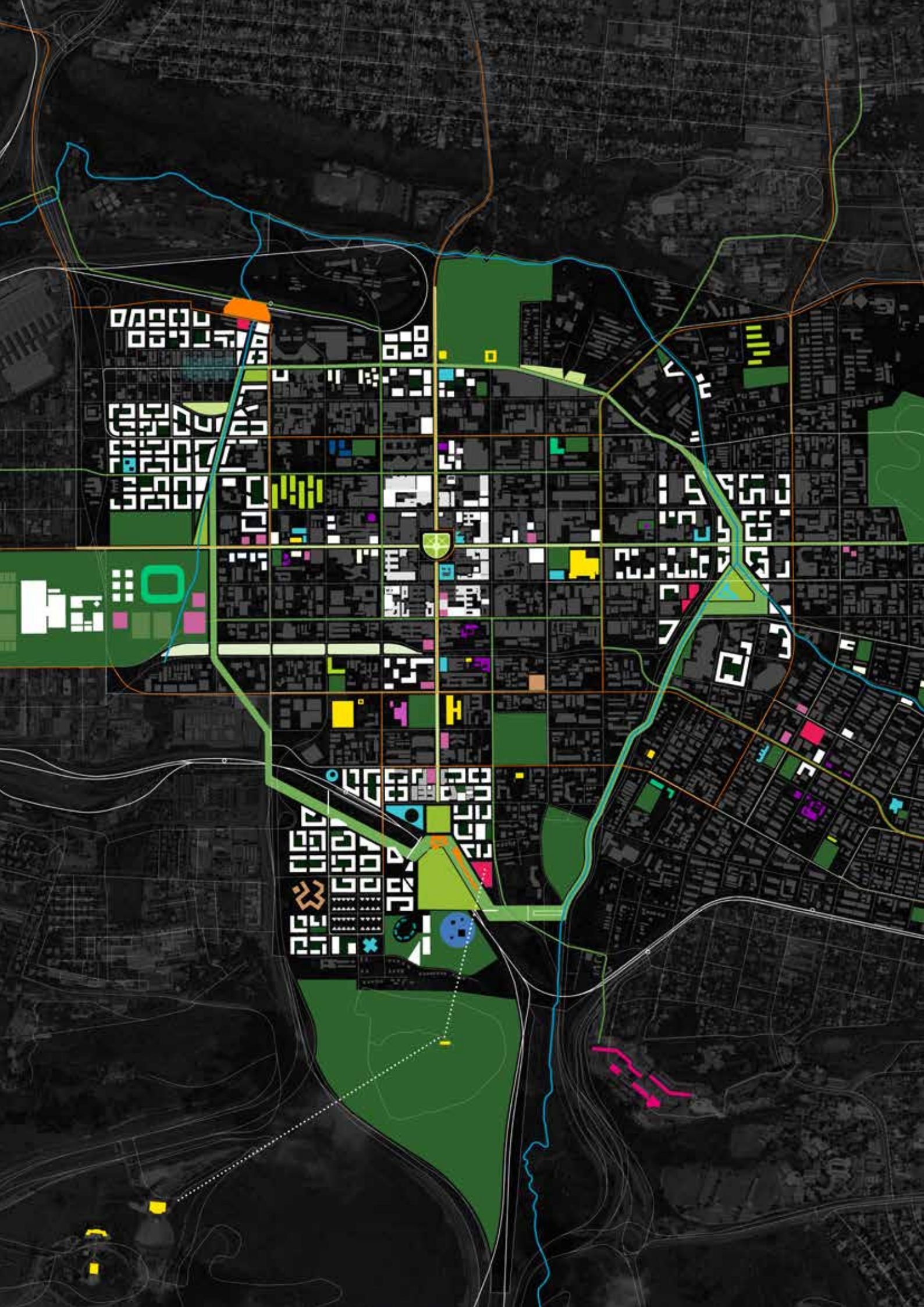


Masterplanning

ARUP



Masterplanning in Arup

Through innovative and collaborative design, we deliver strategic urban solutions that create memorable and lasting places based on flexibility and long-term sustainability to generate value for future generations.

With a reputation for embracing today's challenges and complex issues, including energy, environmental excellence and long-term sustainability, we deliver complex masterplans and strategies for diverse, high-profile projects across a wide variety of markets.

We draw together the distinct issues that must be considered when creating truly sustainable environments. These include matters of land use, infrastructure management, economics, micro-climate, community, ecology, hydrology and energy use.

Arup's integrated urbanism methodology offers a unique service, balancing technical reality and delivery with design vision and value creation. Our innovative model of urban development is designed to deliver quality, value, meet the challenges of climate change and resource depletion, and is a major driver for future growth. Taking into account the complex relationships that exist between stakeholders, institutions, users, activities and impacts, we develop integrated strategies and solutions that deliver clear and measurable positive outcomes.

Our clients range from major developers to media companies, government agencies to investment and funding institutions and our approach provides them with a feasible, flexible and achievable roadmap throughout the lifetime of a project, from concept to delivery.

