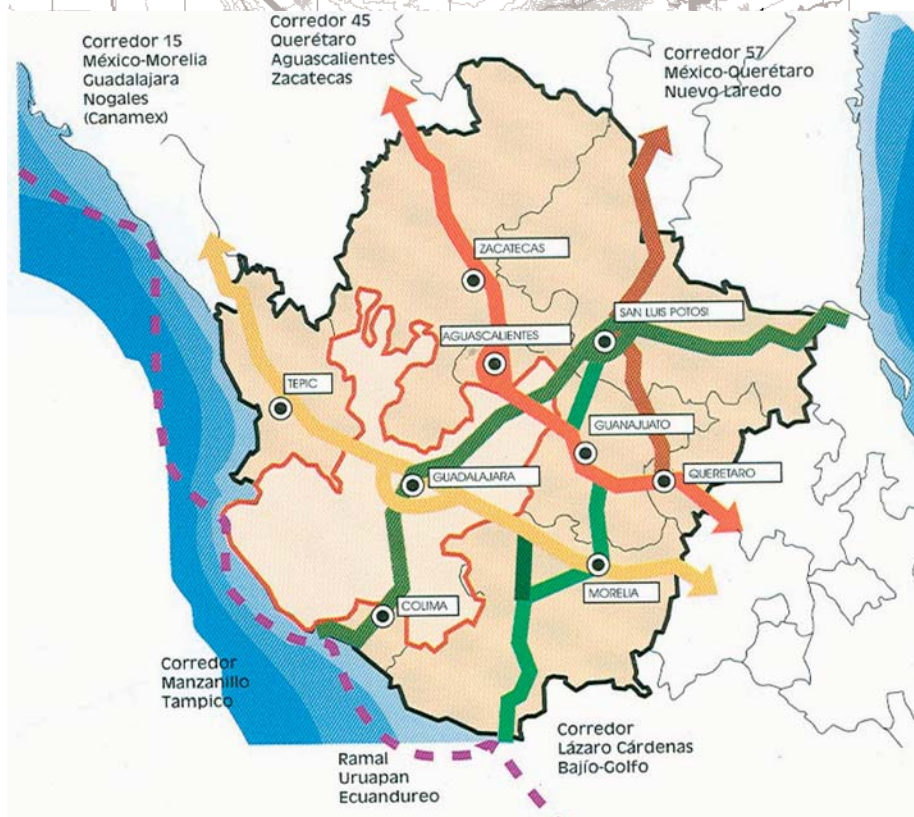
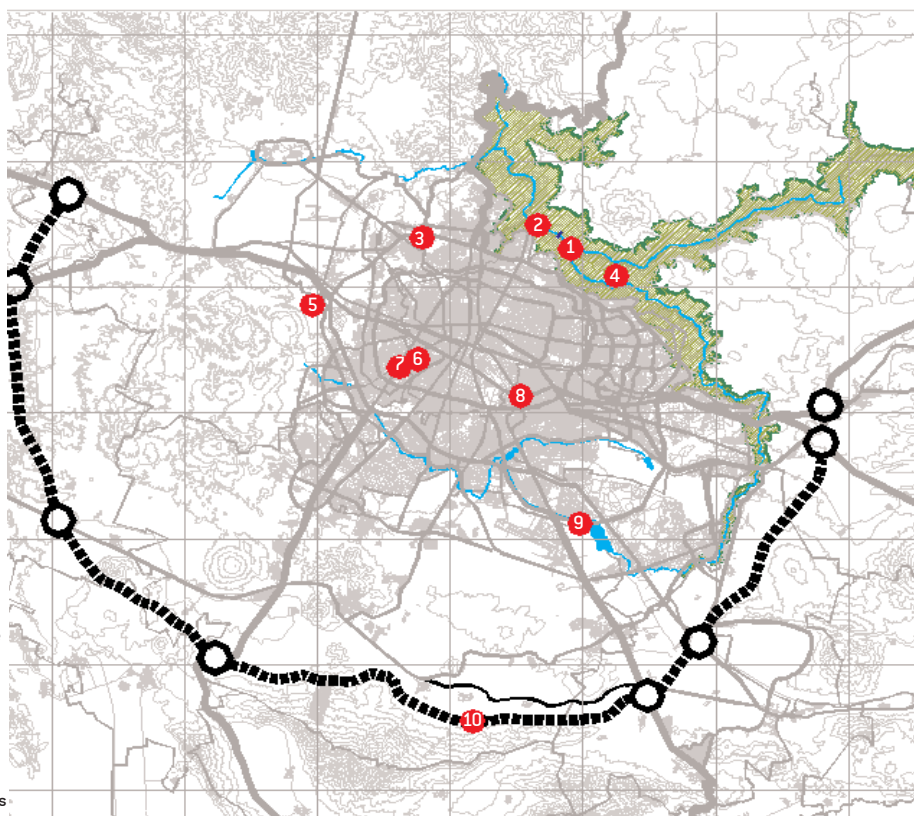
Over the last ten years, the region has received large investments oriented towards the strengthening of the electronics and computer industries, making it an attractive area within the national context for businesses and development projects.

As a consequence of its economic and demographic growth, the city now groups together eight municipalities extensively linked by a network of facilities and infrastructure. It is now consolidated as the major nucleus for providing services to the vast economy of the country's north Pacific coast, and in particular the Centro-Occidente region of Mexico.

The Region forms an urban canvas with a hinterland of peculiar geographical, environmental and ecological characteristics. It occupies a system of semi-flat valleys and a drainage system that empties into the *Barranca del Río Santiago* depression towards the north and east. The southern and western parts of the valleys are surrounded by a large, volcanic mountain range with forests (among which that of La Primavera stands out) and deep ravines that empty into the flatter areas.

The subsoil of the city has a large, usable aquifer, and the surrounding soils are still agriculturally competitive. The mountain forests purify the air and help to control the Region's climate. The *Barranca del Río Santiago* is home to a low-lying deciduous forest that allows the passage of fauna between different environments.

The planning and general management of the territory of the Metropolitan Region is the job of the *Consejo Metropolitano* (Metropolitan Council), which involves eight municipalities under the coordination of Jalisco State Government. This Council has designed a development plan known as the *Plan de la Región Metropolitana de Guadalajara*. According to the population growth projections of the *Consejo Nacional de Población*, the Region has entered a period of deceleration in demographic growth. It is thought that the population will become stable at around five million by the year 2030. Nevertheless, in the meantime, more than 12 million ha of urbanised land will be required, and 350,000 housing units will have to be built.



Six critical factors cannot be ignored in all this: environmental deterioration, shortfalls in water supply and sewage management, inefficiencies in urban mobility, migration and reduced quality of life, the loss of economic competitiveness, and urban disorder. To tackle these issues, the central aim of the Plan is to increase quality of life and competitiveness, and the regional strategy focuses on territorial planning, infrastructure, the provision of facilities, and urban improvement.

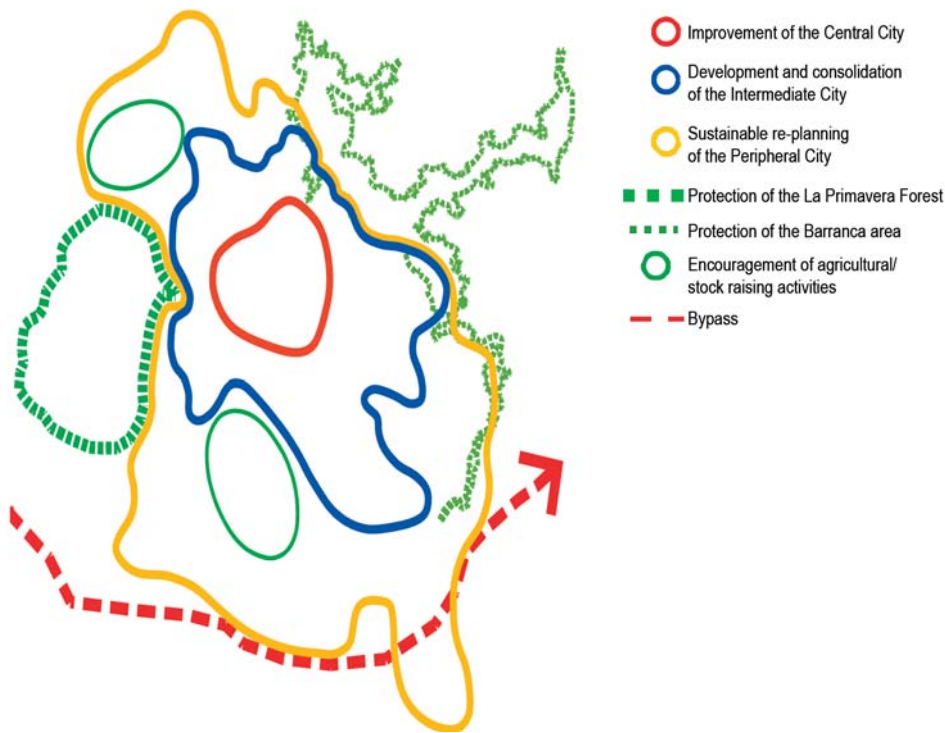
This planning model distinguishes three city areas: the central, intermediate and peripheral city. Each has its own urban development policy: improvement and The renovation; consolidation and reordering; integration to and protection of the environment.

In agreement with the above, the largest planning tasks are:

To promote the resizing and redistribution of urban growth in agreement with official demographic projections, taking into account market trends but moving towards growth that is more balanced across the municipalities. This growth should also be more ordered.

To protect and improve natural areas of recognised value, integrating them in a sustainable way into the functioning of the Region.

In terms of the provision of facilities, the Plan contemplates the promotion of and support for projects that will strengthen the strategic functions of metropolitan development via the generation of spaces for the creative economy. Some of these projects are discussed below.



Macrolibramiento

This bypass system is part of the Region's development plan. It contemplates the development of regional road transport infrastructure as an important strategic component of territorial planning and metropolitan functioning.

Since Guadalajara is the main node of the Centro Occidente region and is on the centre-northeast thoroughfare of the country, the metropolitan road infrastructure must absorb the passage of goods and travellers whose destinations lie beyond. This has a notable impact on urban mobility.

In the last ten years, mobility in the Region has markedly increased, and the entire current metropolitan road infrastructure. In addition, as some of this traffic has to go to and from different supply and commercial facilities within the metropolis, the problems of access and the transport of goods are serious, and have serious repercussions on growth.

The bypass system will join the regional roads to the east to west via the south of the city, and link three federal motorways and four state highways. It will form a wide circuit at an average of 45 km from the city limits and will be 110 km in length. The bypass is a proposal of the Jalisco State Government in conjunction with the Federal Secretariat for Communications and Transport.

This project will strengthen the land communication infrastructure required for the movement of goods and services at the international, national and regional level, and will improve the commercial position of the Centro Occidente region - particularly that of the State of Jalisco and the Metropolitan Region of Guadalajara. The quality and competitiveness of the Region's urban activities will be improved within the context of globalisation.

Funding for this project will come from state and federal funds and from private investment (recovered by tolls). The executive project is still to be concluded but the authorities have announced that work will begin within the current administrative period which finalises at the end of 2006.

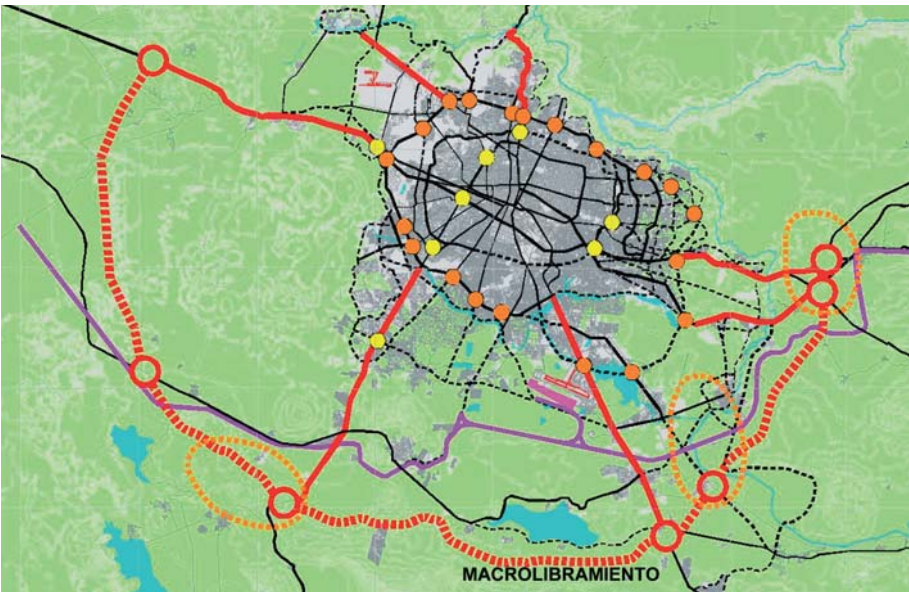
The bypass will benefit the terrestrial flow of goods and services by linking with national and international transport corridors, and will integrate with regional land transport infrastructure connecting the ports of Tampico on the Atlantic and Manzanillo on the Pacific. These ports serve the maritime routes to Europe and Asia respectively. Similarly, towards the north, the bypass will link up with the national and international commercial corridors of the west coast and NAFTA, and towards the south with the corridor promoted by the Puebla-Panamá Plan.

In addition, the project is of strategic importance for the relocation of the regional gathering, provision and distribution of agricultural products (currently undertaken within the metropolis itself), and for the installation of new high-tech facilities for improving the storage and transfer of goods between different modes of transport. In the proximity of the bypass' intersections, the Master Plan contemplates areas to be used for locating regional land-port and airport facilities, as well as those for agro-industry supply, loading and transport. These will increase the amount of

traffic significantly, but strengthen the infrastructure of regional commercial corridors as well as the competitiveness of the state within the national and international context.

The project includes an analysis of the alternative routes the bypass might take (from a regional urban perspective), studies that guarantee its technical and financial feasibility, and defined the conditions for environmental protection. It also defines the bypass' access areas, regional service-providing nodes, regional facility nodes, and other elements. The acquisition of its rights of way is under way and construction is expected to begin in 2006.

The Macrolibramiento is a fundamental piece in the road structure of Guadalajara and the Centro Occidente region. It is also the detonator of the decentralization of regional functions from within Guadalajara, through associated spaces for the creative economy. Together, this constitutes a package of projects for greater regional projection.



Metropolitan and Regional Road System

Arcediano Reservoir

The traditional source of water for the Metropolitan Region of Guadalajara has mainly been ground reserves and Lake Chapala. In recent years, however, water has begun to become scarce; the aquifers are overstretched and the level of the lake has fallen. After long study and debate, it was concluded that the best alternative for redressing the situation (and to meet future demand deriving from metropolitan growth) was to construct a dam at the confluence of the Rivers Santiago and Verde. This is just on the edge of the metropolitan area at a place known as Arcediano. This could supply the area with 12.7 cu m/s of water.

The site where the dam is to be built lies within the Barranca del Río Santiago, a gorge some 580 m deep at this point and is home to exuberant vegetation. The rock walls of the canyon form a series of completely vertical cliffs and steep cuttings. The city lies to the south and has grown out to reach the edge of the Barranca, which forms a natural frontier.

The promoter of the project is the Comisión Estatal de Agua y Saneamiento (CEAS; State Commission for Water and Sewage). The size of the investment required and the sheer dimensions of the project make it the biggest civil engineering venture undertaken in the Metropolitan Region for at least 15 years. The US\$320 million investment program is to last four years, during which time the main building work and its major complementary projects will be executed. Federal and state funds will be made available according to that outlined by the CEAS: federal funds will supply 40% and the Jalisco State Government will provide the other 60% of the investment.

This water provision project will also entail the treatment of sewage from the populations downstream of Lake Chapala (Ocotlán, Poncitlán, Atequiza, El Salto, Zapotlanejo, Puente Grande and several industrial areas that drain their waste into the River Santiago). The goal is to prevent these waters from entering the reservoir catchments. In addition, all the sewage produced by the settlements of the Guadalajara conurbation (ZCG) (El Ahogado, Coyula, San Gaspar, Osorio, San Andrés, San Juan de Dios and Atemajac), towns that drain their wastes into the river, will be treated. This sewage will be captured by a collector and taken by a pipeline to the Agua Prieta Treatment Plant. After treatment they will be returned to the river downstream of the Arcediano Dam.

The building of the dam should also encourage other projects that improve water quality, environmental quality, the conservation of flora and fauna, and cultural facilities. In the mid-term, the project will also transform the models of primary production in the Barranca area and its environs. The use of water will also change, and control measures should be undertaken to provide a cleaner supply; the entire basin should therefore be an area of intervention in this respect.

Despite the historic indifference of the city towards the precarious state of the Barranca, given the importance of its natural resources, the project ran into opposition from environmentalists. It is finally clear that, the benefits of the project will outweigh the expected environmental impacts, and will provide:

A guaranteed water supply for the metropolis for the very long term which will reduce the pressure on the existing ground water reserves and Lake Chapala.

Acceleration towards the proper treatment of the metropolitan and regional sewage that currently affects the Santiago and Verde rivers.

The Barranca area will become a Protected Wildlife Area, with its own Management Program.

A long-term urban improvement project known as *Voltea a la Barranca* which will generate a series of spaces for the creative economy.



Simulation of the Resulting Reservoir

Voltea a la Barranca

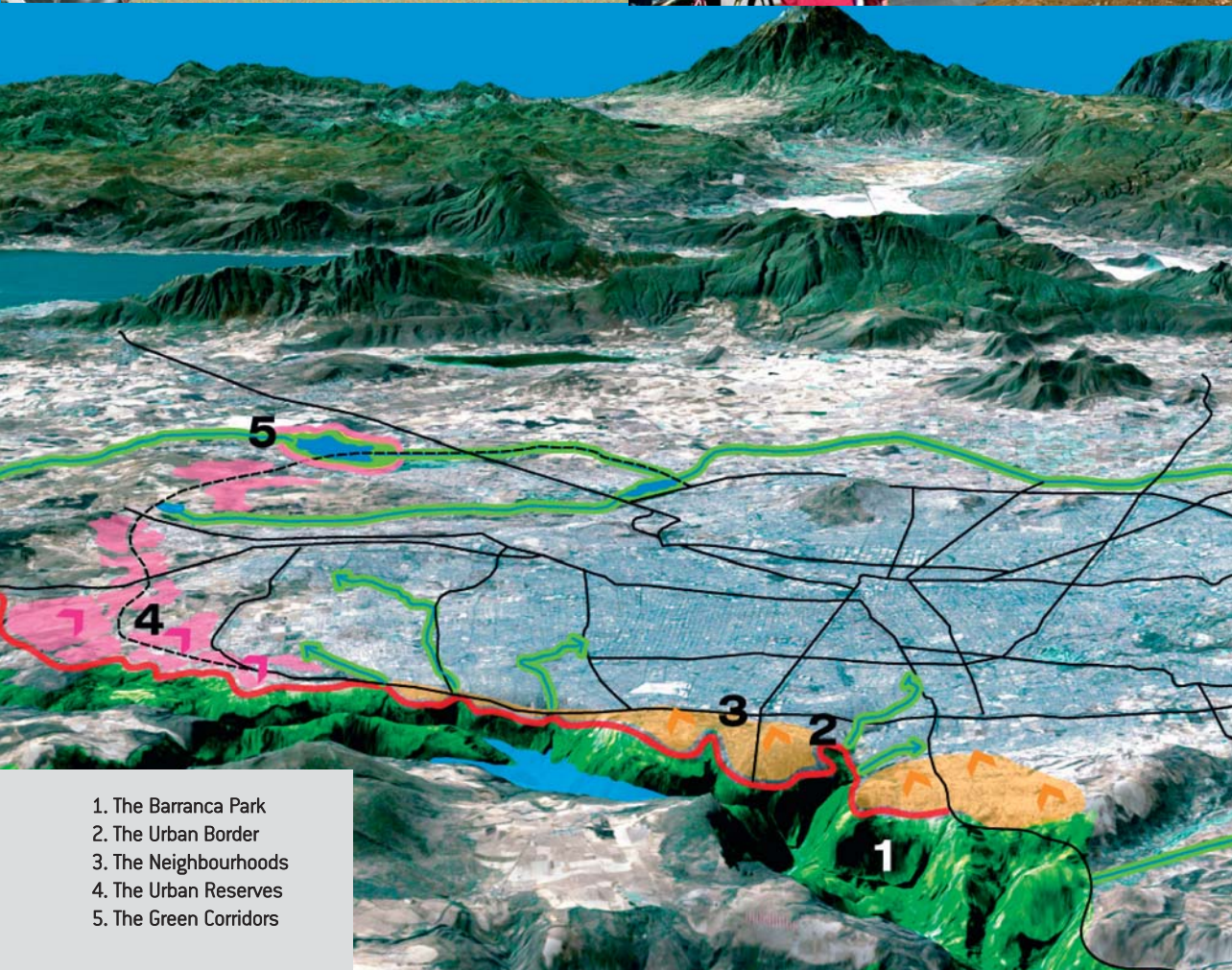
Guadalajara lies among fertile valleys and is surrounded by areas of great environmental value such as the La Primavera Forest and the Barranca del Rio Santiago. The *Barranca* is an area of outstanding beauty that is unique in western Mexico. It forms part of a huge arrangement of cliffs over 500m deep. The area has exuberant vegetation during the rainy season but is dry in winter.

The city has consistently turned its back on the *Barranca*, degrading it and polluting it with sewage and garbage. The poorest neighbourhoods of the city, which lack infrastructure and services, clamber against its cliffs.

The city's current water supplies are inadequate, and after some years of study and debate it was decided to build a dam in the *Barranca* at the city border. The site is to be the confluence of the Rivers Santiago and Verde. The Arcediano Dam, will assure the water supply for the Metropolitan Region - practically for ever - reducing the pressure on the failing groundwater reserves and Lake Chapala. The multi-million-dollar project is accompanied by another equally costly designed to bring adequate treatment to the sewage produced by the metropolis. This has led to a series of reflections on this area of enormous environmental, landscape and urban potential, with the conclusion that Guadalajara should turn its face toward the Barranca and improve its environment, the disordered periphery of the city and its marginal neighbourhoods.

This project, known as *¡Voltea a la Barranca!* (Look Toward the Barranca!) takes advantage of the momentum of the Arcediano Dam project as a detonator in the development of the Metropolitan Region. In particular, it seeks to promote the protection and renovation of the *Barranca*, and the renewal of its urban border. This will provide the city with a huge natural park of over 9,000 ha and vast areas for facilities and services.

Its explicit aims include ensuring the protection and sustainable use of the natural resources of the *Barranca*, and generating a system of green areas and associated



1. The Barranca Park
2. The Urban Border
3. The Neighbourhoods
4. The Urban Reserves
5. The Green Corridors

facilities at the Regional level. The plan will involve different state agencies, among which the Water and Sewage Commission stands out, and will require that at least seven municipalities be involved in decision-making.

The strategy is the result of careful study, diagnosis and analysis involving experts in different fields of territorial management. The environmental studies undertaken are of particular interest. These led to the definition of the zoning plan which will allow the application of protection and preservation policies and the improvement of the ecosystem. The general strategy covers five main areas:

Barranca Park: The formation of the Parque de la Barranca (Barranca Park), to be decreed a protected wild area. This will provide opportunities for environmental research and education, ecotourism, controlled fishing and sailing, sport and leisure in general. Many of these activities will generate fees, contributing to the self-sufficiency of the park.

Urban Border: The renovation of the urban border as a panoramic band integrating the city and the natural environment; this will provide access to park facilities and services via roads, footpaths and cycle paths. This will be done channelling investment from current urban development funds.

Neighbourhoods: This involves the improvement of the marginal neighbourhoods from the edge of the Barranca to the urban area, revitalizing them, giving them continuity and integrating Nature with the life of these settlements via programs designed to combat poverty. Social research involving participatory projects that include the improvement of homes, facilities and services will also be undertaken. This will make use of already existing social development programs.

Urban Reserves: The planning of the periphery involves defining the urban limits, motivating growth from the border towards the urban area, and installing facilities and services. This will be promoted mainly among private developers and via financial programs for medium- and low-cost housing.

Green Corridors: Making use of the Metropolitan Sewage Programme, the recovery of watercourses and bodies of water will be promoted in order to extend the natural area into the city. The projects will generate roads, green areas, urban facilities, and will also prevent from risk of flooding

Even while this initiative is still being promoted, several specific programs are already underway on the border of the Barranca. The most important is perhaps the promotion of the Guadalajara Guggenheim Museum, which already has an approved architectural plan and favourable feasibility study.

Voltea a la Barranca is a large project for the Metropolitan Region of Guadalajara that shows a clear long-term vision and that implies a dramatic shift in the direction of its future development. This large development swathe will generate a number of spaces for the creative economy and will involve a great number of departments at three levels of government, as well as private initiatives and the input of the general public.



Tierra Mojada

The *Tierra Mojada* project will transform an area with severe environmental and urban issues in the heart of a major area for future metropolitan growth. Besides the cleaning-up of the *El Ahogado* reservoir basin, the project will provide housing for the most needy sector, and will generate jobs, green areas, and new facilities.

This site is located opposite the city airport, at the end of a hydrological basin characterised by the pollution of its soil, surface water and ground water. The area has been progressively occupied by non-regulated settlements, low-profit agricultural activities and a lack of technical facilities. All this has resulted in the deterioration of the area's environmental quality. The area to be developed occupies close to 1,000 ha that currently belong to the *El Ahogado* basin. This dam was constructed over 100 years ago to provide irrigation water for agriculture; currently its waters are polluted by sewage.

The main aim of the project is to undertake actions that will reduce the problems caused by flooding, to attend to a serious local public health problem via the treatment of sewage, and to set down standards and regulations for the planning, control and regulation of urban growth in the area.

The *Tierra Mojada* project will consolidate a vast urban reserve, and bring into it further land from the dam area. This will improve the latter's ability to control floodwater, and provide areas for recreation and water sports. The area of water will be reduced down to one quarter of its actual size and the reclaimed land will be urbanised to house the different uses around a large metropolitan park with an administrative sub centre, facilities and services, all just across from the airport. The marketing of the urban area to be produced will render the project self-financing.

In this moment, the city is undertaking the promotion for its designation as the venue for the Pan-American Games in 2011. This is where the heart of the Games will be. An associated project will define rights of way across the area in order to close the peripheral ring road. This is the city's most important artery since it links together the seven major regional highways of Guadalajara.

The *Tierra Mojada* project is scheduled to begin in the autumn of 2005 and one of the main urban benefits of this complex large-scale project is that it considers comprehensively a wide variety of issues related to urban management, putting together a diversity of agencies of all governmental levels, and also private and social sectors. Additionally, *Tierra Mojada* constitutes a key factor for inducing the future growth and restructuring of the city.

Ciudad Judicial

The Government and the Justice Authorities in the State of Jalisco are the promoters of the *Ciudad Judicial* (Justice Complex) which is part of the modernisation plan for the judicial system of Jalisco. The institutional diagnosis of this plan focused on the legal authority's current installations and the factors that might slow down the workings of justice. The initiative hopes to develop new installations that can guarantee the community access to justice in an easier, efficient and more agile fashion.

The complex will be constructed to the east of Guadalajara in the municipality of Tlaquepaque on land belonging to the State Government. Funding for this project will come from a loan whose approval is being secured by the State Congress.

These new installations will house the *Consejo General*, civil, family and mercantile courts, administrative and electoral tribunals, the legal authority's administrative body, and an archive. They will also be home to an auditorium and a library as well as facilities for users and parking. As this project is in the promotion phase; the starting date is uncertain. The Ciudad Judicial project not only contributes essentially to the modernizing plan for judicial system in Jalisco, which is very important in itself, but will help to equilibrate the distribution of public facilities in the city. It will also help to consolidate and bring character to an area of well-located but very fragmented urban space.

JVC Centre

This project is backed by local businessman Jorge Vergara, owner of Omnilife de México, a multi-national company with the centre of its commercial operations in Guadalajara. The JVC complex occupies a site to the west of the city in the municipality of Zapopan, to be exact in the area known as *El Bajío del Arenal*. This is next to the La Primavera Forest, on the intersection between two regional roads. The project dates from 1997 and building started in February 2004.



Orientated towards providing services and business management, JVC centre comprises 14 buildings in 240 ha; up to 60% will be occupied by green areas. It brings together spaces devoted to art, culture, sport, spectacles and business.

An investment of more than US\$600 million is expected. The investment made for the acquisition of the land, planning and architectural projects amounts to US\$70 million, which were financed directly by Omnilife. National and international businesses will be involved in the next stages. The complex is divided into two large areas: the perimeter area and the built-up area.

The perimeter area that acts as a separator of the interior from the urban context. The main thoroughfare connects the different buildings, as well as the installations for treating the complex's sewage, an electrical substation, and parking lots etc. In the built area, buildings are arranged around green spaces and an artificial lake.

This area is served by a mass transit system, and also has pedestrian pathways that connect the various plazas. The buildings include a stadium, a convention centre, a shopping and entertainment centre, museums, university buildings, an auditorium and an arena, a sports club, an exhibition centre, hotels, restaurants, corporate offices and a pavilion.

The management process has already completed four stages (preliminary, ante-project, financial planning and territorial planning). The urbanising process, that Omniflife is coordinating, involves the work of 25 firms is now underway. This process highlights the need to bring together a large group of consultants, including local businesses (highly specialised in urban development, planning, environmental management, logistics, building, GIS, telecommunications, landscape design, etc.), and large, international architecture and engineering firms.

When building is complete, and assuming the full operation of the complex, the promoter hopes to attract three million foreign visitors, 2.3 million national visitors, 3.6 million regional visitors, and 17.8 million local visitors per year. The direct annual economic product should reach US\$1 million, while the indirect should reach US\$2 million, in addition to the 8700 people who can find jobs at the complex.

The speed of development has been slower than at first expected. The magnitude and complexity of the work have required an enormous input of labour and the financial reality have required a longer-term approach. However, the JVC project is without doubt the most ambitious and innovative in the country and its finalisation will generate great social, economic and urban benefits, enhancing Guadalajara's role as an international centre of services and tourism. It has induced great expectations and has certainly brought momentum to the prevailing promotion of spaces for the creative economy of Guadalajara.

University Cultural Centre

The complex lies to the north of the city in the municipality of Zapopan, in the area known as Los Belenes. It is backed by the University of Guadalajara, the second largest educational institution in Mexico. The project makes efficient use of its site; to the north there is a large regional road system that favours access, and to the south and north are residential areas with a population of nearly one million people.

The project is an initiative that brings together the recycling and modernising of spaces and buildings that occupy an area of 173 ha and which have been used for 25 years for educational activities by the university. The complex's site is publicly owned and administered by the university. This initiative seeks to generate a complex that can guarantee public access to art and culture, as well as encouraging the exchange of ideas between members of the academic and student community. The project is part of a policy designed to develop the arts and culture, something this seat of learning has been promoting for four years.

This policy has already consolidated several spaces in Guadalajara devoted to artistic representations. The complex has three entry points linked to a system of walkways that lead to two open plazas which act as rendezvous points. Distributed around these plazas is the major proportion of the facilities. A wide esplanade approaches the auditorium where open air spectacles can be held.

These installations have modern buildings conceived *ex profeso* for the presentation of dance, theatre, music, painting and other art forms. They house several museums (one devoted to natural history), theatres, auditoria, a school of arts, a sculpture garden, a library, commercial and cultural cinemas, a children's complex, a temporary gallery, corporate offices, and the University Centre for the Promotion of Culture, among others.

The project's financing includes a trusteeship with the Banco Nacional de México that involves the university with local government and private initiatives. The decisions related to the complex's planning, operation, development and construction are taken by a Consultative Council. In addition, the university receives an overall global budget from the Jalisco State Government which guarantees the continuity of the project.

The project is now going ahead, and the building of the Metropolitan Auditorium is already under construction. It is thought that ten years will be required to complete the project.

The project conceptually understands the importance of the site being a permanently 'live' place. In fact, it even has residential zones that can be occupied by students or academics, helping to form a more productive and free-thinking community. These zones have very practical facilities including a shopping complex, a supermarket and two hotels.

As well as complementing the cultural offer of the city in an important way, this project will convert the University into an important player in local urban development. As well as strengthening its presence in society, the project will allow the university to increase and diversify the Metropolitan Region's effort to promote the arts.

Guadalajara Guggenheim Museum

To encourage this project, an organisation known as the Guadalajara Capital Cultural has been formed, as well as a bank trusteeship via which all donations to the project are transparently administered. The aim is to attract sufficient investment to be able to operate the first Guggenheim Museum in Latin America. This will be oriented towards contemporary art and extend the world museum network.

The site for the project is characterised by its natural value and scenic beauty of the splendid Barranca, already described previously. The cliff face is about 750m from the site, and the gorge is over 500m deep. The city lies to the south; to the north lies an immense open landscape covering more than 1000 ha.

A feasibility study (made possible by a contract between the Guadalajara City Hall and the Solomon R. Guggenheim Foundation) showed the project to be viable. This study covered areas such as the collections to be exhibited, the museum's market and economic impact, its architecture and design, capital costs, long term financial obligations, legalities and future development possibilities. After a competition



between three renowned international architects, the design of the Mexican architect Enrique Norten was chosen.

The project will involve an area of some 24,000 sq m. There will be four galleries, an education centre, an auditorium, a number of complementary areas, and a public park. Four stages are foreseen: feasibility study (now complete), drawing up of the executive project and management (2005-2006), start of work (2007), and operation (2010). Currently, the project is in the promotion stage which is being backed by the Guadalajara Capital Cultural Association with the help of the Guadalajara City Hall.

Clearly, the promotion of this museum rides on the momentum generated by its sister in Bilbao, Spain. It has led to an association between local businessmen and the Guadalajara City Hall (with the aid of the federal and state governments), and sparked an atmosphere of enthusiasm in several areas of society. This will no doubt favour the climate of local development. However, the greatest benefits of this project will be harvested by linking it with an important urban action program in both its area of influence and in the Metropolitan region as a whole. The project will then increase the city's attractiveness to visitors and help capture other investments, as has been the case in Bilbao.



Expo Guadalajara

The demand for spaces where exhibitions can be held has been increasing in Guadalajara since the 1980s. To help meet this demand, a private group in association with the Jalisco State Government took the initiative of promoting and building a venue that could facilitate the logistic services necessary for such activities-the Expo Guadalajara.

This project is sited in what has for three decades been one of Guadalajara's best consolidated business and service industry areas. It shares with this area a good road infrastructure that is being progressively modernised. The site lies tangentially to three metropolitan routes that facilitate access from any part of the city. The area is also well supplied with hotels, whose number has risen over time.

The increase in the demand for exhibition space has induced the same group to expand the Expo's installations. This will help it consolidate its presence in the short term. Currently, it faces competition from other centres around the country, and even from within the Metropolitan Region itself (e.g., the JVC Centre and the University Cultural Centre). Expo Guadalajara has been operating well for the last ten years, its installations changing exhibition every ten days or so.

The new project includes constructing a covered space of 45,666 sq m. The idea is to maximise the use of the available installations, amplify the exhibition area, build a covered car park, and construct an area offering dining services. This is part of the promoting group's strategy to increase the capacity of the Expo. This will generate new synergies that should be used to maintain the attraction of the complex. It is tacitly related to several government-promoted projects designed to improve road and transport infrastructure (managed by private initiatives), such as the construction of a hanging monorail train system.

The project expands an already successful venue for nation-wide exhibitions and reinforces one of the main economic activities of the city. The project takes advantage of the current urban capacity of the area, and guarantees that the number of visitors to the Expo site will increase: a correct response to expected increases in demand.

Torreña Tower

This initiative is promoted by the Proyecto Columna Company with private local capital and other international sources of funding. The promoters claim that this project was born with the view to producing the most complete of telecommunications and entertainment complexes, and would be a symbol of Mexico in the modern world. The final building will be the tallest in Latin America and the tenth tallest in the world (336.5m high with 70 storeys). The structure includes facilities for telecommunications, an observatory, office space, a restaurant, a museum, underground parking, and a panoramic lift system.

The project is sited in Zapopan, one of the most consolidated business and service industry areas of Guadalajara. The area has a notable road infrastructure that is being modernised, and lies at the vertex of two metropolitan roads that facilitate access from anywhere in the city. It was initially intended to be built on public land, but this idea was rejected by a number of social groups. It is now located on private land in the same area.

The project is an action designed by one of Jalisco's leading business groups devoted to producing ideas, implementing actions, and taking advantage of business opportunities. This group saw the opportunity to prolong the useful life of a large area given over to business, services, accommodation and entertainment, an area located right beside the city's most important commercial centre and close to both the Expo Guadalajara and the World Trade Centre. The project would provide new attractions and concepts for the city. Construction work should begin in 2006.

Besides its important contribution in communication and service facilities, this tower will certainly be one of the symbols of this horizontal city. The surrounding business area and the tourist services around the Expo Guadalajara will be strengthened with Torrena, an emphasis in the current urban wave of Guadalajara.

Concluding Reflections

The economic, cultural and urban progress that Guadalajara saw up to 40 years ago, slowed down in last decades for a number of yet unclear reasons. Among the possible problems were changes in the attitude of business towards investing capital in banking products and buying land with speculative intent. During this time, even when the city grew at a rapid pace, besides the endless governmental efforts to cope with ongoing deficits, the most important urban development was limited to private producing residential areas and shopping malls.

While no great damage has yet been done to the City, it needs to be recognised that it has been losing its competitive edge to others in Mexico and abroad, and this has worried both governmental authorities and business groups. The result has been the generation over the last ten years, of a number of plans and programmes (produced by the Government and other parties) for the strategic and urban planning of Guadalajara, with the intention of refocusing metropolitan development.

Although no single strategy is recognized for everybody to follow, it is clear that the projects outlined in this paper reflect the intention to strengthen some of the priority functions of the city (mainly in the tertiary sector), in an attempt to increase its competitiveness and its citizens' quality of life.

The still-recent beneficial changes in the political life of the country, that have given more autonomy to the municipalities and wide democratic openness to citizenship, have nevertheless made metropolitan coordination more difficult and increased the intensity of discussion for almost any project. The climate of apathy and negativity that prevails in many sectors and the local political and social environment that usually hinders the promotion of large projects (through their scrutiny and debate), contrast with the enthusiasm of the promoters themselves (even though they are moving more slowly than expected).

It seems that the city is on a threshold on its urban process facing a promising new cycle. It is difficult to guarantee the success of all of these projects, but it is easy to imagine the benefits they would provide if all were to be completed on time. However, given the number of projects under discussion and the momentum they are enjoying, one can hope for good results.

Together, the above projects illustrate the way in which Guadalajara is reviewing the way to best make use of its potential by generating spaces for the creative economy.

Notes

All graphic and textual information have been obtained from the promoters and/or the authors of each of the projects, as stated below.

Macrolibramiento

Promoter: Gobierno del Estado de Jalisco
Secretaría de Desarrollo Urbano
Project: Secretaría de Desarrollo Urbano

Arcediano Reservoir

Promoter: Gobierno del Estado de Jalisco
Comisión Estatal de Agua y Saneamiento
Project: Comisión Estatal de Agua y Saneamiento

Voltea a la Barranca

Promoter: Gobierno del Estado de Jalisco
Comisión Estatal de Agua y Saneamiento
Project: Francisco Pérez y Asociados S.C.

Tierra Mojada

Promoter: Gobierno del Estado de Jalisco
Secretaría de Desarrollo Urbano
Project: Francisco Pérez y Asociados S.C.

Ciudad Judicial

Promoter: Gobierno del Estado de Jalisco
Secretaría de Desarrollo Urbano
Project: (Currently in the competition phase)

JVC Centre

Promoter: Omniflife de México S.A. de C.V.
Projects: Urban Plan: José Pliego
Convention Centre: TEN Arquitectos / Enrique Norten and Bernardo Gómez
Universidad del Éxito: Daniel Libeskind
Corporate Offices: Jean Nouvel
Museum of Contemporary Art: Toyo Ito
Exhibition Centre: Estudio Carmen Pinós
Stadium: Studio Massaud
Sports Club: Teodoro González de León
Hotel: Zaha Hadid
Shopping and Entertainment Centre: Coop Himmelblau/ Wolf Prix and Helmut Swiczinsky
El Mundo de los Niños (Children's' Museum): Philip Johnson and Alan Ritchie
Arena: Morphosis/ Thom Mayne

University Cultural Centre

Promoter: Universidad de Guadalajara
Project: Master Plan: Cesar Pelli & Associates
Architects/ Cesar Pelli
Auditorium: Moyao Arquitectos/ José de Arimatea Moyao
Library: Grinberg, López-Guerra, Toca, Topelson Arquitectos Asociados

Guadalajara Guggenheim Museum

Promoter: Guadalajara Capital Cultural
Project: TEN Arquitectos/Enrique Norten

Expo Guadalajara

Promoter: Expo Guadalajara
Project: Jorge Suarez

Torrena

Promoter: Proyecto Columna
Project: Sergio Peraza

The Context of the City and Region

Document: Plan for the Metropolitan Region of Guadalajara
Consejo Metropolitano de Guadalajara

All photos and images, except on page 184, provided by Francisco Pérez.

Photo on page 184 courtesy of Flickr.



Philadelphia

Art, Culture and Education

Jeffrey Tubbs
President, JTI Associates



Introduction

In the United States, a rich country known for its suburbs, highways, and suburban shopping centers, what does urban space have to do with the creative economy? How important is urban design and development when a city is facing tremendous pressure from demographic trends? In order to compete on a global level, an entire region must grow and work together. And as Judith Rodin, the former President of the University of Pennsylvania, argues, "Cities are where the action is and will be for the foreseeable century. Cities need to rebuild their economic infrastructures and provide avenues for individuals to lift themselves from poverty and for businesses to grow by creating jobs and opportunities for growth."

As the hub of its surrounding region, Philadelphia is an excellent example of an American industrial city attempting to adapt itself to the creative economy by redesigning its urban spaces. Philadelphia has a realistic opportunity to compete globally in the innovation economy, but it must capitalize on its strengths and foster important clusters that have the potential to be hot spots for the new millennium.

Philadelphia was the cradle of the American Revolution and the first capital city of the United States. Founded by William Penn as a utopian city dedicated to religious tolerance, the "City of Brotherly Love" is home to nearly 1.5 million residents. In the 1950s, local high school textbooks referred to Philadelphia as the "Workshop of the World" because the city was a leading supplier of locomotives, ocean-going ships, steel, textiles, and machinery.

Like many large industrial cities, Philadelphia has faced the difficulties of deindustrialization: employment loss, an aging population, and population migration from the core city to surrounding regions. Despite having one of the most vibrant downtowns in the United States, fewer than 30% of metro area employees work in Downtown Philadelphia. The city population has aged, and educational attainment has been relatively low: just 18% of city residents have a college degree, ranking Philadelphia near the bottom of the 100 largest cities in the USA. Poverty also increased during the last national census cycle; in 2000, 23% of residents lived in poverty.

To combat these difficulties and foster a sense of coherence throughout the city and the region, while at the same time promoting the diversity essential to local economies, Philadelphia is striving to anchor the Delaware Valley with a diverse and accessible economic hub. To offer the greatest opportunity for individuals of all educational backgrounds, to infuse a sense of authentic civic stability into the fabric of everyday life, and to cushion the cycles of this new economy, Philadelphia must become more diverse and competitive. In the dawn of a new millennium, Philadelphia's role as an urban center is more important than ever. This unique city must orient itself to the daunting challenges of a global economy that has become dominated by technology and characterized by mobility and rapid change. At the same time, it must protect and enhance the qualities that make it one of the most livable, walkable and historically-grounded cities in the United States.

Creative Economy Initiatives in the Philadelphia Region

For years, Philadelphia has been cultivating a creative approach to its economic development. Several private organizations, non-profit entities, and government agencies have collaborated in this effort. The Industry Partnership, the Pennsylvania Economy League, the Greater Philadelphia Tourism Marketing Corporation, the University City Science Center, the Greater Philadelphia Venture Group, the University of Pennsylvania, Philadelphia University, Drexel University, Temple University, the City of Philadelphia, the Pennsylvania Department of Economic and Community Development, Ben Franklin Technology Partners, Campus



Visit / Philadelphia, Campus Philly, the Arts and Business Alliance, Greater Philadelphia Global Partners, and Innovation Philadelphia (IP) are just a few of the groups that have helped spearhead Philadelphia's creative economic initiatives. Their collaboration in roundtable discussions, conferences, and workshops is an example of creative economy in action, as industries and individuals from different backgrounds have come together to focus on common goals.

These collaborative efforts have produced tangible results. Reports prepared over the past several years include titles such as "A Road Map for Regional Growth - Connecting the Greater Philadelphia Innovation Economy," "The Young and the Restless: How Philadelphia Competes for Talent" and the "Innovation & Entrepreneurial Index," all prepared by IP. "Opportunity Zones" with tax incentives have been formed around the city, and Philadelphia City Government is finalizing a program that will make the city the first in the world to provide wireless internet access across every square mile of its area.

The United States Department of Commerce recently invested US\$600,000 in Innovation Philadelphia's efforts to develop a "Global Plan for Greater Philadelphia," the "Greater Philadelphia International Resource Guide" and web site, and the "Strategic Industry Global Conference Initiative." A virtual online network for the creative industries, citycreatives.com, is being developed. Even recent cultural events testify to the buzz about Philadelphia's growing creative economy, including Design Philadelphia, an exhibit displaying artist and business ventures, the Philadelphia Film Festival, which had over 65,000 attendees, and an affordable housing exhibit, which was held at the University of Pennsylvania.

However, even more important than Philadelphia's initiatives in collaboration and connectivity are the urban spaces on which these initiatives have been focused. Philadelphia has targeted several key areas of opportunity for its urban redevelopment strategies, and although they are at different stages of development, the Avenue of the Arts, the University of Pennsylvania, and the Philadelphia Naval Yard are all-important examples of these strategies. These areas have provided Philadelphia with three vital creative clusters, which are ripe for development and geared toward the attraction and retention of creative talent. Combined with Philadelphia's central location, relatively low cost of living, and the highest rate of vacant land of any city in the United States, these clusters are beacons of creative activity that give Philadelphia enormous economic potential.

Avenue of the Arts as Axis of Urban Redevelopment

Broad Street, running North to South through the entire city of Philadelphia, forms half of the cross that meets at City Hall, anchoring the street grid system designed by William Penn. This system has kept Philadelphia highly accessible for over 250 years. But as recently as the early 1990s, Broad Street was not generally a place where one would want to be at night. There were few restaurants, and along most of Broad, if people came for a particular reason, they left as soon as they could. Today, however, Broad Street is a focus of major urban growth, entering the new millennium as the revitalized "Avenue of the Arts." This shift has been so dramatic that the Philadelphia City Planning Commission (PCPC) recently won the American Planning Association's (APA) 2005 "Outstanding Planning Award for Implementation," for the realization of its plan entitled "Extending the Vision for South Broad Street: Building Philadelphia's Avenue of the Arts for the 21st Century."

The plan provides a vision for development along South Broad Street from City Hall to Washington Avenue by encouraging new activities and uses, as well as expanded public and private investment. In concert with other city agencies and the Avenue of the Arts, Inc., PCPC has worked to encourage multi-use projects that meet key goals: to attract more people to the Avenue during the day, to enhance physical linkages between the Avenue of the Arts and Center City's central business district, the Convention Center, and the neighborhoods to the east and west of the Avenue, and to address problems of transportation and parking to ensure continued accessibility to the Avenue's attractions.

"Making downtowns more attractive places for people to live and visit takes a unified, coordinated strategy. As part of that strategy, our Planning Commission developed a plan that included a real focus on the arts. Major institutions along our Avenue of the Arts-the Kimmel Center for the Performing Arts, Wilma Theater, and University of the Arts-have been integrated into an overall plan that also includes residential, restaurant, retail and office space. Each of these other sectors has benefited because of the growth of the arts downtown. " - Mayor John F. Street



Avenue of Technology

University of
Pennsylvania

Avenue of Arts

Naval Yards

As a long and vital corridor, Broad Street links the two completely distinct neighborhoods of North Philadelphia and South Philadelphia at City Hall. While South Broad Street has received more attention through developments to the Avenue of the Arts, both neighborhoods have demonstrated progress in creative economic development, as well as a wealth of further opportunity. North Broad Street has a jazzy, spoken-word vibe, transitioning into the mainly cultural neighborhoods to the north. North Broad is home to the legendary Blue Horizon Boxing Venue, Tomlinson Theater, Rock Hall, Freedom Theater, Conwell Dance Theater and Randall Theater. Closer to City Hall, progress is evident: streetscape improvements have been made, a developer has purchased 640 North Broad for a major residential development, the Philadelphia School District is relocating to Broad and Callowhill Streets, and the Pennsylvania Academy of Fine Arts has invested US\$90 million in its space at Broad and Cherry Streets to commemorate its 200th Anniversary.

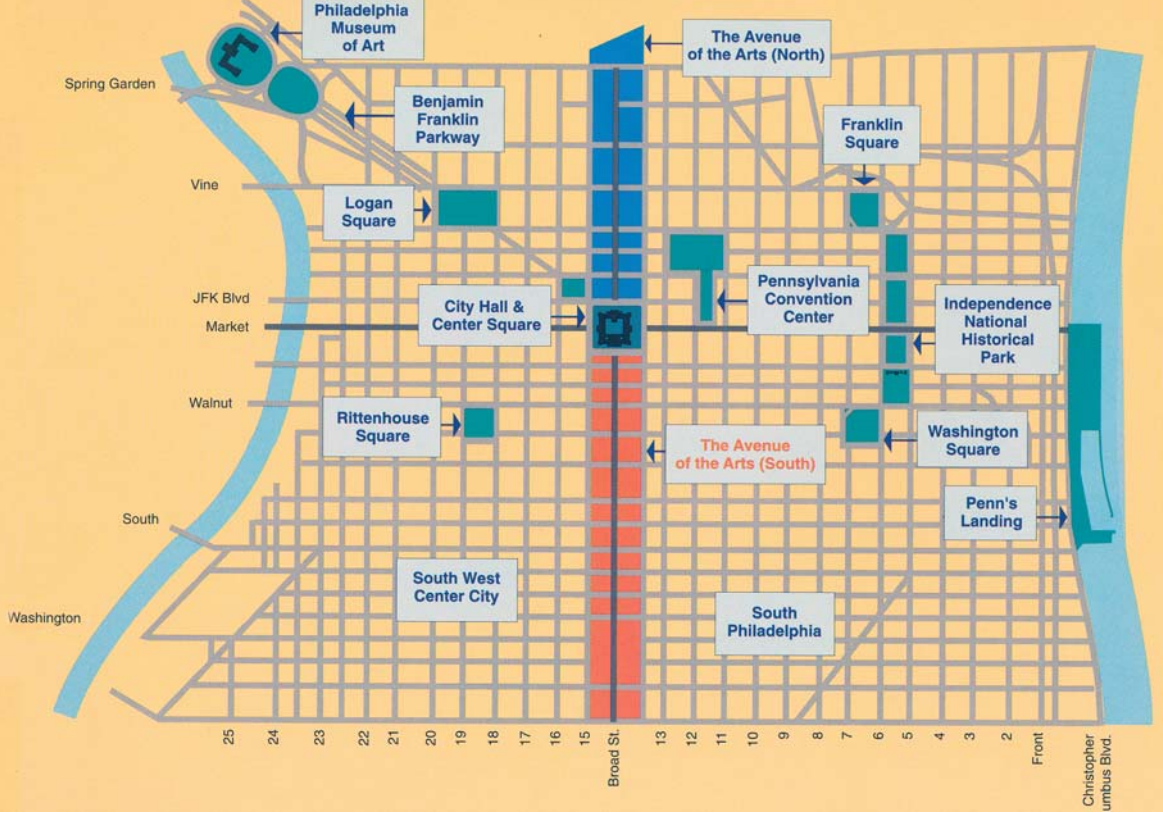
South Broad Street, further along in its development, has an established foundation on which to keep building creative economic spaces. South Broad is home to the Academy of Music, Meriam Theater, Prince Music Theater, Philadelphia High School for Creative and Performing Arts, Wilma Theater, Philadelphia Clef Club of Jazz and Performing Arts, Brandywine Workshop, Zanzibar Blue Jazz Restaurant, and the University of the Arts.

The internationally-renowned *Cirque Du Soleil* performs every year at Broad and Washington Avenues. Walnut Street, extending east and west from Broad, is the city's premier shopping district, and the intersection of Broad and Chestnut Streets alone boasts a Tower Records, a Borders Bookstore, a Capital Grill Restaurant, and a Ritz Carlton Hotel.

Most recently, Symphony House, a US\$126 million condominium project, broke ground at Pine Street and Broad Street. The project on Philadelphia's Avenue of the Arts will consist of a 31-story tower that includes 163 condominiums and a 35,000-square-foot building that will be the new home for the Philadelphia Theatre Co. The 400-seat theater fronting Broad Street will have street-level shops and restaurants. Many of these theaters and businesses opened or relocated to the Avenue of the Arts as a result of the creative economic initiatives spearheaded in the 1990s, and the Avenue is now a focus of highly diverse economic activity.

The Regional Centre for Performing Arts (RPAC). Perhaps the most exciting project in recent history on the Avenue of the Arts is the Regional Center for Performing Arts (RPAC). RPAC began to take shape in 1996 when two projects came together: The Philadelphia Orchestra's ongoing plan to build a new home for itself, and a plan of then-Mayor Edward Rendell to provide a much-needed venue for some of Philadelphia's most prominent performing arts companies and touring presentations. With the generous consent of the Orchestra, which had acquired a property at Broad and Spruce Streets, the two plans were merged under the supervision and management of RPAC.

Today, the Kimmel Center for the Performing Arts consists of two major venues: Verizon Hall, a custom-made, 2,500-seat concert hall as the home of the



Philadelphia Orchestra, Perelman Theater, a 650-seat recital theater and Commonwealth Plaza, an active, welcoming civic space. These facilities host eight resident companies, and Verizon Hall is home to both The Philadelphia Orchestra and to Peter Nero and the Philly Pops®. Perelman Theater is home to PHILADANCO, The Chamber Orchestra of Philadelphia, The Philadelphia Chamber Music Society and American Theater Arts for Youth.

Future Prospects. There are several challenges that the Avenue of the Arts faces in its future development and growth. Because of the support and contributions of the former Rendell administration, the Avenue has risked over-dependence on governmental support. Since the current administration has focused on different initiatives, the Plan for North Broad Street is yet to be completed, and funding Avenue Initiatives has decreased.

There seems to be a lack of commitment from the stakeholders on the Avenue, and it needs to become more of a district, rather than simply a group of similar stakeholders in one place acting as individual entities. As the Avenue is extremely diverse, it is difficult to get entities with such different missions to work together. There needs to be more funding, resources, commitment, and awareness. The district must also deal with safety, marketing, advertising, lighting, signage, without the need for public funding support.

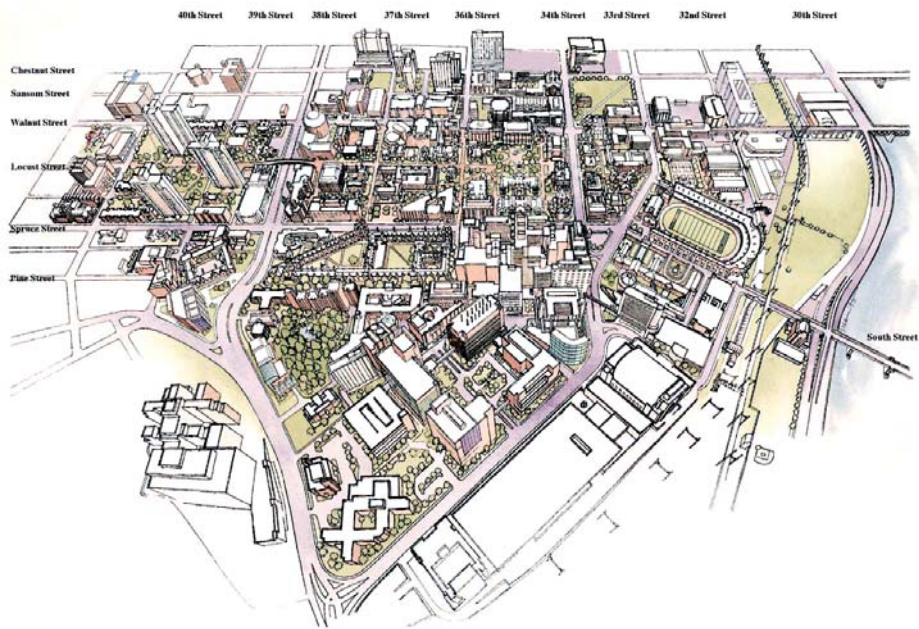
Despite some of these challenges, the opportunities on the Avenue are endless. The proposed expansion of the Pennsylvania Convention Center and the redevelopment of the architecturally significant Divine Loraine Hotel on North Broad are two extremely important developments for the entire Region.

On South Broad, there are several vacant lots that can create a true entrance to the Avenue of the Arts from South Philadelphia, including close to 200,000 sqd ft of vacant land at Broad and Washington Avenues. With more dedicated funding, less reliance on city government, a similar plan for North Broad Street, and more participation from the stake holders on the avenue, the growth will continue.

University of Pennsylvania and its Urban Vision

One of the treasures of Philadelphia is the University of Pennsylvania, known as “Penn” locally. Penn is one of the pre-eminent research institutions in the United States, and it is located near the heart of the City. The University recognizes that because of its “key economic and geographic position in the urban fabric of Philadelphia, Penn is a major factor in determining the quality of life and attractiveness of the region.

For decades, campus planning at Penn focused on reducing the entanglement of the institution with its surrounding urban fabric. While the University began as a collection of buildings built along city streets, throughout the 20th century, Penn successfully closed streets through the campus, and the City placed streetcar lines in tunnels, in order to establish a more park-like setting. After World War II, Penn began to purchase surrounding buildings and land for its campus expansion.



By the 1990s, the process of University expansion had seriously eroded the urban fabric around Penn. Likewise, Philadelphia was experiencing its nadir of job loss and social desperation while the city government narrowly avoided bankruptcy. The neighborhood around the University was considered unsafe and physically deteriorated.

It was during this era that the University fundamentally redefined its approach to urban space. Through the leadership of the President of the University, Judith Rodin, Penn released its 1996 Strategic Plan, "Agenda for Excellence," which recognized that the urban surroundings would play a key role in the long term health of the University. President Judith Rodin and her fellow leaders at Penn set out to create a model for urban universities all around the world to become catalysts for neighborhood transformation.

In order to become a catalyst, the University engaged in several partnerships to improve the quality of life for residents throughout the region. These partnerships involved plans to strengthen the existing residential community to the west, make the urban core of the university more dynamic and prepare for an expansion to the east that would link University City to Center City.

Responding to the need to improve primary education in the neighborhood adjacent to the University, Penn has funded and helped design (with the local school authorities) a public elementary school just west of the campus. The University also offers direct financial incentives to faculty and staff to purchase and renovate homes within walking distance of campus. The University has purchased over 20 buildings for rehabilitation. The University has also launched partnerships to improve policing, promote local businesses, and provide services such as sidewalk cleaning and graffiti removal. The City of Philadelphia has also contributed to the revitalization of West Philadelphia through the Neighborhood Transformation Initiative. Through this initiative, the City has assisted in the assemblage of vacant land to help facilitate development of residential neighborhoods. At the core of the University, Penn has developed a 500,000 square foot anchor development that includes a hotel, a Fresh Grocer supermarket, "The Bridge: Cinema De Lux" movie theater, a new Penn bookstore, public plazas, and a raft of stores and restaurants.

Current development at Penn is geared toward the recently-purchased post office site near 30th Street Station. Penn sees the current postal facility, a 14 acre site, as a gateway linking University City to the city's hub, the Center City Business District. The development would transform two large buildings and a vacant tract of land into a mix of residential, commercial and academic buildings, anchored by promenades and lawns with an unobstructed view of Center City. The horn-shaped parcel is unique. It is located across the street from 30th Street Station; offers one of the best views of the skyline; and is steps away from some of the City's largest employers, including the University itself.

Connecting City Centre and University City. One of the most daunting challenges is to break the physical and psychological barrier between Center City and University City. The Schuylkill Expressway, which runs along the river separating the two

hubs, presents an extremely difficult obstacle that will require creative planning and development to overcome. However, the development east along Walnut Street to the post office site and along the Schuylkill River is very important.

"It's really the front door to the city," said Jerry Sweeney, Board Chairman of Schuylkill River Development Corp. and President and Chief Executive Officer of Brandywine Realty Trust, which recently broke ground on the Cira Centre, a 30-story office building under construction on the north side of 30th Street Station. The site west of the Schuylkill, between Market Street and South Street, has also been designated a Keystone Opportunity Zone, which could translate into tax abatements for some future tenants.

Though Penn's plans are subject to change, the vision includes a mix of residential and commercial structures along Walnut Street, and recreational and academic facilities south of Walnut. The future development of this strategic site needs to be haven for the creative economy.

In anticipation of the future development of the postal site, and in attempt to further connect the University of Pennsylvania and University City to Center City, the area around 31st and Walnut streets has already seen several developments geared to the creative economy.

The Left Bank building has been transformed into luxury loft apartments and the University of Pennsylvania has developed a state-of-the-art adaptive re-use project. The 130,000 sq ft Transitional Research Facility at 121 South 31st Street is a US\$75 million project that is the first of its kind in Philadelphia.

The area has also been transformed into one of the region's live music and entertainment hotspots. The University of Pennsylvania's nationally renowned radio station, 88.5/WXPN and World Cafe Live, have relocated to the Hajoca building, a former plumbing supply house.

Philadelphia Naval Yard as Historic Opportunity

For over 250 years, there has been an American navy yard on the banks of Delaware River in Philadelphia. From giving birth to United States Navy and Marine Corps, to launching and repairing thousands of ships in the nation's defense, to spawning innovation and excellence in aviation and maritime research and production, Philadelphia's Delaware River has been at the leading edge of military, commercial, and industrial advancement since the days of the Founding Fathers.

A series of events over the past decade have begun to change this reality, paving the way for new opportunities for the creative economy. The U.S. Navy officially decommissioned the Naval Shipyard and Naval Station in 1996 and 1998, respectively, making the way for both the redevelopment of the site and a new era of engineering, research, and development in the Philadelphia Region.

The Philadelphia Industrial Development Corporation, as the City's economic development corporation, accepted ownership of more than 1,000 acres from the

Navy in 2000 and plans to move forward with development.

In the initial years of transition, an extraordinary amount of investment and activity has been occurring at the site. With more than 4 million square feet of occupied buildings and a work force in excess of 6,000, The Navy Yard has begun to re-establish itself as a substantial economic engine for our region.

The Navy's remaining civilian workforce, largely focused on cutting edge engineering, research, and design in the areas of propulsion and energy, represents a strong "anchor tenant."

Much of the private employment established to date has built on the site's industrial and maritime assets. The development of the Kvaerner Philadelphia Shipyard has built on these traditional assets with a new, state-of-the-art commercial shipbuilding facility and workforce that is the most modern and well trained in the world.

The future development of the site needs to build on the property's essential assets, which include: an unmatched historical district with extraordinary turn-of-the-century architecture and landscape; the site's enormous scale; its location at the center of the region's transportation networks and labor force; the critical mass of its existing activity; its more than 2.5 miles of frontage along the Delaware River; and its proximity to the cultural amenities and intellectual capital of the region. This site should include everything one would expect from a great city: industrial development, offices, retail, waterfront amenities, executive conferencing, research and development, mass transit, great public spaces, and the potential for residential development. This is a stellar opportunity for Philadelphia to design and build spaces for the creative economy.

In short, the Navy Yard is an extraordinary asset, and if planned correctly, could bring stimulating new life and future economic growth by extending the City to the water. Though the marketing and dissemination of the project need to be improved, and more amenities for housing need to be developed, The Navy Yard has tremendous potential to help Philadelphia develop its profile for creative economy activities.





Conclusions

As Philadelphia is learning first hand, the future of cities will determine our way of life. With the importance of land preservation and the population ever increasing, the existing infrastructure of the world's great cities is where growth should occur. It is becoming more and more evident that suburban sprawl is not only harmful to our environment, but is also not a pleasant way of life. Individuals are learning that it is more beneficial for them and their children to experience culture in a diverse environment, and not have to worry about driving 20 minutes for a gallon of milk.

Philadelphia has so many additional amenities to the three creative clusters, such as the Delaware and Schuylkill Rivers, the Philadelphia Museum of Art, and a central location on the East Coast. The challenge will be for government officials to collaborate with the leaders of the creative movement, the cultural and educational institutions, and the business community to develop initiatives that are known to the entire City and that can create a buzz of confidence throughout the entire region. Government housing programs have to be revamped and geared toward this type of movement. These three clusters of potential creative development must be realized, and nurtured. If this happens, Philadelphia, along with several other world class cities, will lead their respective regions into the new millennium.

Photos on pages 206 and 215 courtesy of Flickr.

Photo on page 209 courtesy of Waikien Ng

Image on page 211 courtesy of Redevelopment Authority of Philadelphia

Images on page 219 courtesy of Avenue of the Arts



Frankfurt

The Europaviertel Project

Bernd Scholl
Professor of Planning, University of Karlsruhe

Translated by Hany Elgendy



Introduction

During the next ten to fifteen years, an inner-city district of approximately 100 hectares on the old freight depot and marshalling yard of the German railway company "Deutsche Bahn" will be developed in Frankfurt a.M. in Germany. The new district will include different functions such as housing, offices, recreational and cultural facilities for 30,000 to 50,000 inhabitants on approximately two million square metres of built-up area.

The Messe Frankfurt (Frankfurt Fair) located directly at "Europaviertel". This Fair has always been closely linked to the economic development of the city and the region of Frankfurt. To maintain the competitiveness of the Fair, there are plans to extend and modernize its infrastructure and buildings until the year 2020. The overall estimated investments for the project ranges from €4-5 billion. This makes "Europaviertel" one of the most important urban development projects in Germany.

The development of this area follows the strategy of "Inner Development". This means development without consuming green fields for settlement extension by keeping in mind the principle of sustainable use of the limited land resources. Re-development of inner cities allows the quality of existing infrastructures to be improved and - most importantly - to create an appropriate living environment especially for family-friendly housing in the city. The renaissance of cities for urban living is one of the key tasks for the coming generations.

This strategic direction was set in Frankfurt in the mid-1980s with the concentrated development of the riverfront. The idea was initiated in 1987 when Frankfurt was considering becoming a candidate for the Olympic Games in 2000 or 2004.

Although Frankfurt finally decided not to apply in favour of Berlin's bid after the German reunification, the basic ideas and principles of the proposed scheme for "Urban Games along the Main River" have been realised. The underlying planning principle for the proposed Frankfurt Games was "the use after the Games is the main use". This led the important actors in the process to the decision to initiate the inner development of the city with an Olympic bid and the possibility of hosting the Olympic Games, which Barcelona did successfully. Although Frankfurt did not host or even bid for the Games, the revitalisation of the riverfront is in progress today.

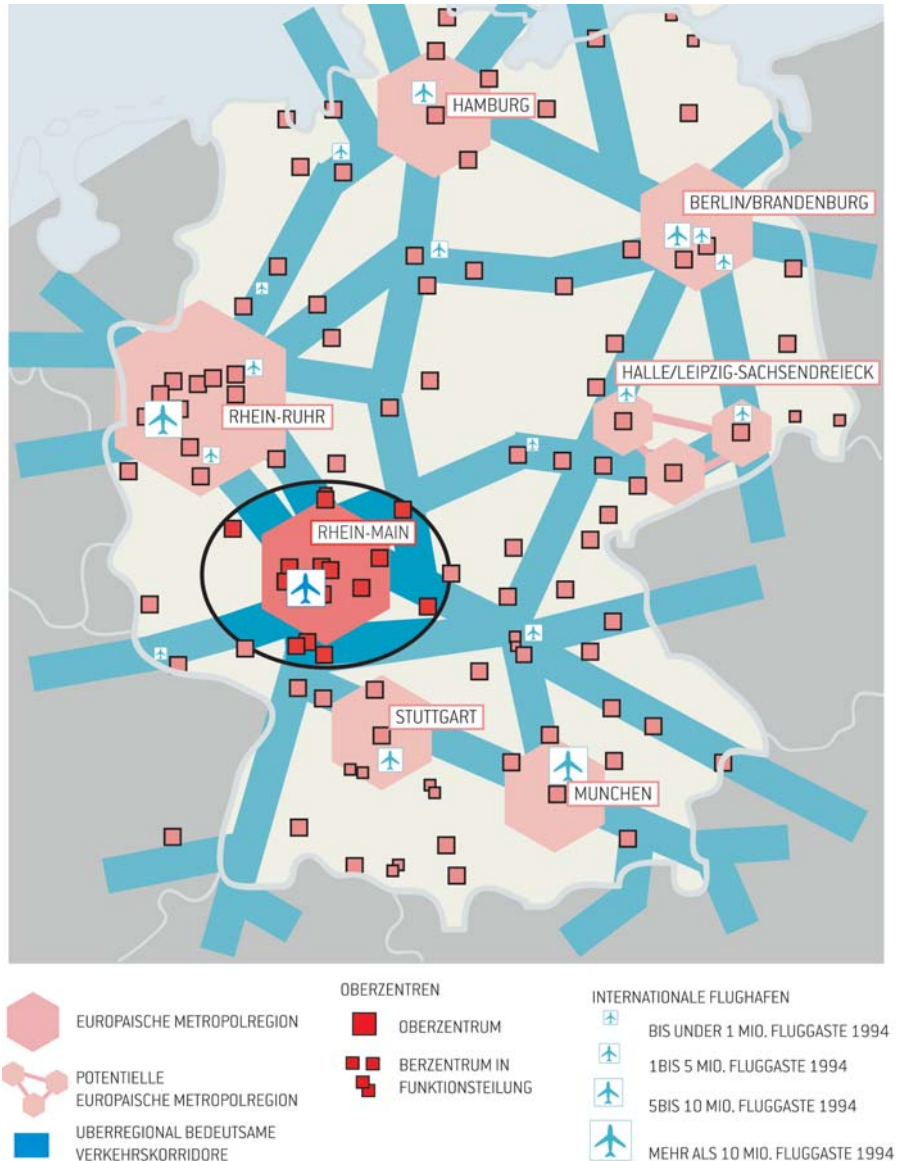
The decision to locate the European Central Bank building in the city is another important milestone of the urban development process. In the course of this task, the collaboration of important players was cultivated by innovative informal planning processes. The experience of these players is still beneficial for actual tasks, even under changing political and economic circumstances. For example, the city administration has had to face a drastic reduction in tax revenues. The relatively high unemployment rate, compared to the surrounding region and neighbouring cities, and the anticipated population decline are other factors that have to be taken into account. Whether the Rhine-Main-Region and Frankfurt will suffer from these trends or not because of their high economic potentials compared to other German regions is uncertain.

As a result of the limited scope of public funds, the financing of urban development projects and the required processes, as well as the needed technical and social infrastructures to be paid by private investors. Hence, it was an important condition for the development of "Europaviertel" not only to develop solutions for the development concept, the urban design and the technical aspects but also to stipulate financing of the major infrastructures. It became apparent during this process that this is a very critical task, taking in consideration on one hand, the collaboration between different private companies that seek economical success and profit, and on the other hand, the city administration that has to keep the public interest in mind.

Projects for the re-development of our inner cities are among the most difficult tasks of urban planning. The technical, formal and communicative difficulties are enormous. To overcome these difficulties, special processes - "Ad-Hoc Organisations" - with a limited timeframe and given special organisational structure and operational organisation have shown their success. The functions and operating principles of these organisations will be illustrated later in this paper. The principles of this procedure are based on the experiences of the so called "Wiener-Model" that was developed in the 1970's. This model was tested in many complex infrastructural and spatial development tasks especially in Germany, Austria and Switzerland. The model was modified according to the requirements of a collaborative arrangement between private investors and the city administration. The decision for an informal planning process and for an "Ad-Hoc Organisation" was made on the assumption that the formal processes of regional, traffic and urban planning could not successfully solve the problems connected with this task.

Planning History of the Area

After privatizing and restructuring of the former national German railway company Deutsche Bahn in the mid-1990s, the new Deutsche Bahn Holding, and consequently many cities, got the chance to start urban development on abandoned rail tracks, freight depots and other railway installations that were often located very central locations.. The "Frankfurt 21 Project" included the renewal of the railway system by establishing a new underground main station and a tunnel under the city for the long-distance trains in place of the existing terminus station. This major project was supposed to be financed by the development projects on abandoned rail tracks of the old freight depot and the old marshalling yard. Although the planning for the underground railway station had been stopped, the project on the old marshalling yard, today named





"Europaviertel", continued on. In 1999, the removal of the rail tracks began at the freight depot. However, the marshalling yard remains in use. The Europaviertel area is located near the city centre and the financial district, between the main railway station and Frankfurt Fair. Occupying about 145 hectares, the area is connected to the public transport system by several subway and regional lines. It is also surrounded by some main streets that connect the area to the motorways A5 and A648.

The city administration in Frankfurt prepared a development concept for the whole area. Based on this concept, a master plan was developed and was approved by the city council after some turbulence that resulted from an alternative and unreconciled concept developed by the Deutsche Bank. The concept envisions the central east-west axis as a "Boulevard".

This axis is surrounded by a mixture of 25% housing, 25% park, 25% new area for the Frankfurt Fair and 25% for mixed and commercial uses. The enlargement of the Fair is a key element of the concept as it represents a unique chance for the Fair to extend its existing area without moving out from downtown Frankfurt.

This master plan was used in a further process as basis for the revision of the land use plan of Frankfurt. Parallel to the land use plan, a master plan for possible skyscraper locations was developed by Jourdan-Müller PAS. This document,



approved by the city council in 1999 as a legal framework for all new skyscraper projects in Frankfurt, it is based on the idea of three groups of existing and new skyscrapers in the city. One of these groups is located at the eastern end of Europaviertel. In 2001, the location of this group of skyscrapers was formalised with a legally-binding land use plan.

This group of skyscrapers includes the so-called "Millenium Tower" (365 m), a building on the site of the old central administration of the Deutsche Bahn (185 m) and the old police headquarters (145 m). A second focus point is the "Urban Entertainment Centre". With a mixture of entertainment, shopping, hotels, offices and housing, this represents a development catalyst for Europaviertel and is considered the core of the eastern part of the new district. The urban entertainment centre includes also two skyscrapers (165 m and 195 m).

A first step to maintain the worldwide competitiveness of Frankfurt Fair was the construction of the new "Hall 3" in year 2000. This represents the first building project in Europaviertel. The Frankfurt Fair is preparing a "Master Plan 2020" that will guide the progressive modernization and improvement of the Fair. After removing the railway tracks of the freight depot and approving the formal plans for the eastern parts of Europaviertel, the planning of the western parts of the area is being intensively carried out.

Both the master plan and the land use plan include the ideas for the western parts of Europaviertel where the marshalling yard is still in use. Now a legally-binding land-use plan is prepared to formalise these parts. Deutsche Bahn has planned to close the marshalling yard by 2002.

Since 2004, the northern part of the marshalling yard has been progressively closed and the tracks are removed. After the site was reclaimed, the legal plans were prepared. With the help of an international urban design competition, the master plan was revised and the urban development concept for the western half was finalised.

The emphasis of this competition was concentrated on the extension of the boulevard - the "Europa-Allee" - with a tunnel of 400 m under the central park with an area of 6 hectares. This allows a quiet, high-quality and very centrally-located housing area for approximately 4,000 inhabitants. The master plan and the legal plans for the housing area are currently being prepared in close coordination between the private land owners and the city administration.

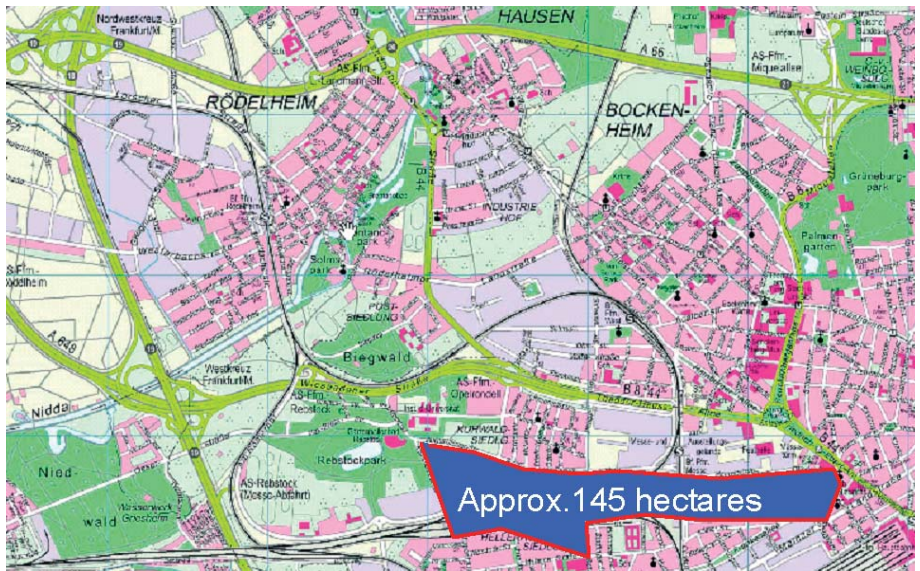
The Task

Following an initiative of the land owners of Europaviertel - Vivico Real Estate and Aurelis Management (both formerly parts of Deutsche Bahn Holding), Messe Frankfurt AG (Frankfurt Fair) and Rebstock GmbH -the Consilium was founded. Members of the Consilium were private companies, land owners and the involved actors in city made up of , regional and state administrations. The Consilium was designed as a special Ad-Hoc-Organisation based on the principles of action planning. Important preparations were made by a private planning office, which is also responsible for the preparation, organizational execution and realisation of the recommendations of the Consilium and the support for planning teams. The Consilium met regularly every three months. The sessions usually lasted two or three days, and were held as "conclave" meetings for the members of the Consilium to discuss important issue in direct dialogue. At first, the process was planned for one year but was extended for a second year at the request of its members to achieve a breakthrough solutions at strategic important points.

As a result of these preparations, the decision-makers of the private companies and the city administration formed a Task Force that focused its work on the infrastructure that has to be privately-financed. An agreement on this issue was reached in 2004. At this stage, the organisational structure of the process and the important integration of the key decision-makers was very difficult but at the same time, essential. Accompanying the Task Force, the decision-makers met also every three months to prepare and comply with the necessary agreements.

In the meantime, the first section of the railway tracks in the western part of the Emser Bridge is removed, and the Fair was able to buy 10 ha of land for its extension. The initial elements of the traffic infrastructure (Europaboulevard, Neue Messespange, Neuer Messezubringer and an interim connection to the Dammgraben) were constructed. At the same time, the necessary formal planning was completed. At the end of 2004, the Chief Mayor of Frankfurt created a project office in the city administration for the implementation process. This office functions comprehensively across all departments.

For some issues that represent some strategic importance for the whole development, more detailed solutions will be prepared, e.g. urban design, including the design of technical infrastructure and the design of public space by means of test planning and followed by urban design competitions. In particular, test planning to explore the range of possible solutions and basic guidelines for further steps of planning and implementation is important. It is always true that: "The criteria to be used to prove that the solution is the right one is as unknown as the solution itself. (So) it is not wrong to say that both should be investigated simultaneously."



Differentiation Among Routine, Project and Focal Point Tasks

The main innovation in the planning process in Frankfurt was the implementation of an Ad-Hoc planning organisation. Contrary to conventional organisation structures, this type of organisation includes setting up a temporary, interdisciplinary and inter-organisational group that can act beyond the conventional borders of organisations. Such a structure is complementary to existing organisational structures in the attempt to clarify and solve complex planning tasks. The realisation of the proposed solution is then the responsibility of the regular authorities. These authorities can also delegate the realisation of this solution, as in the case of Frankfurt to a proper successor organisational structure.

The implementation of Ad-Hoc planning organisations is often observed incorrectly as a “project organisation.” Therefore, it is helpful to demonstrate that in addition to the usual routine and project organizations, there is a different type of organisation that has different organisational and procedural requirements.

The more determinable the problems and their solutions are, the more probable is that they can be solved with the usual organisation structure and procedures. On the contrary, the more indeterminable the problems are, the higher is the need for a tailored organisational structure and procedure. What could be dealt with as a routine should be considered as one. Consequently, the assessment of the type of organisational form is needed for each task, is one of the first strategic decisions.

Constant remaining tasks could be solved with the common instruments, procedures and organisational structures. Tasks of this type could be considered as routine tasks. In general, these could be solved in the framework of a routine organisation. Regarding the stability of this type of tasks, the lifetime of this organizational structure, especially in the public sector, is usually unlimited.

If the difficulties, results and temporal sequences are fairly determinable, then the project organisation is the suitable organisational form, as in the case of planning and construction of buildings. In an organisational form that is similar to a matrix, actors from different disciplines and organisations work together under the chairmanship of an (external) project (external project manager?) controlling in pre-defined project phases to develop proposals and solutions. They make decisions that should be approved with the respective organisations. A project organisation has a limited lifetime that could be determined in advance. The main characteristic of a project task is its temporal determinability. Differentiation between routine tasks and project tasks is not limited to spatial planning.

But what if the difficulties, conflicts and the tasks that should be solved can be only roughly described? What if it is uncertain which solution will lead to which results? What if no, or only very vague, expectations about costs and time are possible? In other words, what if the subject lies in the fog of a greater uncertainty. These and other difficult questions, e.g. setting focal-points, assessing and determining the spectrum of possible solutions and the preparation of decision sketches, cannot be determined beforehand. These questions should be themselves considered as a subject of examination. For these types of tasks,

neither routine nor project organisations are appropriate as solution possibilities and responsibilities are indefinite.

Such complex situations-in the densely-settled regions in Europe-are apparent in tasks whose solutions are of special public interest, either on communal, regional, county, or the national level. An example for this type of task is the railway infrastructure development and its relation to spatial development in municipal, regional, national, contexts; the development of airports in densely-settled regions; the limitation of urban sprawl of settlements; flood protection and long-term assurance of potable water supply as well as energy supply. These questions are considered from my point of view as "focal-points". These themes have strategic importance and require focusing all forces. Consequently, the type of organisation that is needed to deal with this type of tasks could be called a "focal-point organisation."

In tasks that have a high level of uncertainty, imperfect information and many expected conflicts, it would not be reasonable to attempt to set all organisational details in advance. Organisational structure and procedures should be arranged as simple as possible, so that flexibility can be preserved when facing unexpected problems. It can be said that in this type of organisation, the central questions are approached. The leadership of such organisations is advised to define temporal break points for possible controlled termination of the whole process. It is not possible to guarantee success in such a process.

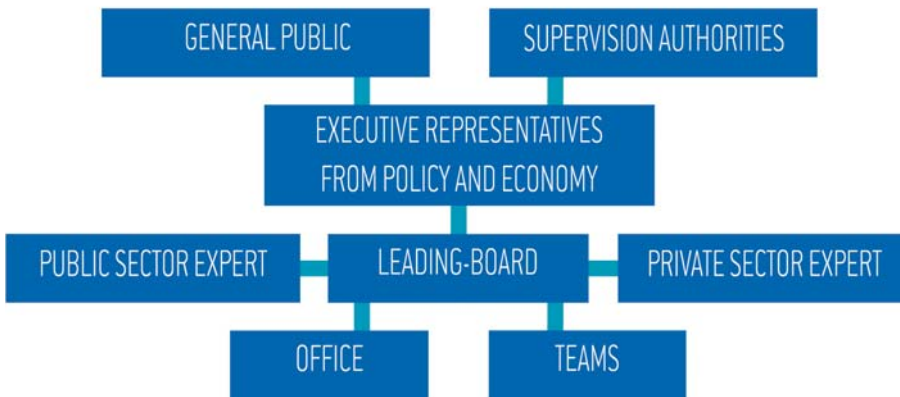
Within a pre-defined time-frame, as mentioned earlier, an organisational framework should be established based on specific principles regarding the organisational structure and the procedures. One of the basic principles is the drastic reduction of common hierarchical structures by establishing a central Leading Board of highly-qualified specialists (the majority should be independent experts). Through discussion in this committee, essential subject matters for the solution should be identified. To explore different possible solutions and to clarify specific questions, the committee may engage different teams that work sometimes in competition.

Focal-point organisation has a limited lifetime, usually from one to three years. Its main task is to start the clarification process and to explore possible solutions for the complex task and, as far as possible, to define the solution so that it could be realised with common methods, procedures and organisations. As such solutions require many years until their realization, they should be developable and adaptable. Hence, this task could be considered as the development of a planning strategy.

This strategy formulates the "leading thoughts" for solving the problems that should be valid for several years and sometimes for several decades. They should be also robust enough to be realised under changing circumstances. These organisations, apart from the usual organisational structure, could be considered as a strategic reserve for clarifying and solving centrally, important and complex tasks.

Organisation of Ad-hoc Processes

Organisational Structure. The core of an Ad-Hoc Organisation is the Leading Board. It consists of representatives from concerned actors and made up of independent experts from important disciplines for the subject matter. The majority of this board should be independent experts so that in the case of failure, the representatives should not carry the negative consequences. Further participants in an Ad-Hoc Organisation are representatives from the relevant public authorities as well as from private institutions. According to the situation of the subject matter, different experts could be involved. The Leading Board reports to the Executive political representatives and the participating companies directly after the meetings. Independent presentation of the results could only take place in clear coordination with the executives political representatives.



Organisational Structure of an Ad-Hoc Planning Organisation

Through this structure:

The reduction of the needed communication in a hierarchical organisation will be achieved.

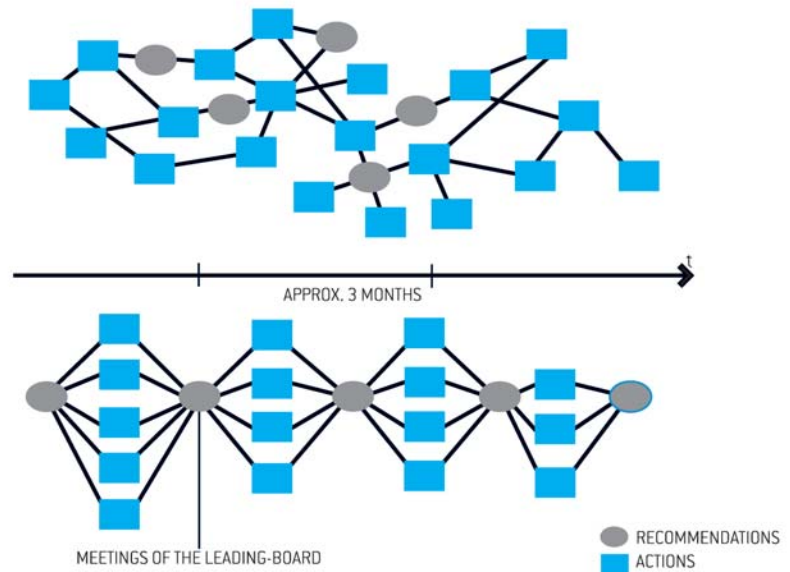
The needed differentiation of the roles in complex tasks will be realised

Clear rules for the communication will be created.

Procedure. One of the most important principles to achieve success is the adoption of a "rhythm". In complex planning tasks such a "rhythm" is usually not available. From the practical experience, this rhythm could be achieved through quarterly meetings of several days. The procedure should have a time frame of one year. This is the period that is needed in complex situation for mutual understanding about the subject matter. If the period of the process is set to two years, the ad-hoc organisation should include the above mentioned temporal break points for controlled termination of the whole process, if required.

For the development of new ideas and the examination of existing solutions, the option of involving planning teams is also important. In particularly difficult sub-

tasks, the implementation of ideas` competitions (as a process in the process) has been proved to be helpful. Several small teams work simultaneously in the same task, so that a spectrum of solution possibilities can be explored. The operative arm of the Leading Board is the "Office". This office is also responsible for preparing and updating important overviews.



Setting a "Rhythm" for the Planning Process

The regular "assessments of the situation" are occasions for creating and updating the overviews and also for setting important prerequisites for concentrating the limited resources on an important focal point. The results of such an organisation consists usually of recommendations from the majority of the Leading Board. These recommendations can be formulated in the form of an "action program" that can be updated and enhanced by the successor organisation.

Principles for Acting and Making Decisions

What are the main aspects that should be considered in a development with a level of complexity as in "Europaviertel"? What conclusions could be drawn from this experience regarding the formation of the planning process? The following selected questions will be briefly discussed:

Problem of the "Beginning." As in aviation, the most dangerous phases are the take-off and the landing, where the risks are higher than in other phases of a flight. This should be kept in mind during in the process design and implementation. The following are some barriers to overcome:

Scepticism of the participants toward the procedures of action planning which are less familiar.

Suspicion that the planning sovereignty will be undermined or offended

The relatively immense time frame or expenses.

Beyond these understandable attitudes, suspicions, and arguments, there are other hidden fears, for example, of a probable loss of knowledge advantage. In many cases, political representatives and company chairmen distrust having to participate in a process that they do not have control over, and where they may lose the dynamic of representing their own interests. Thus, an action planning process needs to manage it with flair. It is also important to have support from the political and corporate leadership of participating organisations. It does not make sense to attempt to operate against the will of these executives. Indeed, it would be impossible without the required finance and their supervision boards. It is sometimes helpful to make the preliminary exploration together and without obligation by either party.

The Importance of Exploration. In military terms, "exploration" is understood as the extensive reconnaissance of the enemy's intentions. The achieved knowledge advantage is considered a key source for dominance. Knowledge advantage can have a crucial importance in specific situations. Skilful use of suitable exploration processes leads to the efficient use of resources. Similarly in spatial planning, precocious knowledge about the intentions of different actors are of vital significance for coordinating tasks that have impacts on spatial development and hence the development of appropriate strategies. Normally, in conventional plans, these intentions are not mentioned. A lack of knowledge about significant conflicts can lead to substantial complications in the formal planning processes.

By means of an informal, but complementary, planning process before the formal planning processes, such conflicts could be identified and, if possible, appropriate solutions can be developed. This exploration process should be carried out from different points of view and from different sides, so as to avoid falling in illusory certainty. Exploration should not be limited to possible conflicts and problems, but should also cover possible solutions by conducted competing test planning. This method could also be helpful in regional planning.

Creating and Maintaining the Overview. Creating and maintaining an overview is a central aspect for strategic actions and decisions. The lack of an overview quickly leads to blind actionism, as no focal points can be identified where the limited resources should be devoted.

Objective analyses of spatial planning processes reveal that in many cases the most important overviews are missing. In the practice of spatial planning, experienced planners know that the main overviews can be summarised in a very abstract manner. These include overviews about timeframes (including speculated ones), spatial representations (maps and aerial photos), quantitative estimations about specific aspects, as well as the resulting costs associated with each solution.

Regular Assessment of the Situation. Again as in warfare, difficult tasks of spatial development can only be solved when the proper means, the possibilities and the participating parties are well estimated. Sun Tze wrote "Know yourself and know your enemy; a hundred battles fought, a hundred battles won". The periodic assessment of the situation creates possibilities for creating and maintaining the overview, identifying the most important information for the task, the evaluation of the results, and identifying the focal point for the subsequent period.

Acquiring and Keeping Reserves. I know of few cases where human resources and time reserves are available to be devoted to questions of strategic significance. There are different reasons for this situation, although the lack of human resources is only an excuse. In some cases, the fault lies in the way we work: delaying even important tasks, over estimating one's capacity in problem solving, and above all, not taking into account possible surprises. No one is protected against these phenomena.

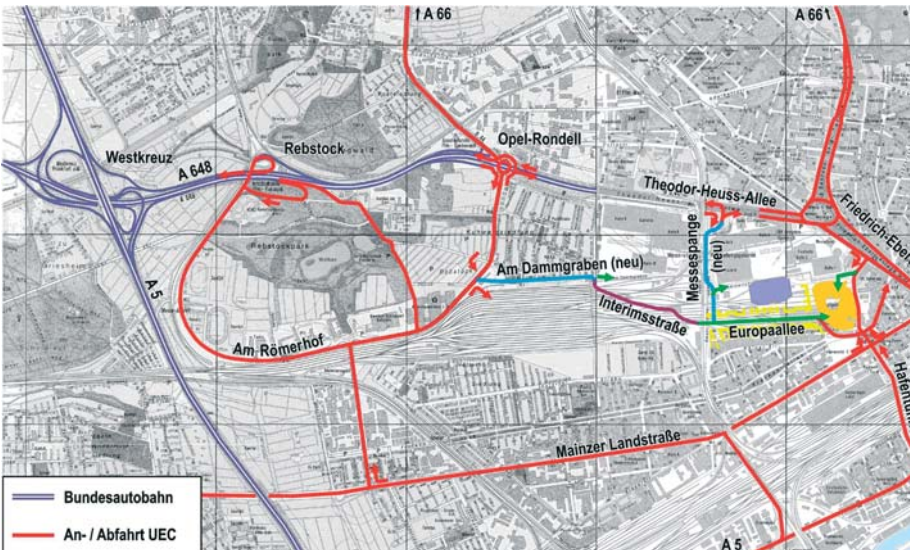
An actor will mobilise his reserves only when the pressure of problems or conflicts reaches a level, when there is real danger of not reaching his own goals or of losing his own interests. In the field of spatial planning, this behaviour is particularly deadly, as the time lag between making planning decisions and achieving the desired outcomes could be many years or decades. When spatial problems become noticeable, it is normally too late to solve them, or they can only be mitigated or solved by means of a substantial additional effort. In a densely settled region, the circumstances will probably get worse. Hence, the plain reaction to conflicts and problems is not only destructive for the situation, but also affects spatial planning itself negatively by raising questions about its purpose. Von Moltke wrote: "Success remains for those who have the last reserves, and utilizes them purposefully".

Step-by-Step Realisation. One of the main hindrances during the implementation of large projects is the failure to understand that large areas should be developed step-by-step, and that intermediate solutions should be prepared. It is important to limit the risks, especially economic ones. An investor is seldom ready to develop a very large area as a whole, but only to develop as much as the market can absorb. This requires the careful planning of intermediate objectives with planned phases that can be reasonably developed on its own. This is only possible if an overall strategy is available. If the process requires the cooperation of several land owners, the process will only function if the proposed solution can profit each one. At the same time, it is important to achieve several feasible segments that are independent from one another. If these segments are realised, a major planning task is achieved by dissolving the interdependencies, reducing complexity and setting a reliable framework for the development.

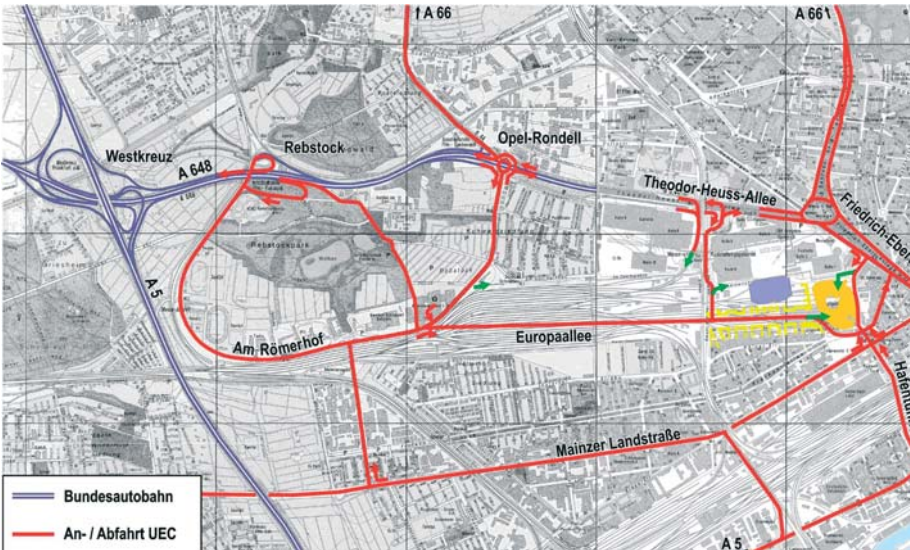
For example, in the case of "Europaviertel", the development was conceived to occur from east to west. During the planning process, we attempted to create as many starting points for the development as possible, for example, in the south or at the bridgehead situation. The key for this idea was the joint financing and realisation of the main street network. In the framework of the task-force, as a

successor of the Consilium, loadable agreements were prepared to establish the new street network. This allowed the development to begin at different points of the whole area. Establishing the street network is also an important factor to create the external image to be used to market the area. In addition, it generates a high level of certainty regarding the whole development which can attract more investments to the area.

From this example, it is apparent that focusing on important aspects (in this case the step-by-step establishment of the street network) and creating flexibility (for the city development) are central elements in any planning strategy.



Concept for the intermediate main road network. In construction since March 2005



Concept for the final main road network

Concluding Remarks

This Case Study demonstrates that the skillful use of an Ad-Hoc Organisation and the related innovative planning processes can be helpful in exploring and solving complex problems in city and spatial planning. Basically, this is based on setting an organisational framework that allows enlightened discussion about spatial conditions, conflicts, questions and the possibilities for sustainable spatial development. Organising planning processes to achieve integrated planning solutions for complex problems from different disciplines is a challenge. It requires more than basic knowledge and experience to clarify and solve tasks of strategic importance, and not to under-estimate communication experience. For persons who are not participating in the process, this is sometimes incomprehensible why it is very difficult to find apparently simple solutions and ideas. Perhaps this is an important characteristic of most innovations.

Notes

Dörner, D. (2003) Die Logik des Misslingens.
Strategisches Denken in komplexen Situationen.
Erweiterte Neuausgabe. Hamburg

Friesitzer, K.; Muarer, J. (Hrsg.) (1985): Das Wiener
Modell - Erfahrungen mit innovativer Stadtplanung, Wien.

Gertesegger, Peinter: Otto Wagner 1841 - 1918
Unbegrenzte Großstadt. München 1980

Hinterhuber, H. (2001): Strategisches Denken (Band 1),
Strategisches Handeln (Volume 2). 6. Edition. Berlin.

International Society of City and Regional Planners.
[ISoCaRP] 1983

International Society of City and Regional Planners.
Implementation of Planning: The Partners. Amsterdam
1983.

Scholl, B. (2002): Anforderungen an die Raumplanung
und Konsequenzen für die Ausbildung. In: DISP 148
(1/2002), P. 42-51.

Scholl, B. (1995): Aktionsplanung. Zur Behandlung von
Schwerpunktaufgaben in der Raumplanung. Zürich

Sunzi (2001): Die Kunst des Krieges. München.

Withrow, G. J (1991): Die Erfindung der Zeit. Hamburg.
Originaltitel: Time in History. Oxford 1991.

Further information about the above mentioned project is
available online under: www.isl.uni-karlsruhe.de

All photo and images courtesy of Bernd Scholl.



London

The Bromley-by-Bow Centre:
People Creativity in the East End

Judith Ryser
CityScope Europe



Context

The Bromley-by-Bow case demonstrates that it is people, not the economy, who are creative. "London's population is its most important economic asset," affirms the London Development Agency, while the Mayor of London states that making "London greater requires a passionate commitment to innovation, development and improvement." His economic policy claims that London's growth and global role make it a focal point for dynamic sectors, such as the creative industries, in which 400'000 Londoners now work; more workers than in the financial sector.

On the face of it, the survival strategy - more than twenty years ago - of some activists in London's East End seems to have become mainstream parlance of both London-wide governance and Britain's central government. But this is not quite so.

For New Labour, as well as reconstructed old radical London, globalisation determines the need for competition in a 'World City' like London. Still, considering the international financial sector and business services as key economic drivers for World Cities, they also believe that London needs to deliver a high productivity, high value environment to attract and retain creative industries (meaning the media and media related businesses, such as advertising, culture and entertainment, but also design, fashion, music, film, books).

Highly-skilled, highly-paid, possibly highly-talented people are expected to drive the creative industry, while high flying graduates are meant to populate 'creative' clusters to supply ICT and other advanced technologies to the service sector. Where does this elitist notion of creativity leave the army of unemployed and unemployable people in London (up to 25% in London's East End in areas like Bromley-by-Bow) and those without skills or ambition? How can they, and other excluded people, overcome the market disadvantages acknowledged in London's policies?

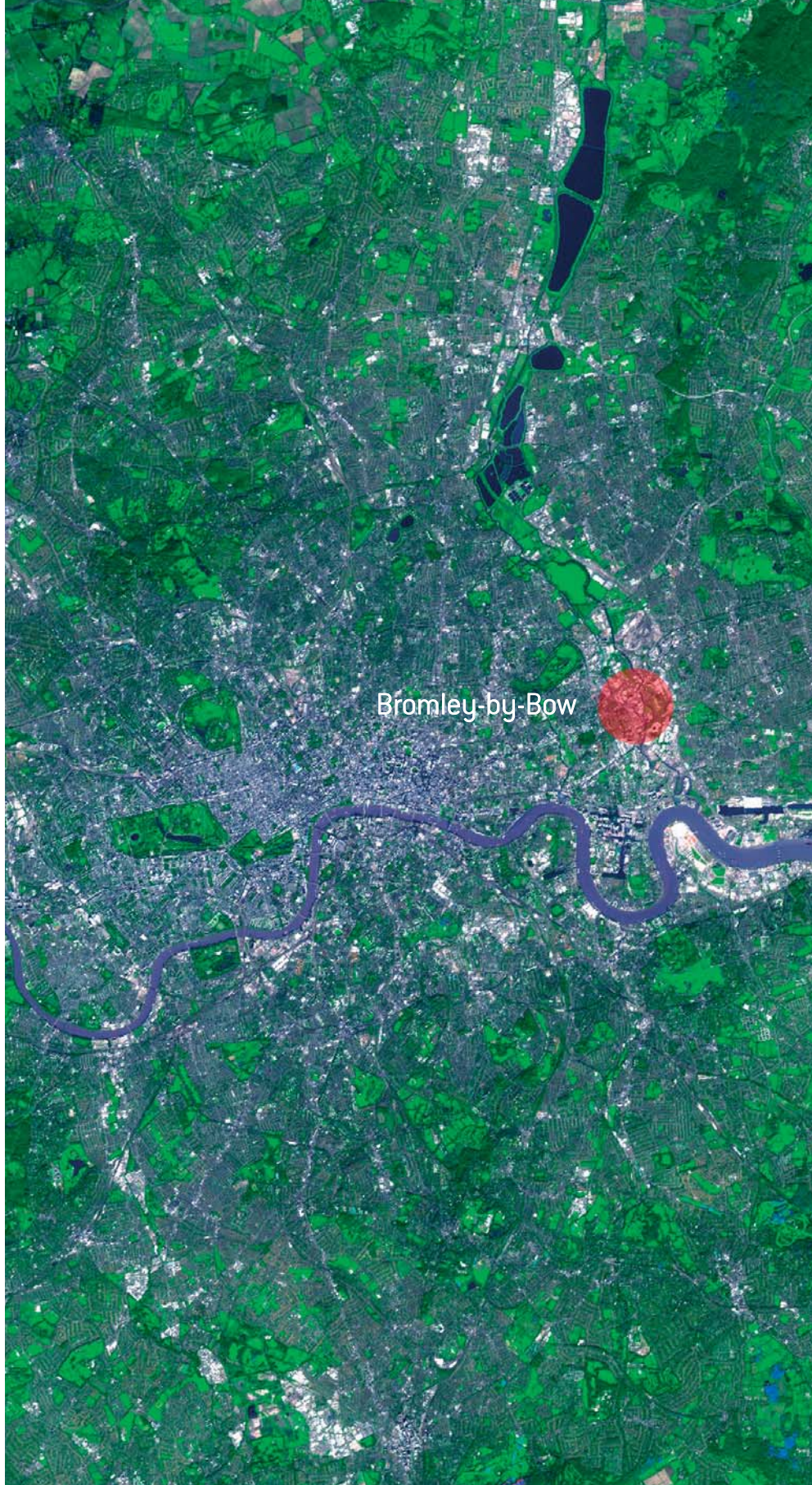
The movers and shakers behind the Bromley-by-Bow Centre took a different view of creativity. Out of necessity, and their belief in the inherent 'creativity' of people, they engaged in an organic and democratic process of development. They mobilised the physical, mental and cultural resources of everyone who wanted to come up with original, viable solutions to the benefit of all involved. Though operating at a local level, and often at a minute scale, they never lost sight of the broader picture. This vision later enabled them to initiate ventures at a much larger scale, with repercussions far beyond the Centre, and often achieved with like-minded people.

Initially, the Centre gathered energy from people's frustration of being left out of the riches which rose in front of their eyes in neighbouring Docklands. While attention was focused on the building boom on the Isle-of-Dogs, Bromley-by-Bow could experiment with alternatives without too much interference. Only when they scored their first successes would bureaucracy raise its ugly head. Instead of lending assistance, officials started to prevaricate or kill off what they could not name their own. Deploying the whole paraphernalia of pleading, eating humble pie, confrontation, flattery, circumvolution, and outside help, the leaders of the Bromley-by-Bow Centre managed to carry out their projects, one by one, to great insider satisfaction and outsider acclaim. Years before the London Development Agency (LDA) adopted its three investment strategies in places and infrastructure, people and enterprise, and marketing and promotion, the Bromley-by-Bow Centre translated them into initiatives and implemented them by harnessing people's self-reliance, imagination and inventiveness, developing their aptitudes, investing in own resources and using lateral thinking, multi-tasking and ingenious action to accomplish results. Thus, the Bromley-by-Bow Centre is engaging in a continuous creative process.

Location

The catchment area of the Bromley-by-Bow Centre extends to some 10,000 inhabitants in a compact Ward of the London Borough of Tower Hamlets. A motorway (M11) in the east, a main London East-West connection in the north (Bow Road), the railway cutting of the District Line in the south and a large social housing estate in the west constitute its strong boundaries. The relative proximity to the new financial centre in Docklands has driven up house prices far beyond affordability. Such housing now requires annual salaries of above £70,000, when UK average annual full-time earnings for a 40-hour week were some £25,170 in April 2003. Full-time earnings in the ten lowest paid occupations - available at best in the area - range from £10,760 to 12,532, and the ten highest annual earnings in Docklands nearby range from £43,580 to 10,556,650.

Bromley-by-Bow is situated in one of the ten densest areas, and one of the twenty most deprived wards, in England and Wales. 60% of the local population lives on social benefits and housing subsidies. The population is mixed with 42% Bangladeshis, 38% old East End immigrants (white working class, Jewish, Irish, etc), 20% varied (comprising mainly Somalis, Chinese and Vietnamese), speaking



Bromley-by-Bow

over 50 languages in the area. 50% are Muslims and 50% a mixture of various Christian denominations and other religions.

"East London" (despite including the City Corporation and Canary Wharf, the cores of financial services) has an extremely unfavourable mix of persistent market failure, social exclusion, environmental problems and high crime rates. Locational disadvantage is expressed in slow employment and population growth. Both long term and youth unemployment is high, with poor job prospects, in part, due to a low skill base. East London is highest on all indices of deprivation.

In the light of the wealth and economic success of London (which considers itself, together with New York and Tokyo, as one of three top World Cities), the problems encountered in its East End, together with the uneven distribution of wealth and opportunities throughout the city and its region, are a serious handicap. Time and again, London has tried to redress these inequalities.

The Local Government, Planning and Land Act (1980) paved the way for Urban Development Corporations to take over planning powers from the local authorities and use expropriation, wide-ranging compulsory purchase powers and public finance to kick-start private sector-led development. It also introduced Enterprise Zones, where existing planning was put in abeyance and exemption from rates, tax relief, writing off losses and other grants aimed to attract private investment. The London Docklands Development Corporation (LDDC) and the Enterprise Zone on the Isle of Dogs, set up in 1980 on some 70% state-owned land and water from redundant utilities and port activities, initiated a liberal development process which continues its course. Private investment benefited from public brown-land decontamination, infrastructure provision and cheap or free land, displaced local jobs and people, but also created over 50,000 office jobs and 40,000 dwellings.

More recently, both the Central and London Government became keen to develop Thames corridor, which has now become the Thames Gateway, a vast area reaching to the end of the Thames estuary. Expecting to grow by 700,000 persons and 636,000 net jobs by 2016 from its present 7.3 million population and 4.3 million jobs (including those taken up by commuters, and thus exacerbating Britain's North-South divide), London intends to accommodate these newcomers, and the extra jobs, essentially in the East. The bid for the 2012 Olympic Games is the latest initiative to redevelop London's East, particularly the Lea Valley, which used to host heavy manufacturing.

It remains to be seen whether London will be more successful than many other cities (i.e. Paris and Barcelona), in redressing its East-West balance. In this macro-context, creating spaces for, and making a creative contribution to the local economy and beyond has been quite a challenge for the Bromley-by-Bow Centre. The premise here is that it owes the durability of its successes to its single-minded involvement of mainly local people. Their efforts have created jobs, premises and a knowledge base, together with an organically evolving self-management approach, for which they feel responsibility and ownership.



Brief History

The Bromley-by-Bow Centre - a 'project' of more than 20 years - continues to grow. It started with £400, and today, it has a turn-over of £2.5 million. What is interesting here is its process of evolution and change. The Centre officially started in 1984, with a new Minister of the United Reformed Church, Andrew Mawson, whose congregation had dwindled to some twenty churchgoers, and whose buildings were in serious disrepair. The church had been hastily rebuilt after blitz damage during the Second World War, and the church hall remained unused and filled with debris and litter. A refugee sculptor and wood carver from Chile, whom Mawson met during his conviction theology activities in Latin America, helped to convert the church into a multicultural, multipurpose space, as it remains successfully today. He shaped the area for the congregation into an intimate hexagonal space with, above, a symbolic veil. For diverse cultural events, such as the Muslim Eid celebration, the East End custom of "Pearly Queens and Kings", a language festival, performances and exhibitions of the Centre's pupils, together with many other cultural manifestations, the veil can be lifted against the ceiling and the church furniture moved aside.

Outside the church service, the space has been creatively adapted to many other purposes. In the first instance, it was used as a creche and a nursery, despite the

initial opposition by the local planning department to children toilets and a washing machine. Due to its success, the nursery expanded into four outside premises led by parents. A ballet school was set up in the church, and when it outgrew the space, it moved to new premises in the vicinity. An ambitious project to convert the historic buildings on Three Mill Island for new location did not materialise.

The adjacent church hall has been converted into a Day Care place. More recently, it is also being used as a 70-seat cinema, for which the Centre raised £5000 to improve the acoustics and obscure the space. The Centre obtained all the equipment and technical assistance for free from local firms, and it gets films from local distributors on selected themes for community events and children sessions in cooperation with the local schools.

The Centre caters to the elderly, young (often single) mothers, families in difficulty, and people with physical or mental disabilities. Occupational and art therapy, skill training and learning have been extended into an English and literacy educational programme for local residents. Children of learning mothers are cared for during classes. The Centre is providing its own 'access course' to higher education and, pioneering one of the first "Communiversities" in the UK, it has started to offer degree courses.

Over 50 professionals and volunteers are servicing all these activities, including health care, often on a part-time basis. Currently, the Centre is located on three-acre site with four buildings and a fifth under construction. Originally set up as a pioneering voluntary organisation by a handful of staff and volunteers, the Bromley-by-Bow Centre has become a charitable trust with a staff of 116 (mostly living locally), not including the volunteers which number over 50.

The Centre has built up equitable and complementary partnerships with other public, private and voluntary institutions, as well as with individuals to their mutual benefit, and continues to do so. These partners contribute to the Centre's more than 100 activities, with focus on health, enterprise, learning, the environment and the arts. In particular, the Bromley-by-Bow Trust helped to establish a local regeneration company, Leaside Regeneration Ltd, and a housing company, Poplar Harca, which, together, brought a £200 million investment into the area.

Ahead of their time, these initiatives managed to influence the 2012 Olympic bid, the national LIFT (Local Improvement Finance Trust) Healthy Living Centre programme (receiving £1 billion from the government) and the Arts and Health movement. In 1998, together with Adele Blakebrough (who ran a community drug treatment project) and Helen Taylor Thompson (who established the first mothers and children hospice in Europe, pioneered physiotherapy and rehabilitation services for AIDS survivors and shares best practice with carers in Africa), Andrew Mawson set up CAN (Community Action Network) to further social innovation. All members of the CAN network are entitled to benefit from the totality of the projects. They are all integrating social innovation and help to change the way of thinking about public service. Part of this philosophy is to aim at 'best in class' and high quality which, in turn, boosts self-respect and self-confidence.

There is a strongly-held underlying belief that a people-centred approach working in teams to generate ideas and obtain backing for concrete projects is superior to formal representative and regulatory structures. In Mawson's view, the latter tend to prevent action and socio-economic enterprise and can be seen as an engine of poverty. After all, 9.7% people voted in the Bromley-by-Bow Ward in the national elections in May 2005, while 31% of the population has been actively engaged in the Bromley-by-Bow Centre at any one time over the last 21 years. While one-third of the local people are obviously better off by taking part actively, the difficulty is to mobilise the silent and passive local population, and to convince them that getting involved is to their benefit. Nevertheless, this situation presents a challenge to existing authoritarian political practices and raises a question of democratic legitimacy.

Approach

The Bromley-by-Bow Centre's aim is to act as an energetic and creative catalyst for the social and economic regeneration in one of London's most deprived neighbourhoods. It has developed its own organic model of development based on traditional community building as well as innovation. It engages both those who are willing to provide services and those who benefit from them by exploring common ground and deciding solutions together. Expectation of success and pursuit of excellence have managed to challenge low self-esteem, raise aspirations, and to stem the pull of mediocrity. Insistence on quality and beauty run through all of the Centre's endeavours. Of course, individuals were instrumental in making projects happen against severe odds, but leadership was exercised with an eye on the long-term, rather than the quick-fix.

Energy, drive, charisma, and the belief in the ability to achieve commonly-worked out initiatives, and, most importantly, the refusal to accept 'no' for an answer, have made the Centre what it is today, and continues to foster its vision of sustainable shared growth for tomorrow. The lesson we can learn is that such ventures take time and perseverance, and require step-by-step initiatives as well as continuous influx of creativity to succeed

Each new activity arose from local needs. The integrated nursery, one of the first in the country, was set up to help local women to return to work and earn a much-needed second, or often, only income. The idea of ballet classes, which evolved into a ballet school, came from the nursery activities, especially for children who were not used to exercising their bodies. The drive to introduce beauty to a rather bleak environment led to the decision to plant beds around the refurbished buildings, and in the open space designed to accommodate nursery activities.

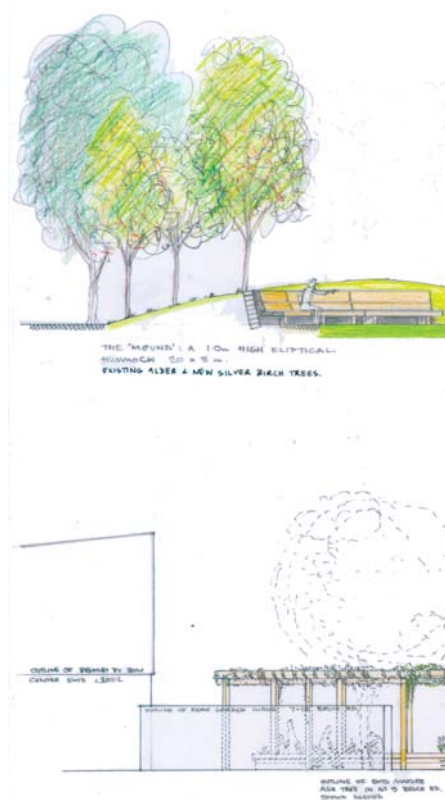
Identifying people's needs and making connections between them are the foundation of many practical ideas to improve and expand the Centre. In this spirit, the Centre engaged elderly and handicapped people who suffered from isolation in gardening activities.

What were a few flowerbeds tended by them in front of the church have become a landscaped entrance space, and a park which the Centre established in the adjacent rundown and dangerous space. The Centre now maintains the parcel for the local authority on a long-term contract, and there is no sign of graffiti anywhere. It also involved children in designing the play area, and created allotments for local people to use with garden tools provided by the Centre. The doctors of the Healthy Living Centre, described in greater detail below, prescribe gardening therapy in the park. Another initiative is to create a horticultural learning place where local inhabitants can acquire a recognised qualification, which would hopefully help towards setting up their own horticultural businesses.

By encouraging self-reliance and investment in personal efforts, the Centre has been successful in helping local people to improve their economic situation, and has helped an increasing number to set up social enterprises. Again, it used synergy to achieve this. For example, the Centre offered rent free space to local artists who, in turn, commit some time to offer classes to local inhabitants, assist disabled persons with art projects, and carry out outreach work with local schools, while also working on commissions from the Centre and beyond.

Not surprisingly, the Centre is full of paintings, sculptures, photographs and applied art. Exhibitions regularly show work produced by participants of these projects. More than forty community enterprises grew out of this programme that was involved in silk painting, furniture making, catering and graphic design. Seven have become strong social enterprises.

Another early project has evolved into the Pie-in-the-Sky Café. Initially, volunteers working for the Centre brought their own food to the premises. These women from different ethnic backgrounds pooled their resources and provided lunch on a self-financing basis on premises made available by the Centre. After 20 years, the Café, seating 70 at tables made by the resident artists and crafts people, is open to the general public. It provides cookery classes and teaches 'healthy diet' classes in cooperation with the Healthy Living Centre and the local farmers' market.





Healthy Living Centre

The Healthy Living Centre was perhaps the most daring and challenging project of the Bromley-by-Bow Centre. Aware of the poor health in the local community, the Centre is putting great efforts into healthy living. The trigger to get involved in integrated health care came from a volunteer with two small children which were looked after by others from the Centre while she suffered from an incurable cancer. Negotiations with the local authority, the Health Trust and Central Government which were initially opposed to the Centre's people-focused approach took over five years.

Nevertheless, the Centre, supported by its establishment patrons, managed to obtain the land from the local authority for £1 in return for refurbishing and looking after the adjacent public open space. Instead of accepting standard designs and regulations from the Department of Health, the Centre created an independent integrated place, capable of catering to the health problems of the local people by respecting their diverse cultures. Believing in its long-term value for money, the Centre turned into a charity. It raised a £1.2 million mortgage to build its own high-quality premises designed by its own architect, Gordon McLaren. The income of the Healthy Living Centre is now covering the loan costs. It includes a clinic with 4000 patients, and a staff of general practitioners who also practice elsewhere in the Borough. It hosts both a Primary Care Trust and the Bow Childcare that are run by the local authority, and include parental involvement. The Centre aims to engage the local population in healthy living in the widest and most holistic sense. Thus, the Centre offers primary care that is integrated with the arts, learning, enterprise and the environment.

There is a deliberate absence of signage, CCTV and push button protection on doors. The reception has a raised floor to bring the seated receptionists level with the standing public, and it deals with all parts of the Centre. Many activities take place in the entrance hall and adjacent space, including preventive care for babies, as well as ante- and post-natal education supported by doctors from the world famous St. Ormond's Children Hospital. The artist, Victoria Russel, paints portraits of babies, which encourages parents to return to the clinic.

At present, a nurse with an arts degree and Dan Hopewell, a public artist, are leading a project with medical students of UCH (University College Hospital, a large London university teaching hospital) involving a walking group for diabetes patients. Together, they are exploring the area with local patients who express their health needs both visually and in writing.

The results are displayed in the reception hall. Prior to this project, this nurse was running an Asthma project with children to help them be more responsible in taking their medication. Next to the doctors' treatment rooms, there is a multi-purpose space for alternative medicine and much-needed social service support, as most problems of the local population stem from a combination of health, social and emotional needs. Both medical staff and those attending the clinics use a communal kitchen space adjacent to a meeting place, where talks are arranged on diet, healthy living and self-help.

Outreach

The London Borough of Tower Hamlets, in which the Bromley-by-Bow Centre is located, provided £1.4 million towards both the social enterprise venture and the management of related projects worth £200 million, which the Centre has attracted grants from the lottery fund, the EU and other sources. A new building, estimated to cost £280,000, will accommodate these new activities.

As the site will be filled to capacity, the Centre is currently looking for spaces in the neighbourhood to expand its educational activities. It will use mobile units nearby in an abandoned church yard for teaching purposes, thereby saving the 'listed' (protected) trees on that site. Andrew Mawson spread the creative Bromley-by-Bow spirit country-wide when he created CAN (Community Action Network), a national organisation to assist people in setting up their own community businesses. In seven years, CAN was able to generate one million social entrepreneurs who have contributed £100 to the economy. CAN encompasses 40 charities, and it provides a 2787 sq m service area with 300 staff in prime office space on the Thames River, opposite the City Corporation. It produces the Social Enterprise Magazine and an on-line facility. CAN also runs UnLtd (a £100 million Foundation for Social Entrepreneurs), a social entrepreneur leadership programme for the NHS, the CAN academy for schools, and many other projects based on synergy with existing resources.

The Bromley-by-Bow Centre has also been instrumental in helping other organisations getting projects off the ground; especially housing projects for the physically and mentally challenged. The Mental Health Resource Centre, accommodated in a disused dairy in Hackney, is a case in point. The Bromley-by-Bow Centre organises regeneration and housing schemes with other agencies in the Ward, and in derelict industrial buildings further along the Lea River. Its most ambitious project to date is its participation as the community partner in 'Water City.' This development project was submitted by the Richard Rogers Architects and Atkins Engineering firms, along with others, towards a masterplan competition. The project's objective is to regenerate the lower Lea Valley, regardless of whether the Olympic Games are going ahead. It connects deprived communities there with developments in the Royal Docks and the new Eurostar Terminal in East Stratford. Akin to Rogers's design for Universal City - a new town in the Thames Estuary to house British film studios, and cultural and tourist activities around this anchor, which was planned but never realised - Water City is using local assets, especially the water course, and combines existing communities and activities with new life from outside.

What all these projects have in common is that they are conceived from the 'inside out', according to a sustainable business model, and with an emphasis on practicality. While exchanging experiences with other social entrepreneurs, all project teams set aside a part of their profit to be used as a 'multiplier' for further ventures. Sharing knowledge of the past, using e-learning and other contemporary means of transparent interaction and exchange, these project teams constitute networks which, with CAN as the catalyst, weaves into networks of networks.







Conclusion

The Bromley-by-Bow case is a success story. What are the reasons for its success in harnessing people's creativity despite adverse economic, social and environmental conditions? And are there any drawbacks?

Leadership. Undoubtedly, the outstanding leadership capacity, charisma, drive and self-confidence of the key personality (Andrew Mawson) played a crucial role, as did his conviction that his strategies and actions were right, which fuelled his long-term staying power. Energy and enthusiasm, combined with a sense of humour, made him ride out disappointments. Most certainly, ambition also played a part, and it may be wise to leave out the question about the role of faith.

Team Spirit and Teamwork. Much rarer was the ability to combine leadership with team spirit and teamwork. As a believer in democratic processes and horizontal steering structures, Andrew Mawson involved all the 'doers' in taking both social responsibility and ownership of their projects. His trajectory shows his ability to gradually withdraw from the 'driving seat' of existing ventures for new ones, and to leave decision-making and responsibilities with the project teams.

Links and Interplays. A hallmark of the Bromley-by-Bow approach is the ability to continuously combine micro and macro levels, unflinching strategy with flexible tactics, and determination with pragmatism. This gives innovative projects a better chance of survival.

Use of the Establishment. The Bromley-by-Bow project never intended to remain marginalised. From its early days, it made use of the enlightened establishment, engaging it, and expecting it to adopt its creative processes for mainstream operations. High-profile exposure was achieved by attracting royalty and celebrities to their cause, accepting 'gongs' (awards, prizes) and making shrewd use of the media, not only to get their message across but to show off proofs.

Overcoming Defeat. Obviously, the high-stake and high-risk strategy of the Bromley-by-Bow project was not all 'plain sailing'. It encountered opposition from many quarters, even from within the local community. Vested interests and envy played a part, together with fear and self-exclusion. 'Urchin success' was resented as provocation and veiled critique by the church establishment, the local authority and other traditional local agencies. They sometimes managed to impose frustrating delays by opposing projects, refusing to cooperate in shared ventures and playing into the inherent suspicion of progress and achievement in the neighbourhood.

It took years to persuade the polluting tyre disposal firm next door to move out. Persuading the LDDC (London Docklands Development Corporation) to share some of its wealth with its poorest neighbours outside its boundaries was an uphill struggle. Getting access to derelict land and buildings was the hardest challenge, as very powerful players were involved. The Bromley-by-Bow Centre never managed to get hold of the old premises on Three Mill Island to expand its social entrepreneurship to a wider area. (This area now houses mainstream television studios.)

Despite advocating openness and transparency, even the Bromley-by-Bow Trust had to resort to other means to achieve its goals. It had to aim at micro and macro objectives simultaneously, by using appropriate means in each case. However, its main method of overcoming defeat was not to lose sight of its main task: to turn mentalities round. The Centre's tactic to engage in dialogue, and better still, in sharing its achievements all round, has been paying off in the longer term.

People Before Structures. Lastly, the Bromley-by-Bow philosophy is to build on people: their abilities and their expectations. The way they set up teams to realise concrete, multi-skilled projects, raise funding, engage volunteers and prospective beneficiaries determines their operational procedures and decision-making processes. Despite pursuit of inclusiveness, this approach was bound to produce problems of scale.

The trajectory from the tiny church project in Bromley-by-Bow to CAN, Water City regeneration project in the Lea Valley and beyond, required the constant adjustment of relationships and decision-making. Involving a growing number of people required new forms of cooperation, delegation and substitution. When a critical mass is reached, thresholds need to be overcome with new ways of working and human resource management. This demands ingenious powers of negotiation and persuasion, respect and trust, an ability to remain focused on commonly-reached goals, as well as an awareness of legitimate ownership claims for the common good. Only by keeping everybody engaged was it possible to harness value-added, multiplier effects and synergy.

This last point is perhaps the most fragile and challenging aspect of this case study, and if successful, worth replicating. While the British Government is struggling to legislate to achieve 'sustainable communities,' new and temporary associations and allegiances are being clenching all the time according to the dynamic 'Bromley-by-Bow model' of evolution and progress. The trick is to go on interacting and feeding a collective memory for recycling and dissemination to an ever-expanding user circle.

Whether this amounts to innovative institution-building and the creation of new structures capable of self-adjustment to people, and the uses they would make of such interactive and responsive institutions, remains to be seen. Should they materialise, they may offer the key to an alternative, more humanistic and satisfying future.

Notes

- 1 www.lda.gov.uk
- 2 The Mayor's Annual Report 2004, GLA, p 2
- 3 www.london.gov.uk/londonissues/economic_policy.jsp
- 4 Sustaining Success: Developing London's Economy. LDA 2004
- 5 LDA. Understanding London's Sub-Regional Economies. 2003. see also Table A2.5
- 6 Ash Amin, Doreen Massey, Nigel Thrift. 2003. Decentring the Nation, A Radical Approach to Regional Inequality. Catalyst
- 7 www.bbbc.org.uk
- 8 www.can-online.org.uk
- 9 ODPM (Office of the Deputy Prime Minister). 2005. Five Year Strategy to Create Sustainable Communities: Sustainable Communities: Homes for All; Sustainable Communities: People, Places and Prosperity; Regional Documents.
- 10 ODPM. 2005. Sustainable Communities: Summit 2005, Delivering Sustainable Communities; The Communities Plan.

Photo on page 236 courtesy of Flickr.

Photos on page 241 and 250 (top two and bottom two) courtesy of Alfonso Vegara

All other images and photos courtesy of Judith Ryser



Manhattan

Meatpacking District's Cool: Creativity at the Waters' Edge

Thomas K. Wright, Executive Vice President
L. Nicolas Ronderos, Associate Planner
Regional Plan Association



Introduction

Creative communities are not communities in the traditional, pre-1950s sense of the term. They are not places where people of similar backgrounds, incomes or ethnicities come together and build boundaries - economic, social, regulatory, or physical - to distinguish themselves from other communities. That was the purpose and materialization of suburbanization, urban flight and much post-World War II American planning. But at the end of the 20th Century, planners rediscovered density and community, as "new urbanism" and "true urbanism" sought to undo the mistakes of previous generations. This thinking has now focused on creative spaces as the building blocks for 21st century communities.

These ideas about urban form have profound impacts on society. Academics such as Richard Sennett, Gerald Frug and Iris Young have recognized that in contemporary culture, communities are places that bring together people who are not alike; contemporary communities are best described as "the being together of strangers." If we are to conceptualize a new ideal city life, it is one in which "persons and groups interact within spaces they all experience themselves as belonging to, but without those interactions dissolving into unity or commonness." Contemporary communities thrive in their inherent difference; not their sameness. Richard Sennett argues that successful cities have 'narratives' - a past, a present and a future - which provide consciousness in both material objects and in people "as an unfolding experience." This makes differences today a greater advantage for places, and it helps them identify their inner strength and character, which both ties them to and distinguishes them from the ever-expanding global community.

Sociologist Steven Tepper argues that creative cities are an attempt to assert local identity in a global world. He writes about communities being similar to a child's toy ball inside a ball, which rolls or bounces in a slightly unpredictable way, and he asks how communities can find the "inner ball" that wobbles, that throws a community off its stride and provides a funkiness that will engage and interest people. Efforts to find and cultivate this inner ball must build on the history and character of a community. Once again, identity comes to the fore as multiple groups and interests intersect in a specific place and live side by side other groups even more different than themselves.

Authenticity matters a great deal to Richard Florida's creative class, too. Efforts to mimic other communities always fail. As an alternative, creative communities must look to their intrinsic advantages - their overlooked assets and neighbourhoods - to find the ingredients of their new and exciting creative communities. Florida argues that creativity - in communities, cities and the economy - can be measured by taking stock of three complementary attributes, his three T's: Technology, Talent and Tolerance.

While technology and talent may be obvious necessities, in Florida's analysis, tolerance is also required to make a creative economy or city flourish. Tolerance engenders talent and innovation, which is assisted by technological resources to bring around the most desired outcome in late-capitalist societies: prosperity. He concludes that creativity is not only a measure to recognize where things are happening, but it is also the most constructive investment for communities that will lead cities to a new and reinvigorated future, and paving the way for better paying jobs, an enhanced quality of life and a fair and just society.

New York City brings some significant advantages to this new kind of community. New York's assets - as the world's polyglot cultural centre, and arguably the greatest generator of prosperity and creativity in human history - provide a unique base with all its multicultural, diverse and rich experience. Richard Florida's seminal "Rise of the Creative Class" identified these advantages across a spectrum of indices.

As mentioned before, Florida ranks US regions according to the three T's. In his updated version of the "Overall Ranking of US Regions in the Creative Index" comprising 300 cities, New York is the 20th most creative city. Its ranking in Tolerance is the 39th; on the Talent Index it is the 25th; and on the Technology Index the 65th. In the newly-added "Wage Inequality Rank" New York is positioned high at place number 12th, which indicates a relatively fair distribution of salaries.

Despite all these advantages, New York still faces considerable obstacles to nurturing its creative economy. These challenges rise from being a high-cost, high-amenity global city, with high barriers to entry. Economists tell us that self-employment and temporary work - both indicators of the knowledge economy, and yet causes for concern - are growing faster in New York than the rest of the country.



Perhaps more than anything else, the cost of living in New York continues to escalate literally through the roof. In 2005, small one-bedroom and studio apartments in established neighbourhoods routinely sell for close to US\$1 million. The average cost of housing in New York for similar units is now between US\$1,000 and US\$1,500 a month. And talk of a housing bubble, ready to burst at any moment, does nothing to reduce costs. Investors have noticed that even as people recognize a bubble, the final months before it bursts can be the most profitable of all - if you're in the market. Consequently, real estate speculation continues unabated.

The only solution to this pressure is constant renewal to find older, overlooked neighbourhoods and re-make and revitalize them into new kinds of communities. New York City, which added 685,000 new residents from 1990 to 2000 (more than any other city in the United States), has a voracious appetite for growth. And nowhere is this happening more in New York City than in the city's waterfronts. The Bloomberg Administration (2001-2005) has responded by promoting vibrant waterfronts and the reuse of derelict industrial areas by the waterfront to facilitate housing production as one of the guiding principles for its strategic development plan.

The Post-Industrial Return to the Waterfronts

In returning to the water's edge, New York is certainly returning to its roots. The natural harbour of New York, and the city's focus on commerce and tolerance, established New York in the 17th and 18th centuries. Herman Melville recognized the city's unique reliance and relationship to the waterfront, and sent his protagonist Ishmael walking through the streets of the "commerce-ringed Isle of Manhattoes" before launching him to sea on the Pequod, highlighting the relationship between the city and the sea.

Back then, Melville was referring to the water's edge as the place of commerce. New York's natural harbour, and then the man-made connections by canal into the continent, positioned New York as an entrepreneurial capital. But as middle-sized American cities were hollowing out after the riots and urban renewal of the 1960s, New York City lost its commerce to the ports of New Jersey on the other side of the Hudson River, and the waterfront fell into decay and neglect. For decades, nothing happened on the water's edge. The one Big Vision idea, to tunnel a highway called "Westway" underneath the waters edge, and pay for it by allowing developers to build enormous towers, fell victim to a new generation of community activists armed with environmental impact assessments.

If you want to find the most exciting things that are happening in New York today, take a walking tour of the city's waterfronts, especially in Manhattan, Brooklyn and Queens. New York City's five boroughs are located along the Hudson River, East River, Harlem River, New York Harbour, Long Island Sound and the Atlantic Ocean . Yet, the 578 miles of shoreline have little public access.



But the next generation of planning and development will certainly transform the shoreline into a new asset and amenity for all. After fighting over large-scale development on the waterfront for decades, and finally rejecting the Westway or Jets Stadium "bigger-is-better" approach, New York is returning to the waterfront.

In addition to numerous large scale development projects, Manhattan is building a pedestrian trail to completely encircle the island.

In Brooklyn, an emerging greenway is beginning to link staid Brooklyn Heights to DUMBO (Down Under the Manhattan Bridge Overpass) to the north and gritty Red Hook to the south. In early 2005, the rezoning of Greenpoint-Williamsburg in northern Brooklyn allowed lots along its waterfront to have up to 10,000 units of new housing, of which 33% will be affordable.

In Queens, Long Island City is emerging with parks and landscapes that maintain the urban archaeology, rather than wiping clean the slate of the industrial past. Sir Richard Rogers has designed a bold proposal, Silvercup Studios, which combines three tall towers (up to 600 feet) with a mixed use development project, including a large film studio to support a burgeoning east coast film industry. The design of the towers, with exposed steel trusses, evokes the neighbouring Queensboro Bridge.

The majestic Governors Island, recently vacated by the United States Coast Guard, sits in the centre of the harbour. Under the supervision of the Governors Island.

Preservation and Education Commission (GIPEC, a joint city/state planning entity) and the Governors Island Alliance, a civic coalition, the island is now the subject of a Request for Expressions of Interest to identify new uses compatible with the public vision of becoming a Central Park for the harbour.

Even Staten Island and New Jersey are getting into the act. Fresh Kills landfill, the largest man-made structure on the eastern seaboard, has been closed to new garbage and begins regenerating itself through innovative and exciting plans to create a major new park system designed by Field Operations. The Department of City Planning selected the winning design through an open competition, which rewarded innovation and collaboration. And across the Hudson River, in Jersey City's Liberty State Park and Hoboken's Pier A, new open spaces and residential communities are replacing derelict industrial space.

In the next section, we take a closer look at one of these neighbourhoods, and see how the creative class is thriving on the waterfront. New York, of course, boasts more than a single Creative Community. After more than a decade of prosperity, driven by escalating Wall Street bonuses, but also matched by dramatic drops in crime (with crime reduction of 60% in the last decade, New York is now the safest large city in America), neighbourhoods across the city have gentrified and improved. But perhaps no neighbourhood more closely captures the essence of creative cities than the Meatpacking District in Manhattan, on the western edge of Greenwich Village.

The Meatpacking District: A Creative Hub

As a global capital for finance, entertainment, and culture, it is no surprise that Manhattan is leading the way in developing a new geography for the creative class. Lower Manhattan, in particular, continues to change and reinvent itself with each generation. For over a century, Lower Manhattan has been a centre of finance, and one of the world's largest Central Business Districts, with the emphasis on FIRE (Finance, Insurance and Real Estate Industrial Sectors) that the name implies. But over the past fifteen years, activity in Lower Manhattan has shifted. Significantly, during the economic boom years of the 1990s, not a single square foot of new Class A commercial office space was built in Lower Manhattan. Instead, the development of Battery Park City created thousands of new residential units - even as older, Class B office space, was being converted to residential use. Eventually,

this waterfront development to the south started moving up the shoreline. At the same time, the West Village and Chelsea kept expanding, pushing their boundaries further west, towards the water. By the late 1990s, these forces exploded in the Meatpacking District, one of the last great undiscovered neighbourhoods on Manhattan's western shore.

"Anchoring the northwest corner of Greenwich Village from West 14th Street on the north to Gansevoort Street at the south, Gansevoort Market - the Meatpacking District - consists of parts of a dozen city blocks that functioned as a wholesale market for more than 150 years: first, as a farmers' market, then a produce market and, for the last century, a meat market. Buildings, awnings, and streetscapes from its entire life span still exist, and some are still in active use for its original market purpose. Most of these buildings are unpretentious, but they are authentic, and together they create a powerful sense of place - a gritty, working neighbourhood.

The area began as a trading village for the Sapokanican, an Algonquin Indian tribe. After the famous sale of Manhattan Island for a few beads and bobbles, it became a Dutch tobacco plantation, then English farmland, before the United States built Fort Gansevoort to protect New York during the War of 1812. After the war, New York City began negotiations with John Jacob Astor, who owned most of the Gansevoort area, to purchase the underwater rights for the Hudson River. When the deal was complete, the shoreline, west of what is now Washington Street, was filled in, and became the terminus of the Hudson River Railroad. A farmers' market emerged, taking advantage of the railroad and the ever-present ferries across the Hudson from New Jersey. In 1886, the city declared the area as a public market to ensure that they participated in the profits.

At the turn of the last century, with the advent of an underground brine-cooling system, the city market was able to sustain a safe meat-market. The buildings that were once dwellings, stores and warehouses were quickly transformed into meat businesses -the vestiges that we still see today. In the past few years, many of the meat businesses have relocated to the Bronx, but a variety of new businesses have replaced them, and adapted these remarkable, historic structures once again -so that the neighbourhood retains a vibrant, 24-hour energy that defines Gansevoort as unique in New York City. Meat guys work next to famous retailers, restaurateurs, art galleries and production houses in a wonderful cycle that ensures there is always something for everyone in Gansevoort Market." - www.meatpacking-district.com

In 2003, the Landmarks Preservation Commission declared the area to be an historic district - the last market neighbourhood in New York City. The new Gansevoort Market Historic District honours the city's vibrant commercial past. The buildings and streetscapes define a low-rise urbanism, with streets of Belgian pavers, distinctive canopies, and open views of the river and sky that combine to make the area distinctive and memorable.

The location of the Meatpacking District along the water of the Hudson River has exposed it to heavy infrastructure planning too. Westway, the proposed \$2 billion

dollar highway planned for Manhattan's lower West side, was hailed as a solution to the build-up of traffic in and around Manhattan. By the end of the 1970's, Westway came close to being a reality. Backed by the government and powerful New York political, national, and big business interests, Westway was to take over five miles of prime Hudson riverfront property, running over four lanes of heavy-duty traffic in and around the west side of Manhattan. The 4.2-mile superhighway planned along the route of the current West Side Highway (NY 9A) was cancelled in 1985, and the existing, less ambitious road, was kept and a new public park, Hudson River Park, came into existence.

The Creative Context: Demographics, Land Use and Property Values. The Meatpacking District lies within Census Tract number 79 in the County of Manhattan in New York State. This geographic unit of analysis is used by the US Census to gather and present data throughout the Nation, and it is commonly used as the smallest and most significant geographic extent for socio-demographic and psychographic studies about markets.

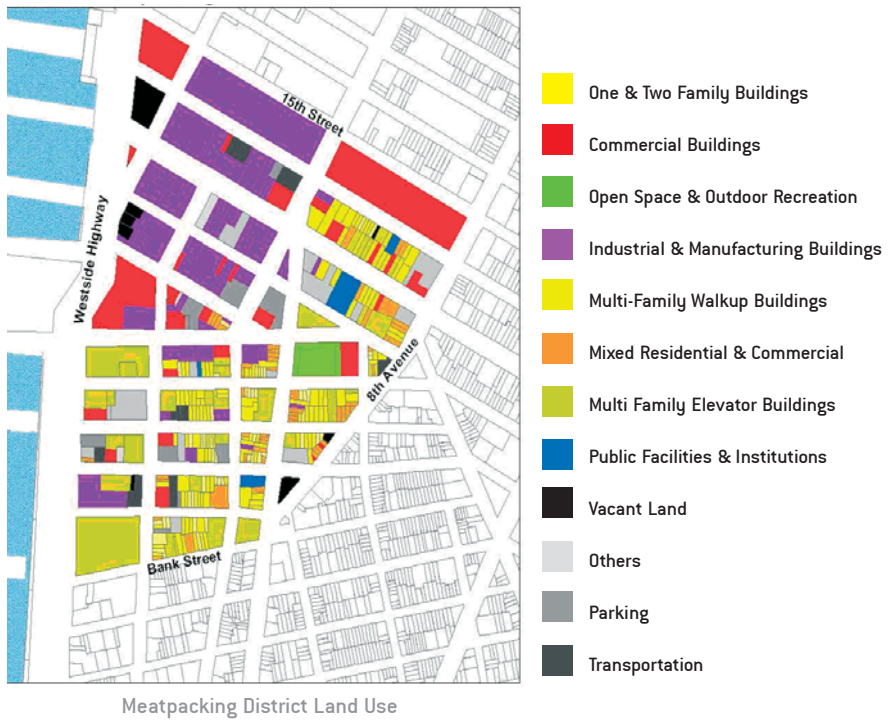
Between 1990 and 2000, Census Tract 79 experienced a 4.3% increase in population to reach 4,598 persons, the last comparative frame of reference available through the Census. The people living in the area are 84% White, 6% Hispanic or Latino and 5% Asian. These residents constitute 2,761 households with an average size of 1.59 persons, indicating the single or couple character of living arrangements in the area.

79% of the neighbourhood's residents are between 18 to 64 years of age. There are few youngsters (7.7%) but there is a significant 13% of persons 65 years of age and over also reside in the area. Approximately 14% of residents are foreign-born, pointing to the cosmopolitan nature of its inhabitants. The median household income in 2000 was \$67,112, with only 5% of them under the poverty line. Educational attainment in the area is significant, with 77% having a graduate degree or higher.

The situation for Tract 79 contrasts sharply with the Community District in which it is located. Community Board 2 Manhattan, a municipal subdivision of the Borough for administrative purposes, actually experienced a slight decrease in population. In terms of multicultural diversity, the Meatpacking District is more diverse - with more foreign-born individuals - than its larger counterpart, and its population is younger by comparison. In sum, Tract 79/Meatpacking District appears to be strong by its younger and more ethnically diverse population, containing the roots for great talent and tolerance characteristics of creative communities and cities.

Land use in the area is 50% residential, 16% industrial, 8% commercial and 13% mixed use. The remaining land uses are mostly below 2% of the number of lots in the District. The Meatpacking District is a more residential area with 50% of lots for dwellings, compared to 24% in the Borough of Manhattan and 39% the City of New York. The second highest land use in this creative area is industrial use with 16%, whereas for Manhattan, open space ranks as second with 26%, and the City with 25%. Manhattan ranks high in its land committed to public facilities (12%), and

mixed uses (12%), while the whole city is evenly distributed in its other uses - mostly below 7%.

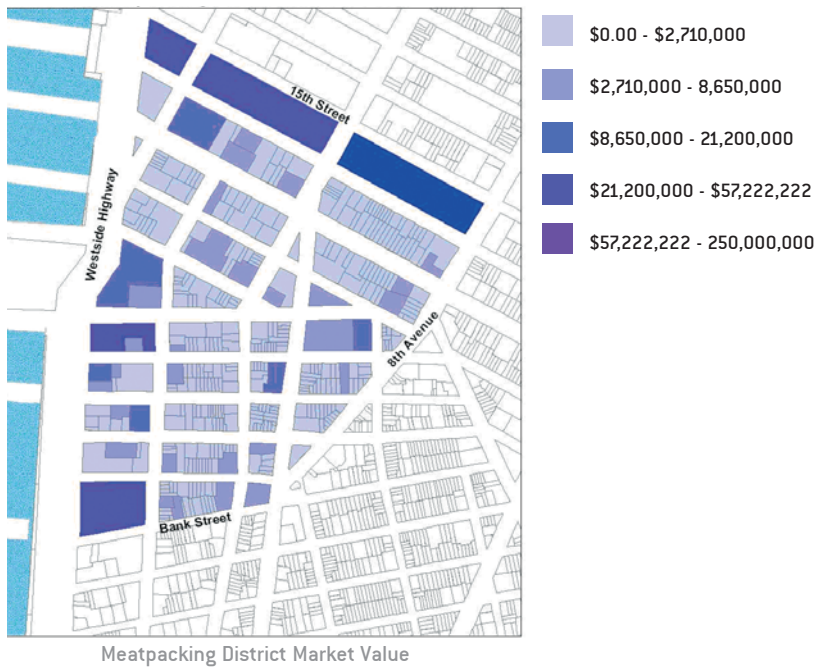


This picture tells how the Meatpacking District still presents a heavy industrial base, and how these uses share the space with residential uses, especially those located to the south. The current trend for land development in the area closely associated with "loft conversions" or the recycling of industrial space and transformation into residential high-end products that attract wealthy and young urban professionals..

The mean market value of the lots in the area was US\$2.4 million in 2001. This compares to the mean market value of the whole of Manhattan for that same year at US\$3.7 million. The Meatpacking District is an attractive area for investment given its comparatively lower entry acquisition cost but highly-desired location and amenities. This trend is reflected in the industrial base of the area still present, and points to the trend towards residential conversion.

Considering the historical charter and post-industrial nature of the area, and its young and diverse urban population, it seems clear that the district functions as a creative hub, and has become an avant-garde location in the city. Nevertheless, the district is still evolving. Future changes will enhance its attractiveness quality of life, and will attract and retain more of the emerging high-end retail boutiques and restaurants to the area.





The Meatpacking's Cool: Selected Projects

The following is a selection of projects that show the development trend in the neighbourhood. Three projects that span 40 years stand out:

Industria Superstudio. An important tenant in the District is fashion photographer Fabrizio Ferri, and his *Industria Superstudio*. A native of Milan, Ferri came to the realization in the 1980s that he wasn't the only photographer constantly searching for quality studio space, with skylights and flexible spaces, for his photo shoots. He opened the first *Industria* in Milan to create a one-stop opportunity for the fashion industry - a place with lights, cameras, flexible spaces, and all the other variables that creative marketers could want. During the day, the studios are rented for photo shoots. At night, they may transform to host gala events.

Along with the studio, Ferri opened a school to teach creativity, which he calls it "synaesthetics." Synaesthetics is the process of relating perception across the senses, to recognize the smell of an image or the sound of a flavour. More than running a business, Ferri is expanding the concept of the creative process, which he defines as "inputs" transformed into something else through a process that bridges one sense to another: sound to sight, taste to touch, sight to taste.

The success of the project pushed him to New York, where he was looking for an opportunity to replicate the success of Milan. He was drawn to the Meatpacking District for the usual reasons: excellent access, large and flexible space, and affordable rents. The studio is housed in a former parking garage, re-designed by architect Deborah Berke in a manner that preserved the structure's rough, industrial qualities, while creating new crispness and clean lines. (One advantage

of the former industrial use is that entire cars can be driven right up to the second-storey studios to deliver equipment, or become props in the shoots.)

Located on Washington Street, just a block off the West Side Highway, ironically, the neighbourhood which perhaps would have been most transformed by the Big Project Westway, *Industria Superstudio* became an anchor to the neighbourhood. Models and photographers need to eat - or at least drink coffee - and a myriad of cafes, bars and restaurants sprung up around the studio. These became the "liminal" spaces, or in-between places that are neither public nor private, and lie outside the typical thresholds of ownership, which are so important to creative activities.

On the ground floor, the restaurant Barbuto, run by celebrity-chef Jonathan Waxman, is now one of the city's hottest destination restaurants, having recently been declared the best new Italian restaurant of 2004 by New York Magazine. Waxman serves Mediterranean-style food by way of California - fresh, simple food that appeals to the young and hip. The old garage doors of the building, preserved in the re-design, open up on two sides, to literally vanish the separation between the private restaurant and the public sidewalk.

"Westbeth is the largest artist community in the world. Located in Greenwich Village, in the historic Bell Labs building, it has both living and working space for visual, performing, and literary artists. It is an exciting, dynamic centre for artists who have made important contributions over the past 25 years. Merce Cunningham in dance, Gil Evans in jazz, Diane Arbus in photography, Moses Gunn in acting, and Muriel Rukeyser in poetry are among the hundreds of artists who developed their art and careers in Westbeth.

Westbeth is composed of 383 units designated as living and working space for professional creative artists. The award-winning design by architect Richard Meier includes performing and visual arts studios; a gallery; theatres; film, photography, and recording studios; a communal print shop; sculpture studio; and a community space used for performances, concerts, lectures, videos, and meetings of community groups.

In 1894, the Western Electric Company of Chicago decided to erect a factory at the intersection of West Street and Bethune Street in New York's Greenwich Village. In 1907, the American Telephone and Telegraph Company decided to bring together all of its scattered development facilities (including the Boston laboratory that had evolved from Alexander Graham Bell's original attic workshop) and centre them at the site.

AT&T and Western Electric sought out engineers and scientists who were eminent in their field, and by the mid-1920's, inventions such as talking motion pictures, radar, the vacuum tube, the microphone, the phonograph, black and white television, colour television, stereo sound, and the computer were being invented in what would soon become known as Bell Labs. By 1966 however, Bell Telephone Laboratories had set up a major new research centre in Summit, New Jersey. And

the West Street site, having for all practical purposes ceased to function as a laboratory, was put up for sale.

When Roger Stevens, Chairman of the National Council on the Arts, learned of its availability, he and J. M. Kaplan acted swiftly to arrange for its purchase. The J. M. Kaplan Fund had previously been renovating old lofts and brownstones in the area on a piecemeal basis to provide needed living and studio space for artists who could not afford spiralling middle-income rents. The Bell Labs site was the answer to a dream. In July, 1967, the property and buildings were purchased by the Westbeth Corporation, a non-profit organization newly formed by the J. M. Kaplan Fund. L. Dixon Bain was installed as administrator, and Richard Meier was named project architect.

Westbeth could easily have become a warehouse or a factory, or even a tenement. That it became instead a haven for artists is a fitting tribute to the contributions to civilization that were made here. Westbeth represents a kind of continuity of spirit that links its past with its future. The same spirit that once guided the Bell Labs scientists now survives in the converted facility, infusing its artists with the energy of discovery and creativity". - www.westbeth.com

The High Line. Robert Hammond, one of the founders of the non-profit organization "Friends of the High Line" (FHL), says that he got the idea for preserving the urban artefact of the elevated railroad at a meeting sponsored by the Regional Plan Association (RPA). RPA's Senior Fellow for Transportation, Jeffrey Zupan, had been hired by freight interests to tell them what possible uses the derelict line could have. After assessing the options for connecting the railroad to the existing passenger and freight systems, his conclusion was that it no longer served any transportation purpose, but should be considered as a public amenity. Robert met Josh David at the meeting, and a radical idea was hatched to preserve a beautiful asset in their neighbourhood.

With help from residents, the Community Board and a broad base of "non-planner supporters", this grassroots initiative started to take shape in 1999. At the outset, the timing was of the essence in the last months of the 20th Century, when the owner of the line was advocating demolition of the structure.

The High Line's relation to the Meatpacking District embodies the simultaneous transformation which was occurring in the neighbourhood. As the area transformed from an industrial to a recreational place, both elements coexist and thrive in mutual feedback. At the base of the project's success -scheduled to begin construction in early 2006- is the community of artistically minded people, designers and architects that have been involved from the outset with the project. According to Peter Mullan, Planning Director of FHL, this "design nexus" has proven fruitful both for the innovative character of the project and to muster broad-based support for the project.

FHL has its offices just a few blocks east of the future entrance of the park. They have located there to identify with their project, and when talking about the





District, Mullan talks about the "shifts that take place around here". Early in the morning, from 3am to 6am, the meatpackers can be seen working hard at their produce, to give way by midday to a host of "fashionistas," artists, designers and creative workers that have recently moved their studios and offices there.

By evening time, the restaurant and bar scene is hectic with local New Yorkers stopping for drinks at the new Gansevoort Hotel or the plethora of trendy restaurants available. This corner of "the city that never sleeps" epitomizes precisely that. By midnight, the club scene thrives with hipsters and yuppies from New Jersey, Upstate New York and elsewhere. What is very telling is the recognition of the diversity of the place in its time "shifts" recognized by many in the area, such as painter Ruth Ro with a studio located just off Little West.

The strength of this mix of schedules is confirmed by a field survey of the area. This urban environment is composed of high end boutique stores, lower end design retail, restaurants, bars, hairstylist and some galleries - such as the new location of the Dia Centre for the Arts at the footsteps of the High Line main entrance - and the popular Chelsea Market, which is an ex-industrial building rehabilitated as a strip interior food market. This is truly the "wild west" of the city, reinforces Mullan, with old sidewalks, streets built in cobble stone, a low built form of old warehouses, and a horizontal skyline with vistas to the Hudson River.

"The elevated rail called The High Line was constructed between 1929 to 1934. It was meant to support two fully-loaded freight trains, spanning for 22 blocks from 34th Street to Gansevoort Street. It is 1.45 miles long and will be transformed as 6.7 acres of space atop its elevated rail deck. The Open Space will be 30-60 feet wide and 18-30 feet high.

Friends of the High Line (FHL) is a non-profit organization dedicated to the preservation and reuse of the High Line on the West Side of Manhattan. Founded in 1999, FHL is supported by nearly all the elected officials representing the High Line neighbourhoods, numerous civic organizations, and thousands of preservationists, open-space advocates, design professionals, and civic-minded individuals and businesses from New York and across the United States. FHL is located in the Gansevoort Market Historic District, near the southern terminus of the High Line.

In January, 2003, FHL launched "Designing the High Line", an open, international ideas competition, with a goal of attracting visionary design proposals for the High Line's reuse. Because it was an ideas competition, entries did not have to be practical or realistic. Entrants were encouraged to be bold and forward-thinking to create visions as unique and unexpected as the High Line itself. 720 teams from 36 countries entered. Over 150 of the entries were viewed by over 100,000 at an exhibition at Grand Central Terminal in July 2003.



The design team of Field Operations and Diller Scofidio + Renfro has been chosen to work on preliminary designs for the High Line. Under the direction of FHL and the City of New York, and guided by input from the community, the designs will continue to evolve as the project moves toward construction. Inspired by the industrial ruggedness and unruly wilderness of the High Line today, the team seeks to create a contemplative public landscape atop the structure.

Preliminary designs focus special attention on integrating planting areas with planked public walkways, creating a diverse series of interactions between the High Line, its users, and the spontaneous landscapes that come to inhabit man-made structures over the course of time." - www.thehighline.com

At the southern terminus of the High Line, lies the main entrance seen in the previous image. The relation to the waterfront is to allow for slow movements through the elevated trail whereas to the west and on the waterfront Hudson River Park allows for faster bicyclists and joggers. It is no coincidence that the initial phase of the project begins at the Meatpacking District anchoring the development, providing a great public space through its entrance, and reinforcing the green gesture that the whole project is about. At street level, the High Line will provide retail and restaurants but at the higher level, a greenway will connect twenty two blocks of waterfront.



Conclusion: Creative Communities at the Water's Edge

In New York City, the waterfront is "where it's at": not only where innovative and exciting things have been happening, but where the next generation of development will take place. The current official policy of the City of New York is to respond to the housing crisis and land scarcity that constrains its development by opening up what urban theorists called in the 1990s the "hollowing of the waterfront." Now, with a more proactive stance, New York has embarked upon the recycling and repositioning of these areas for the future.

Walking down the streets of the waterfront areas, it is possible to observe how new developments are already taking place right now. Real estate development is moving in even before planning begins, to take advantage of lower land prices and a strong demand for residential or mixed units with retail or restaurants in the first storeys. The Meatpacking District is a case in point. Buildings are being demolished in the western part of this area, and there are construction staging areas of the landscape-to-be.

While change is the only constant in New York, the presence of "old-timers" lamenting for the past is almost as ubiquitous especially when cultural activities, as well as artists, designers, entrepreneurs, that moved in early on begin to be pushed out by their own success. It is a cycle that has been seen in SoHo, TriBeCA, DUMBO and other neighbourhoods, and will likely repeat itself here. Fortunately, after the Meatpacking District cools down, there will be other places and flavours to look for, particularly in Brooklyn and Queens. New York won't run out of waterfront communities for new creativity any time soon. Many of the galleries and other businesses will thrive and will root themselves in these new frontiers. One might even expect to see a good portion of the people and start-ups that opened up the Meatpacking District to hang on and flourish with the new wave of interest in the area.

Creative Communities succeed at the water's edge in New York precisely for the combination of tolerance, talent and technology that Richard Florida anticipates. As industrial wasteland from a not-so-distant past, these areas have attracted those looking for larger rental and studio space, opening up the door for retailers and small businesses to flourish. This population is diverse, young and very tolerant. That has brought talent. It stands almost as a truism that the influx of artists and young professionals breeds nightlife, gathering places and innovative retail.

The Meatpacking District is the current "it" neighbourhood, riding the wave of change and reuse. It will, most likely, follow the pattern of earlier neighbourhoods, cresting and breaking on the rocks of real estate speculation and appreciation. But this trend of movement back to the waterfronts certainly holds promise for the future of New York, and for its creative citizens.

*All photos and images courtesy of Flickr, except:
Photos on page 264 courtesy of Tom Wright/Regional Plan Association
Image on page 268 courtesy of Friends of the High Line*



Dublin

Urban Strategies for the Knowledge Economy

Dick Gleeson, Dublin City Planner
Mary Conway, Senior Planner
Dublin City Council



Introduction

In 1985, three quadrants of the inner city of Dublin were in serious trouble. A combination of under-investment, the erosion of the traditional employment base and the imposition of road widening terms had left the city with a collapsed economy, a degraded physical environment and long standing social problems. Since the early 1990's, however, a series of urban renewal initiatives underpinned by financial incentives have transformed the heart of Dublin, breaking over a century of neglect.

These initiatives have fuelled intensive levels of urban redevelopment, resulting in high levels of physical regeneration, and the development of a modern knowledge economy that has pushed the city's horizons outwards. This change is most evident in the emergence and/or reconstruction of a number of new urban neighbourhoods that have been drawn back into the city core that previously were isolated, underused and neglected parts of the city. These renewed neighbourhoods have been driven forward by a series of creative and integrated framework plans.

The achievements of the past decade - a strengthened economy, high levels of inward investment and focused urban renewal initiatives like Temple Bar and Dublin Docklands - have given the city a higher profile internationally. Now Dublin, far from being perceived as a peripheral city, is appears to be propelling itself into contention, and has rising ambitions as a European City.

A number of dedicated development bodies/teams have been established, working alongside the City Council to reconstruct, consolidate and expand the city core - economically, culturally, socially and physically. Their role is to introduce, on a large scale the new economic and cultural activities that can diversify the Dublin's economy; establish new links to local, regional and international markets; and introduce new levels of economic competitiveness. Their remit also incorporates the provision of urban components with the capacity to rejuvenate and rebuild the physical structure of the city and improve the quality of life for residents, workers and visitors alike.

The widely-applied Framework Plan Concept has proved to be an adept tool in developing the diverse character of the city, nurturing appropriate specialist economies in local areas, and providing regeneration frameworks to co-ordinate development. The following examples represent a range of successful applications to this approach.

Culture as Economy - Temple Bar

Temple Bar is regarded as one of the best European examples of the creation of a new cultural quarter in a city. Located in the heart of central Dublin, the area had been designated for the development of an integrated transport centre. Pending redevelopment and attracted by the low rents, a thriving artistic and cultural community had colonised the area, leading to the emergence of an energetic and creative quarter.

However, with the prospect of the transport centre still alive, a concerted campaign was mobilised to 'Save Temple Bar.' A successful combination of local action, top level political decisions and ERDF (European Regional Development Fund) funding led to the Temple Bar Renewal and Development Act of 1991 and the establishment of Temple Bar Properties Limited (TBP). TBP was empowered to generate a living cultural quarter, linked to a growing local resident population and the creation of an attractive visitor destination in the city centre.

Group 91, an alliance of eight young and innovative Irish architectural firms, was commissioned to develop a framework plan. Exploiting underused and derelict sites, the plan featured proposals for up to a dozen new cultural institutions, strategically interlinked with a sequence of intimate new public spaces and routes.

Much of the energy generated by this new contemporary architecture resulted from the discipline of stitching the new cultural uses into the existing fine-grained fabric and the subsequent animation of the new spaces and routes. These achievements have put contemporary Dublin on the map, bringing Irish architecture in from the cold and providing the city with a much-needed cutting-edge profile.

Between 1991 and 2001, TBP led and managed the urban regeneration of the area, with the result that the resident population increased from approximately 300 to the current level of over 2,500. The number of small business enterprises rose from around 70 to over 400 today, while the number of tourists and visitors to the area grew from an unrecorded but negligible level up to 70,000 a day. The number of arts and cultural organisations based in the area now hovers between 50-60, with a similar number of working artists in studios and other spaces in the neighbourhood.

Following a ten-year development phase with a budget of €125 million, Temple Bar Properties is now moving into an ongoing management phase with a small yearly budget. A new framework plan has been drawn up which underlines the core commitment to maintenance and development of the cultural uses, addressing general issues that affect the whole area as well as specific initiatives to re-charge its urban and cultural attractions.



Digital Media as Economy - Digital Hub

"The Digital Hub is a community of people - artists, researchers, educators, technologists, entrepreneurs and consumers, all working together to create innovative and successful digital media products and services."

The Digital Hub is located on a compact 3.5 ha site within the historic Liberties area of Dublin (about a 10-minute walk from the city centre), which is traditionally the city's industrial zone. Living off the shrinking floor plate of the Guinness Brewery, the Digital Hub is located in close proximity to the Guinness Storehouse, a state-of-the-art interpretative centre and one of the city's biggest visitor attractions, as well as Ireland's National College of Art and Design.

A government-backed initiative, the Digital Hub aims to establish a leading international community for digital media research, innovation and enterprise development. The project is managed by a state agency, the Digital Hub Development Agency (DHDA), established in 2003. Its task is to implement some of the most radical enterprise and social development strategies attempted by the Irish Government.

The Digital Hub is an important focal point and catalyst for the development of a new digital media industry sector for Ireland. Building on the success of many Irish companies and individuals in the software and creative sectors, the digital media cluster, based in the Digital Hub, is taking a leadership role in the emerging global market by creating a critical mass of world-class research and enterprise.

The DHDA is actively managing the environment to ensure that both physical and other supportive initiatives are present, and that the creators and innovators of next generation digital media products and services have a unique opportunity to grow.

An Urban Framework Plan sets out the vision for the physical delivery of the Digital Hub by 2010, setting it in an innovative and environmentally sustainable context. Developing both redundant industrial buildings and new purpose-built buildings, together with new routes and public spaces, it will transform this inward looking quarter and reconnect it outward to the surrounding area.

On completion, it is estimated that it will deliver 50,000 square metres of integrated floor space, comprising enterprise (52%), retail (7%), residential (25%) and learning and education space (7%).

International Financial Services as Economy

In the mid-1980s, the Custom House Docks Development Authority (CHDA) was established to redevelop a 12 ha site in formerly disused docklands close to the city centre. The central concept was to underpin the creation of a new mixed-use quarter with the generation of a new financial services economy. The area began to take shape in 1985-86, following a tendering process for a developer and master plan. While there was some mixed use, the construction of the first phase of the

International Financial Services Centre (IFSC) focused on the development of a financial services industry in Ireland.

Through a combination of special tax incentives and an innovative approach to development, the IFSC transformed this area from one of disused warehouses and wasteland into a modern and dynamic place. The area now provides 16,000 financial services jobs, and is recognised as one of the core contributors to the modern knowledge economy of the Inner City.

Such has been the achievement of the IFSC, that it has been used as a springboard for the rejuvenation of other extensive and redundant Docklands areas to the north and south of the River Liffey. The Dublin Docklands Development Authority (DDDA), the successor to the CHDA, is moving this project forward, with the attention now focused further east to the North Lotts and on the south side of the river in and around Grand Canal Dock.

The Grand Canal Dock marks the point where the Grand Canal joins up with the River Liffey. Around the Dock, the intensity of development under way makes this one of the busiest sites in Ireland. In the next three years, by 2008, the site will become a bustling business and residential centre with a strong focus on cultural, social and leisure amenities.

Like the IFSC, Grand Canal Dock is developing its own business niche, drawing in many large and prestigious commercial legal firms who are moving operations to the area. These developments will be complemented by the redevelopment of the unique "double water" frontage between the River and the Dock, which provides an attractive waterside setting for restaurants, shops and bars, as well as a fantastic public amenity for moorings and water sports.

Other plans to bring the Grand Canal Dock centre-stage include the development of the Grand Canal Theatre (designed by Daniel Libeskind) located in Grand Canal Square, the central public piazza. The dramatic plan is to create Dublin's newest 2000-seater West End style theatre flanked by a large retail and commercial development and the first five-star (Le Meridian) hotel in the area.

This plan, combined with current proposals to relocate the National Theatre of Ireland (Abbey Theatre) to a site at George's Dock, will raise the public profile of Docklands and help forge its reputation as a Performing Arts District.

Another landmark feature, and one of the most visually captivating for the whole city, will be the U2 Tower planned for Britain Quay. This slender, twisting tower - the winning entry by the Dublin-based BCDH Architects in an international architectural competition - will house U2's recording studios and provide spectacular views of Dublin Bay.

The scale and vision of the Grand Canal Dock project is already acting as a catalyst for other schemes in the surrounding areas at Sir John Rogerson's Quay, Hanover Quay, Charlotte Quay and Barrow Street. As the development momentum continues, further regeneration will revitalise the remainder of the south bank of the Liffey.

Looking across to the north bank of Liffey opposite Grand Canal Dock, the North Lotts is a natural eastwards extension of the Custom House Docks/IFSC. The Planning Scheme sets out to develop a mix of offices and residential units with public squares, gyms, swimming pools and leisure facilities.

In Spencer Dock, there are plans for 943 apartments and 38,000 sq m of office space, as well as a possible site for Dublin's proposed National Conference Centre. Spencer Dock will set new standards for commercial facilities in the city, and it will include the new headquarters building for Price Waterhouse Coopers.

In both Spencer Dock, and other developments across the Docklands, strong emphasis is being placed on the creation of a sustainable living environment for the residents.

Schemes consist of exceptionally well-designed and quality-finished one-, two- and three-bedroom apartments, with spacious balconies, landscaped courtyards and roof gardens. Coupled with inspiring views of the river and canals, it will ensure that the Docklands becomes one of the most sought-after areas in Dublin to live and work in.

Education as Economy - Trinity College

The Trinity College campus occupies a strategic site in the heart of the inner city, just east of Temple Bar and north of the Grafton Street retail core. Trinity College, Dublin's oldest university, has 10,000 students and is one of five universities in the metropolitan region of Dublin. The college is renowned for the quality of its historic buildings and for its sequence of formal squares where pedestrian is supreme. Extensive investment over the last ten years has resulted in the current generation of quality new buildings executed in a contemporary idiom. While the college does operate security checks on a limited number of entrance points, every encouragement is given to visitors and the Dublin residents to move through the campus.

Over the last two decades, however, the college has tended to develop its east-west axis to the detriment of historic structures along its northern boundary on Pearse Street.









In addition, Trinity College has begun to acquire additional lands to the east outside its traditional 16 ha core campus. Prompted by the Dublin City Council, Trinity College recently commissioned a master plan for the core campus area. This plan re-establishes the importance of the Pearse Street buildings by emphasising a new north-south axis to counter-balance the pre-dominant east-west axis. New buildings along Pearse Street, combined with the restoration of historic structures and the creation of a new entrance, will ensure that the College re-engages with Pearse Street and connects with the river.

Apart from the important role that Trinity College plays as a centre of education, as a major tourist destination in the city and as a cardinal point along the city's main civic thoroughfare, the College is also critical to the development of Dublin's modern knowledge economy. It has established and nurtured the development of a modern innovation centre that links business and industry to the research and training capacity of the College. This capacity includes expertise in major knowledge-intensive areas. It also serves as an incubator centre for small businesses, providing entrepreneurial programmes, linkages to major industries and new venture projects. The College also works closely with the Irish Industrial Development Authority and Enterprise Ireland to promote Ireland as a location for knowledge-based industry, working towards the commercial development of research products.

A New Town- Regeneration of Ballymun

The focus of urban regeneration has not only been on the inner city. A more strategic approach has also been taken to the city's suburbs, and the integration of economic, cultural and social dimensions with the physical and spatial. Ballymun is currently the largest regeneration project of its type in Europe.

In 1997, the Government of Ireland decided to demolish the multi-storey flat blocks (2,800 residential units) in Ballymun and rebuild the area, retaining the existing residents in the context of an integrated plan for the physical, social and economic regeneration of the area. Ballymun, which built in the 1960s and 1970s and included other more conventional housing, was home to 20,000 inhabitants. It had long been viewed as a "sink estate" with high levels of unemployment, single



parenthood and drug problems. It was a place apart, on the edge of the city, dissected by a dual carriageway used as a through-route by other citizens. In short, Ballymun was a place to be avoided.

Dublin City Council set up Ballymun Regeneration Limited as the vehicle to plan and implement the change from a failed urban area to a successful and sustainable neighbourhood of the city. The Ballymun Master plan was drawn up and implementation began in 1998. Whilst the re-housing of the existing residents is a core and vital task, the real challenges were to harness public and private investment, and to create a place which shared the characteristics of the most successful urban areas that has quality urban design, tenure diversity, and mixed and vibrant land uses.

The ultimate goals were that Ballymun should become a destination rather than an area shunned by the rest of the city, that it should become a net contributor rather than a drag on the city's resources, and that it should provide the social supports and economic opportunities appropriate to a community of its size and needs. Unlike other regeneration projects, the increase in tenure diversity had to be achieved by bringing in new private households as the existing population was to be retained. Ballymun was high-rise but relatively low density, so an increase in residential density - a desirable objective in Dublin - has been used to increase population and deliver social balance.

In concert with the physical and social interventions, a strong economic development strategy has been developed. Although mixed-use commercial areas are dispersed throughout the new Ballymun, the main focus of economic development has been the creation of a mixed-use and vibrant Main Street, and the proposed development of a Ballymun Growth Quarter located beside the M50, Dublin's orbital motorway located just to the north of the existing development area. Ballymun is now in a position to benefit from its strategic location, close to the city centre, the Airport, the Dublin-Belfast economic corridor and the proposed Metro line linking the Airport with City Centre and Dublin City University, all on its doorstep. The vision for the Ballymun Growth Quarter includes a mixed-use area with provision inter alia for R&D developments associated with the nearby university. Ballymun Regeneration Limited has worked closely with the University (A University representative sits on the Board of Directors of the company), to ensure that it's cutting-edge position in the life sciences would have a positive impact on the economic development, profile and job availability in the Ballymun area.

The importance of the quality of the environment and the idea of "destinations" in making creative and successful places have been enhanced by the innovative, participatory and high-quality interventions in the areas of, for example, public art and the environment. It is indeed the synergy of the programmes and projects involved which will turn Ballymun into a creative and attractive place for residents, workers and visitors alike.







Conclusion

It is widely acknowledged that a strong local identity is a key component of any city's competitive edge. In a global economy, cities trade on their differences, and it is fundamental that bland redevelopment and regeneration projects do not erode the very qualities that make cities distinctive, and therefore competitive. Dublin is in the throes of developing a new city identity and is now facing the challenge of marrying the urban legacy of the past with new directions emerging from a decade of intense regeneration.

In this context, it is essential that Dublin recognises and asserts its own urban value system, based on its own specific urban qualities: its architecture, distinctive network of public streets, squares and spaces, the River Liffey and the Royal and Grand Canals. These qualities must inform the design process that drives forward urban regeneration and development.

The new "Legible Dublin" project addresses this challenge as well as the need to make sense of the complex inner city. The role of the project is to draw together the many strands of urban regeneration to reflect the various layers of economy and culture and to give weight to the central importance of the structure and location of public space. In so doing, the project aims to re-map the city in the public imagination by defining key public spaces and routes, and at the same time, improve the ease of access to the city's main destinations, attractions and neighbourhoods.

In response to "Legible Dublin", the next phase in the consolidation and reconstruction of Dublin City will focus on the River Liffey, the most important public space in the city. The objective will be to recharge the public's perception of the river by re-establishing it as an urban navigational spine that makes sense of the city's complex pattern of streets, public spaces and new and established neighbourhoods. Critically, this process will facilitate the development of the Liffey as the main anchoring spine of Dublin. These efforts aspire to draw the new urban quarters of Docklands, Temple Bar and Digital Hub, together with other emerging neighbourhoods such as The Heuston Station and Environs Regeneration Area and Markets Areas back into a rejuvenated city centre.

All photos and images courtesy of Dublin City Council

Photos on page 280 courtesy of Flickr.



Durban

The Cato Manor Experience

Peter Robinson

Professor of Planning, University of KwaZulu-Natal



Introduction

Many of the success stories of creative economic initiatives involve large-scale, flagship projects near city centres that often involve industries at the cutting edge of the global economy. The global economy tends to seek out the best economic opportunities and those easiest to exploit. In metropolitan Durban, the central business district has remained almost static over the past decade for a number of complex reasons, including aversion to crime and parking problems. Meanwhile, the city has experienced strong economic growth and private investment in suburbs to the north and west. The development projects in these areas (shopping centres, offices, light industrial parks, recreation and tourism facilities, golf course estates and up-market housing) have been accompanied by careful branding and image building, both of which are characteristic of contemporary global trends in creative economic development.

In this context, Cato Manor might appear an unlikely candidate as an example of best practices in creative economic development. Cato Manor is an area of forced removals in the apartheid era and land invasions in the early years of the democratic era. It is an area planned and developed for the city's poor that has been fairly resistant to private sector investment. Traditionally, low-income areas operate as dormitories from which people move out to work. However, the planners of Cato Manor's redevelopment sought to achieve more. They wanted to attract investment and jobs into the area, and to train its residents to take advantage of economic opportunities in and around the area. The experience of the first 10 years of a concerted reconstruction process has yielded many lessons about ways of approaching local economic development (LED) so as to attract private investment into the area while, at the same time, empowering local residents to take firmer control of their lives and to engage with the fast globalising economy of the city. What made this possible?

The Cato Manor Project

Origins. During the 1950s, Cato Manor was a sprawling, mixed race, informal settlement of over 120,000 people, situated within 10 kms of the main employment areas and roughly 7 kms from the centre of the city of Durban in South Africa. In the early 1960s, the apartheid government conducted forced removals, leaving the 2000 ha site largely unoccupied. This situation persisted until the early 1990s, when, as the political tide in South Africa began to turn, a major reconstruction initiative started, led by the Cato Manor Development Association (CMDA). The development vision was summarized as "an integrated, compact, development in the heart of Durban, offering a range of life cycle, residential, recreation and employment opportunities, particularly for the poorer residents of greater Durban." In qualitative terms, the vision was to develop Cato Manor as a "place where people like to live and work in a distinctly urban environment, where one can enjoy a full lifestyle and reach most parts of the metropolitan area without needing a car." (GCMDF, 1992;13)

The early years of the reconstruction were accompanied by many pressures, along with a series of land invasions that resulted in the arrival of some 25 000 people, many of whom had been displaced by violence elsewhere in the city and beyond. This resulted in an associated loss of 10% (88 ha) of the developable green fields land to informal shacks. Initiated at the time when South Africa was making its historic, peaceful transition, and during the period when the new government was undergoing major change at all levels, Cato Manor's redevelopment was steeped in political symbolism and widely portrayed as a model for the future (Lake, in Robinson et al, 2004; v).

The entire approach to reconstruction was based on the concept of integrated development, a fairly innovative approach when the project began in the early 1990s. Now tried and tested, the lessons from Cato Manor's redevelopment form the basis of a number of new urban reconstruction initiatives in South Africa.

Thus, while the provision of housing and sustainable urban infrastructure were key elements of the reconstruction initiative, the original planning concept (and later, more detailed plans) embodied an array of parallel and supportive programmes involving provision of social facilities (schools, libraries, parks, sports fields, community halls, pre-schools, crèches, playgrounds and a community health centre), social and economic development projects, skills development, institutional and community development, and communications (community newspaper, radio station, web site).

The main thrust of all these programmes was to provide residents of Cato Manor (of whom there were approximately 95,000 in 2004) with a full set of urban infrastructure and amenities of an equivalent standard to adjacent suburbs, as well as opportunities for engaging in the city's formal and informal economies.

The first ten years of Cato Manor's reconstruction have been recognized by UN Habitat as an international "Best Practice", and in 2002, the project also received an award from the Impumelelo Innovations Award Trust as an example of



successful area-based development. The story and lessons from Cato Manor's reconstruction have been recorded in a book published in 2004 (Robinson, McCarthy and Forster).

Actors, Agencies and Finance. The reconstruction was designed, led and driven by the CMDA (a not-for-profit company). It worked in close collaboration with national and provincial government departments of housing and finance, as well as with the European Union and with the emergent local government in metropolitan Durban. The redevelopment programmes in Cato Manor were funded largely by the South African government's Reconstruction and Development Programme (130 million Rand), the European Union (130-150 million Rand, increasing over time with changes in the Euro-Rand exchange rate), the Provincial Housing Development Board (67 million Rand), and the Durban Metropolitan Councils (27 million Rand).

Development Process. The reconstruction period began in the early 1990s, when negotiations about Cato Manor began to dominate development agendas in Durban. Since then, four main phases have been identified:

- 1992 - 1994 The Greater Cato Manor Development forum and establishment of the CMDA.
- 1994 - 1997 Securing the fundamentals for development and delivery.
- 1997 - 2002 Delivery at scale in the face of a succession of challenges.
- 2002 - 2003 Replicability, sustainability and unbundling of the CMDA with project responsibility being transferred to the Durban (now eThekweni) metropolitan authority. (Robinson et al, 2004; 56-7)

The Original Economic Development Strategy and Why it Failed. The original strategy for economic development, recognizing the dual nature of the economy, envisaged that the provision of suitably-located and sized, serviced land would attract industrial, commercial and office development into Cato Manor. It was expected that private finance would make a significant input to the project in the form of institutional bond financing for houses, financing for business premises, and the establishment and funding of businesses. This would bring jobs and incomes for Cato Manor residents, and bring in outside workers who would support other economic enterprises in the area. A less formal economy would grow (more or less) spontaneously to meet daily consumption needs of people as they moved into the area.

However, by 1996, it became apparent that private investors were wary of Cato Manor due to its instability and the land invasions and lawlessness. Despite well-located and suitably-zoned sites for formal economic development, Cato Manor offered investors no comparative advantage, but carried all sorts of risks. As a result, the private sector adopted a "wait and see" attitude (Coombs and Leamy, 2004).

A New, More Creative Economic Development Strategy

In 1997, CMDA adopted a new strategy, recognizing that the entire approach to economic development had been wrongly construed by focusing solely on the formal sector, rather than on eradication of poverty. Significantly, it was titled "CMDA's Economic Development Programme for Small-Micro-Medium-Sized and Large Enterprises." The new strategy would involve CMDA playing a more active, catalytic role in formal economic projects, such as the development of a local shopping centre, an office park, and serviced industrial land on the arterial routes to link Cato Manor to the port, the main industrial areas to the south, the city centre and the main route inland to Johannesburg. At the same time, CMDA became active in a series of initiatives directed towards creating human capacity needed to support micro- and small scale enterprises.

The key strategic principles of this economic development programme were:

- Make the most of the locational advantages of Cato Manor.

- Start the economic investment ball rolling with "ice-breaking" projects using public, quasi-public and mixed public/private finance.

- Ensure that "ice-breaking" projects are replicable by the private sector.

- Ensure recovery and re-investment of public and quasi-public funds once private investment becomes available.

- Maximise local participation and ownership.

- Create an array of economic investment opportunities ranging from the very small to the large. [Cato Manor Economic Development Programme, 1997].

This approach recognised internal poverty levels, but simultaneously acknowledged the need to market and integrate the economy of the area within that of the broader metropolitan area and beyond. This combination of poverty eradication with a market-based approach was uncommon in low-income development projects in South Africa. The capability to embark on such an approach depended on two factors: a development agency (CMDA) with a high degree of autonomy and decision-making, and a source of funding to support a wide array of social and economic development initiatives (EU).

Inherent elements of the approach were:

- The creation of a range of opportunities;

- Recognising that in a low-income context, local economic development (LED) cannot be separated from social and human resource development;

- The need for the development agency to take on the risk of a number of "ice-breaking" projects in order to establish sufficient levels of confidence to attract private investment into the area;

- An array of private, NGO and community partnerships to promote LED and support the local community; and

An enabling environment that had evolved with the delivery of infrastructure, public facilities and housing.

As described in the Cato Manor Development Project Review (1994-2002), the strategy covered three main areas: human capacity development, economic opportunities and institutional capacity development. The LED programme aimed

"to lift the skills base and empower Cato Manor's people to gain access to economic opportunities, and to trigger investment through "ice-breaking" projects that the private sector can replicate in future. All levels of economic activity are supported, from survivalist "backyard" operators to provision of industrial space to large-scale labour intensive enterprises, creating a hierarchy of opportunities." (Cato Manor, 2003; 15)

Attention was also given to addressing issues raised by local businesses, such as the need for operating and trading space, access to affordable finance and relevant skills training. In this, the CMDA played "an active, catalytic role in formal economic projects and in initiatives intended to boost the human capacity needed to support micro and small-scale enterprises (SMMEs) (Cato Manor, 2003; 15).

Who Benefits?

The new local economic development strategy had 22 different components, a summary of which is presented in the following boxes (sourced from the Cato Manor Development Project Review, 1994 - 2002). While these projects have been listed by sector, an important success factor of the programme was promoting linkages between projects. Eising (2003) has analysed the relationship between target groups, investment and time. He found that projects for the subsistence target group required a substantial amount of time to prepare and implement (including intensive community participation), but resulted in comparatively low investments.

On the other hand, projects for medium-sized businesses showed the opposite: high investment costs, but less time required to prepare and implement. Further analysis of every LED project in Cato Manor yielded a bell-shaped curve, reflecting a trickling down effect. In the case of the industrial parks, for example, big businesses would benefit directly, but indirectly, the more skilled job seeker and the smaller businesses would also benefit through outsourcing (Eising, 2003).

Retail Sector. Projects in the retail sector include:

Bellair Shopping Centre - Comprising 45 small- to medium-sized trading units for a range of retail and medical services.

Bellair Informal Market - Comprising 65 traders under shelter, 26 individual stalls and 28 pavement traders for manufacturers, providers of services and retailers. After hours, the market hall is let out for events such as weddings or public meetings.



Petrol station - sites have been established - one station is in operation and another is under construction.

Manufacturing Sector. Projects in the manufacturing sector include:

Business Parks - Three sites have been established adjacent to residential areas, for business and light industry for sale or lease to medium-sized and larger companies. A fund is to be established to re-invest income from these sites for social and economic projects. Local entrepreneurs in the security and cleaning industries are being trained to provide services on the construction sites and at the completed parks.

Entrepreneurial Support Centre (ESC) and Incubator programme - The ESC is located at Booth Road Business Park, comprising 2,800 sq m of floor space for small-scale and light industries. It aims to promote a culture of competitiveness and financial acumen by providing tender advice, business planning, access to finance institutions, administrative services, business management skills and other forms of assistance.

Its primary target is entrepreneurs in the manufacturing sector with evident growth potential, but entrepreneurs from the services and retail sectors can also make use of the ESC's services. The ESC also acts as a small business incubator providing accommodation and focused resources to accelerate business growth.

Economic Hives - 20 containers have been converted to work units, and 33 brick and mortar units built on three sites to provide a suitable business environment for less-established entrepreneurs where they can network, access new opportunities and develop their skills. These sites are seen as stepping stones to industrial workshops, incubator programmes and business parks. A unique management facility is being piloted at the Cato Crest Container Park, where local entrepreneurs are operating the facility as its "virtual" owners, renting out space, generating revenue, maintaining and managing the facility.

Crafts Project - The Umkhumbane Arts and Crafts Centre is a community project located in a former school building. About 80 women have been trained in various craft skills and their products sold nationally and internationally. Plans are being finalised to transfer ownership to a local co-operative.

Commercial Sector. The Intuthuko Junction is a three-storey, 11 million Rand, building is located at the intersection of two arterial routes, and it is a landmark of the new Cato Manor. By April 2002, the 2,100 sq m of available office space at the commercially run centre had been fully let, and expansion by a further 50% was completed in 2004 and is also fully let. The anchor tenants are the Innovation Support Centre and the municipality's Management Office based in Cato Manor. The rest of the space is let to public service agencies, professional firms, NGOs and community based organizations. On the ground floor are located the Cato Manor Tourism Office, the Umkhumbane Museum and Conference Centre, and an internet café and coffee bar. Rental income will assure the centre's sustainability in the long-term.

Small Business Facilitation. Projects to facilitate small business:

Small Business Fair - For three years (2000-2002), Small Business Fairs were held in Cato Manor to give local businesses metropolitan exposure and opportunities for networking with supporting agencies, banks and business advice centres. An unplanned spin-off was the emergence of a monthly flea market where community members and savings clubs are able to trade.

Small Business Loans - The Short-Term Guarantee Finance programme, which aimed to improve access to working capital for small contractors, was established in response to the reluctance of financial institutions to provide loans. See also Savings Clubs below.

Legacy and Tourism Project - An escalating interest in Cato Manor as a tourist destination has generated new business opportunities for local people, especially in the production of crafts and the promotion of Cato Manor's unique culture, history and heritage. As a joint venture with the local municipality and the provincial Tourism Authority, the Cato Manor Visitor Centre comprises a Tourism office, a Conference Centre, an internet café and coffee bar. The Visitor Centre has become one of the main stops along the Cato Manor tourist route, which winds through the informal settlements and developed areas, past historical sites, temples and mosques.

Economic Skills Development. The building of human and institutional capacity underpins the effectiveness of every facet of delivery in Cato Manor. CMDA implemented a variety of training and skills development programmes to help local people access new opportunities, gain employment and start new businesses. Interventions to strengthen existing community organizations and to train people in basic life skills for urban living were part of this programme.

Basic Business Management - This programme aimed at equipping emerging entrepreneurs to establish, operate and manage their own business. Training was extended to entrepreneurs in the Bellair Informal Market, the Bellair Centre, economic hives and container parks. By 2003, a total of 230 small business owners had benefited.

Multi-skilling - This programme aimed at equipping emerging contractors with technical, business and sub-contracting skills, and at linking emerging contractors to construction projects through appointments as "labour-only" sub-contractors. By 2003, 187 people had benefited from this programme.

Job Opportunities Bureau (JOB) - The JOB database records local small contractors and individuals seeking employment. JOB claimed some 5,000 names registered and over 1,500 successful placements by 2003, both within Cato Manor and further a-field.

Basic Economic Life Skills - This programme tackles the lack of knowledge about the basic economic aspects of modern living that often impairs the ability to function adequately in the urban context. Topics include opening a bank account, buying food in an economical way, reading and paying bills.

Home Ownership Education Project - This adult life skills project has benefited some 4,500 heads of households. It is designed to help first-time home owners to deal with issues such as rates, services, maintenance and home extensions.

Savings Clubs and Co-operatives - Savings clubs are oriented towards economic development, and accumulated funds are used for income generation. Clubs are assisted with organizational development, management and operation. Fifty savings clubs and five co-operatives now pursue different ventures including locally-produced household detergents, fresh garden produce, cleaning, recycling, crafts and block making.

Industrial Skills - Unemployed residents have been provided with grants, bursaries or study loans to help them access recognized training programmes, and the CMDA has worked with employment agencies to link training to market and industry needs. Over 100 people have been placed in artisan, catering and other positions. The programme also provided training to meet staff requirements at the new Albert Luthuli Hospital in Cato Manor.

Urban Agriculture - Urban agriculture clubs are being trained to use steep open areas near housing projects to grow crops that will both generate income and as well as stabilise the ground. Re-greening is another community-based intervention involving the issuing of a fruit tree and planting kit to all new home owners.

Institutional Development - Development committees exist in all areas of Cato Manor, and they form a key link between the CMDA, its development partners and the resident communities. The CMDA facilitates the structuring of these committees and assists in building their capacity through training and organizational skills development. This has led to the emergence of organisations addressing community safety, a pre-school body responsible for running crèches and pre-schools, and a labour forum responsible for facilitating employment of local residents on construction projects.

Sports Development - The establishment of sports facilities, clubs and competitions has been invaluable in building a localised and competitive spirit. The formation of local sports federations has given rise to the dissemination of skills from regional and national organizations into the Cato Manor community.

Principle Lessons and Key Success Factors

What are the lessons learned, and how could other projects benefit from the LED experience in Cato Manor?

Nel, Eising and Hill (2004) conclude that, given the scale of investment in LED and the levels of support which have occurred, the Cato Manor programme could serve as a role model for LED and urban regeneration initiatives in other low-income areas in South Africa and beyond. They have identified numerous lessons from the Cato Manor experience which are of potential relevance to planners seeking to pursue similar types of development in other localities. The lessons derived from

the Cato Manor experience, some of them key success factors, can be broadly grouped in categories:

Strategic Approach to Project Design. The Cato Manor experience showed that area-based LED programmes thrive on sophisticated, multi-faceted, integrated support. A dedicated, well-resourced, spatially focused development agency (a Special Purpose Development Vehicle), with room to manoeuvre, flexibility to adapt to changing environment, and certain levels of autonomy has advantages over an equivalent local authority agency. Such an agency needs to be well resourced, especially in regard to skilled personnel, and also be close to the target group.

In order to be successful, development must blend "top-down" support, finance and direction with "bottom-up" resources, initiatives and capacity to ensure synergy. To this end, public-private partnerships and partnerships with the community are key components. However, there are situations where the private sector is resistant to investment in low income areas. At the lower end of the development spectrum, very close links exist between LED and social development, and these links need to be fostered.

Project Design and Vision. The Cato Manor experience suggested that the target area and community must be properly determined and defined, and where it exists, local leadership identified, encouraged and supported. If area-based development is pursued, the area in question cannot view itself as an independent "island" within the city, and issues of economic and spatial integration cannot be ignored. At the same time, the city authorities cannot treat the area as an isolated entity, and they must take cognizance of the need to support and plan for the area as part of broader macro-level planning.

The risk of antipathy on the part of city officials to what they may perceive as a 'special-case,' or privileged area that can take care of its own needs, can be reduced through intensive communication with officials and politicians, and involving them in programme/project planning and implementation.

Whilst a LED intervention is part of an area-based initiative, it should not limit itself to activity within the area itself. Part of the intervention should be assisting residents in the area to establish businesses in other areas. If such LED intervention is innovative and successful, it should be encouraged to expand its focus to other areas and residents in order to maximise replication of best-practice experience.

Whilst taking cognizance of the political process, development must be undertaken in an apolitical and neutral fashion to avoid antagonism. If an independent development agency is to be instituted, its mandate and autonomy must be assured and, ideally, its long-term existence guaranteed.

LED visions and objectives need to be determined in a manner that is appropriate to the community and its needs, and the promotion of sustainability and growth. LED must also be empowering and lead to the promotion of 'human dignity,' self-worth and community stability. Such a vision must be 'holistic,' comprehensive and multi-faceted, encompassing a wide range of economic sectors and allowing for

growth and progression in each. This includes small- to large-scale activities, training provision, financial and other support, as is appropriate.

As far as possible, and making allowances for the need to develop community capacity, LED endeavours must be run on business-like lines. This does not detract from the need for external grants to be in place for an extended period, or to offer degrees of welfare support. Implementing LED on business principles is essential to attract investment and for local entrepreneurs to have a realistic chance of coping in the economy. To this end, the Public Entrepreneurship model is one worth pursuing.

Development in a low-income area is not something that can be undertaken on a short-term basis. In areas with low skills, capacity, resources, and a legacy of depravation and disempowerment - aggravated in the South African context by the immeasurable impact of inferior education and discrimination - generating an entrepreneurial culture will not happen in a few years. It might take a generation or two.

Development in a low-income area needs to be sustainable, seeking to open a path along which economic development can progress, whilst simultaneously enhancing human development and ensuring the long-term viability of those natural systems on which that development depends. From an institutional perspective, a critical lesson is that economic development cannot be separated from social and human resource development.

Operational Strategies. In a low-income area such as Cato Manor, the LED programme can consider allocating most of its budget (not effort) to the middle-level group of beneficiaries rather than to those at the bottom level. A kind of bell-shape target group allocation pattern emerges. This approach could be justified by the higher costs of both building accommodation and setting up professional business support compared to the costs of training and referring to a trickling down process, where skills and jobs are ideally transferred from the middle-level downwards to the bottom-end of the "ladder."

Maintaining strong and enduring links with the target community must always be striven for. Failure to win community confidence and to involve them adequately in the development process can jeopardize a development endeavour.

Development interventions need to be both market-based and community-based in design and implementation, and encourage links and integration between the two. Therefore, working with pre-existing community organisations, such as Savings Clubs, is a critical development approach. Strengthening their capacity and working through them can lay a sound basis for trust and support, and later, growth activities. At times, development depends on 'local champions' who need to be encouraged and supported.

In order to synthesize research and implementation, a special "project preparation" budget is highly recommended to explore/prepare projects to the stage of submission for funding. It is necessary, to address two clashing approaches to empowerment simultaneously: "Internal empowerment" within the implementing

agency team (e.g. staff/managers, preferably from the target area), and "External empowerment" of the target group through projects.

In low-income areas, concerted efforts at community-development often need to precede economic development. However, in practice, because of limited time-frames of many programmes and the need for immediate success, LED is often forced to start early. This tendency can be mitigated by early development of effective community representation and local leadership, through which the bottom-up approach can be facilitated.

Development projects require good base-line data and needs analyses should be undertaken to correctly identify development interventions and target support. The implementing agency must have a clear understanding as to what type of 'development' (e.g. market or community focused development) it is pursuing, for what reason and how. In addition, the spatial area of operation must be carefully defined. Projects must avoid grant dependency as far as is possible, and seek ways in which to ensure economic sustainability.

Project Management. Another lesson from the Cato Manor experience is the concept of an "asset-holding vehicle", which sells or leases property within an area, with the objective of generating funds in a sustainable fashion to fund further community development endeavours over the long-term, is an economically rational approach which can ensure financial autonomy, collaboration with the market and long-term sustainable development.

The Development Agency needs to operate in a professional, 'business-like' fashion in order to operate effectively and deal with external agencies and business in a professional manner. There are distinct advantages to operating not in a "line-function" but rather as a "programme", which allows for integration between key branches of the development agency in a synergistic fashion. This approach reaps multiple rewards and ensures efficient and sound operational procedures.

A critical success factor for an economic development programme is the ability of the implementing agency to deal appropriately with political and other external power issues, both at council level and in the target community. At council level, the main issue is the role of line departments and senior officials.

In the community, the role of councillors and the "representation vs. governance by the community" are typical issues.

Whilst higher levels of skills training and mentoring can be contracted in, it is important to note that, at the lower end of the spectrum (permanent trainers / community development officers) need to be employed.

The reluctance of commercial lending institutions to participate in low-income areas must be recognized and responded to in an appropriate fashion, as far as is possible. Facilitation in the form of meetings, workshops, small business fairs and loan incentive schemes could encourage those lending institutions to enter the low-income market. In parallel with this, strengthening of saving clubs and

establishing a community-run community bank would also cater for the financial needs of emerging micro-businesses.

Project Implementation. The Cato Manor experience underlined the importance regular monitoring, evaluation of, and feedback to the programme is important. This requires clearly defined objectives, purpose, outcomes and indicators of the programme and its projects. The internationally-accepted "Logical Framework" method can be helpful in this regard.

During implementation, local assets such as crafts, culture, tourism potential and heritage and history should be promoted for their cultural significance and tourism/ economic potential, since one of the key objective is multi-level skills development and training. This should not only address the needs of recipients, but also to equip them for employment. Parallel processes of supplying access to work / retail /manufacturing space, job placement and training with firms are equally essential.

Economic infrastructure projects are important for LED. The following requirements apply:

- It must be affordable for potential tenants;

- It must be well located relative to transport routes and population concentrations;

- Ownership and facility management must be arranged and role of community partners enhanced in this regard;

- Operational subsidies are often necessary in the first years;

- It must be based on a community needs analysis;

- Proper marketing to potential tenants (in the community) must be undertaken;

- Strong project management/leadership is needed to oversee the design, construction and operation of such facilities.

A crucial element for an economic development programme such as Cato Manor is basic economic life skills training, focussing on increasing understanding of basic principles of life and on how to improve household expenditure patterns. Although outsourcing of tasks to external role-players/consultants is an effective management mode, development agencies must be careful not to out-source too many activities. Core activities (e.g. overall project management, strategic planning, evaluation, monitoring and budgeting) and community liaison should remain in the agency, but other activities, particularly those of a short-term or less permanent nature (such as training and financing) can be outsourced. When an agency decides to outsource, it should focus on strong mentoring and quality control.

The reluctance of commercial lending institutions to participate in low-income areas must be recognized and responded to in an appropriate fashion, as far as is possible. Facilitation in the form of meetings, workshops, small business fairs and

loan incentive schemes could encourage those lending institutions to enter the low-income market. In parallel with this, strengthening of saving clubs and establishing a community-run community bank would also cater for the financial needs of emerging micro-businesses.

Singularities of Cato Manor

There are a number of interesting features of the area-based local economic development initiative in Cato Manor:

It was a multi-pronged, ladder approach, including informal sector operators, SMEs, through to formal sector developments in the form of offices, shops and factories;

Programmes provided opportunities and capacity building for individuals, households, co-operatives and emerging firms;

It involved a multiple-sector approach that included urban agriculture, retail, commercial, manufacturing and services;

A wide array of inter-related initiatives aimed at economic and social development programmes;

The initial integrated development concept was carried through at the implementation by giving attention to linkages between programmes and projects;

Donor funding was structured in a way that supported an integrated approach to development, coupled with enterprising use of the funds to overcome obstacles; and,

An autonomous agency (the CMDA) was in place to lead and drive the programme.

The progress of 2003/4, reported above, indicates a significant step in the process of developing Cato Manor and its residents, and of integrating it economically with the city. However, as noted by Nel et al above, sustainable economic development can be expected to take a generation or more, and no more than an interim assessment can be made after only 8 years. But having said that, there are a number of sustainability indicators which can be monitored at this stage to ascertain whether the gains of the last few years have been securely established, or whether there is slippage. Seven indicators of sustainability have been used to assess progress to early 2005:

Private Investment. There is clear evidence of formal sector, private investment, reflecting a new level of confidence in the area. During 2004, all the industrial and commercial sites were sold at market related prices, generating 25.8 million Rand. A petrol filling station has been constructed and is in operation; another is under construction; a transport depot is being built; and construction of other factories is about to commence. The second phase of the Inthuthuko Junction office complex

has been completed, and all office space have been rented out. However, the shopping centre still experiences vacancies, a factor largely attributed to low local spending power.

Investment by Households. A second indicator is private sector investment by households, for the most part in consolidation and extensions to their homes. There is evidence that many homeowners are improving their homes, albeit on a small, incremental scale. To date, there is little evidence of a secondary housing emerging. Related to this are reports of new small businesses being established and of movement of small businesses from the container parks to premises in the city centre. Demand for small industrial premises and office space :During the last year, there has been a steady demand for small industrial premises in the 100 - 150 sq m range, and for office space in Cato Manor

Public sector investment. Public sector investment in infrastructure peaked between 2001 and 2003, with the completion of projects funded by the EU and RDP funds. Since then, the volume of public expenditure has declined sharply, but has stabilised at a level more or less in keeping with other developed areas of the city. Housing construction has continued and several other programmes have been taken over by new area based management office. In addition, some new programmes are being implemented.

Delivery of and Payment for Services. Another indicator of sustainable development is the continued delivery of services (water, electricity, sanitation, road maintenance, telephones, post boxes, refuse removal, maintenance and use of public buildings such as the libraries, parks, playgrounds and community halls), coupled with payment for these services. Evidence on this set of indicators is generally satisfactory.

Institutional Structure. Responsibility for development in Cato Manor was transferred from the CMDA to the municipality in March 2003. The hand-over process was unsatisfactory and drawn out. During this period, CMDA staff capacity was dissipated, public investment slowed markedly and momentum on almost all programmes was lost. A proposed social and economic development company (a special purpose vehicle) designed to ensure continued momentum of the Cato Manor development project was rejected by the municipality in favour of an area based management (ABM) unit located institutionally within municipal structures. Over a year elapsed between the closure of the CMDA and the appointment of the ABM director. However, the new ABM office has been recruiting staff, picking up projects and slowly regaining some momentum.

Some key positions remain to be filled. There is uncertainty whether the ABM is suited to managing some of the key economic projects such as the entrepreneurial support centre and incubator programme.

Ability to survive shocks: A telling indicator of sustainability is the ability for development programmes to survive shocks such as, in this case, the closure of the CMDA. The organisation had nurtured and supported all the economic development initiatives in the area. At the time of its unbundling, there was widespread concern that many of the programmes would collapse. However, this

did not happen and, two years later, almost all the economic projects remain in operation.

Conclusions

In spite of inauspicious circumstances and constraints such as classism, racism and fear of crime, economic development is taking off in Cato Manor. The residents are slowly, but increasingly, becoming economically active, not only within Cato Manor, but also in other parts of Durban. At the same time, Durban's economy is extending into Cato Manor on account of its infrastructure network and its inherent location advantages in a metropolitan context. Its position at the convergence of several crossroads make it easily accessible to the CBD, the port, and the major routes into Durban, along with the availability of serviced land, appropriately targeted industrial and business premises and parking all combine to make it a highly attractive location. The "wait and see" syndrome experienced in the mid-1990s has been replaced by investor confidence induced by the strong location advantages. The perception that it was an unsafe area has been turned around, and it is now recognized as a prime area for small- and medium-sized businesses with access to the whole of Durban.

To sum up, the Cato Manor local economic development programme has broken new ground and shown considerable creativity by demonstrating how an integrated approach to development can foster linkages across a wide ranging set of programmes and projects. After eight years, it has benefited a significant number of people, households and enterprises, and is starting to attract private corporate investment into the area. The sustainability indicators present an uneven, but mostly positive assessment. Future prospects for the economic development initiatives in Cato Manor are promising, despite the constraints which usually deter investors from low income areas.

Notes and References

This paper draws on research by Forster (2004) reviewing progress in economic development in Cato Manor, a paper by Nel et al (2004), assessing the area-based approach to economic development, and a presentation by Eising (2003). The author also acknowledges comments by Jeff McCarthy on a draft.

Cato Manor Economic Development Programme (1997) CMDA. Cato Manor (2003) Cato Manor Development Project Review 1994 - 2002. (CMDA) Durban.

Coombs M and Leamy M (2004) "Innovative project finance" in Robinson et al (2004)

Eising, W (2003) "Local economic development in low income areas" Presentation at Conference "Urban Reconstruction and Cato Manor - Reflections on an International Best Practice", Durban.

European Union (2004) "Final evaluation of the European Union technical assistance to the Cato Manor. Development Programme" (Delegation for the European Commission), Pretoria.

Greater Cato Manor Development Forum (1992) "A policy framework for Greater Cato Manor" Report to GCMDF.

Lake, M (2004) "Preface" in Robinson et al (2004; v)

Nel E, Hill T and Eising, W (2004) "Area-based local economic development" in Robinson et al (2004)

Robinson, P. McCarthy, J. and Forster, C. (2004) Urban reconstruction in the Developing World. Learning through an international best practice. (Heinemann) Johannesburg. www.cmda.org.za

All photos and images courtesy of CMDA