Services

City strategy	Materials and waste
Climate change	Masterplanning
Cultural strategy	Mixed use
Development frameworks	Mobility, access and transportation
Economics	Public realm and landscape
Education	Design
Energy	Security
Environmental design	Sustainability
Feasibility studies	Tourism
Governance and consultation	Urban design
Health and wellbeing	Vision
Integration	Water
Land uses	

Queen Elisabeth Olympic Park:
Through their involvement in Stratford
City, Arup urbanism team played a
key role in the creation of London's
new Metropolitan Centre. ©Arup



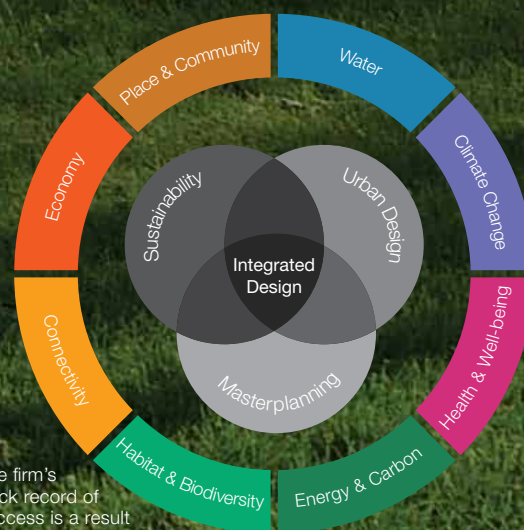


Enduring Design

We collaborate and work intensively to achieve the most integrated designs – to create memorable, liveable places that promote wellbeing and biodiversity. Our iterative design process helps to ensure that designs develop sympathetically to their site and context.

Collaboration and integrated design are central to the Arup ethos, inherent to Sir Ove Arup's 'total design' founding philosophy. Through this approach we underpin design concepts with our breadth of experience and vast technical resources.

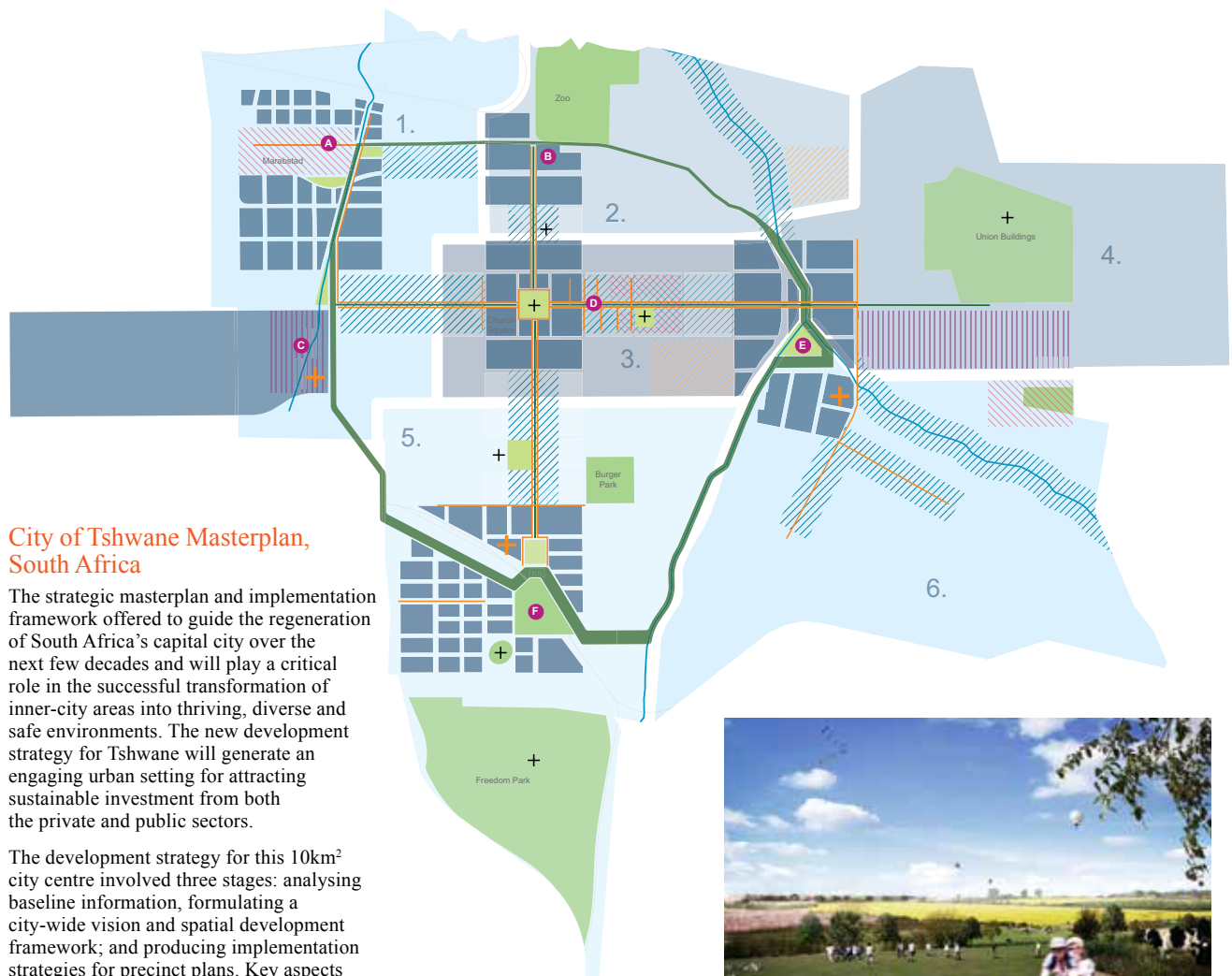
By bringing our technical understanding and knowledge of integrated systems, we aim to create sustainable places that respond creatively to climate change, uncertain economic conditions and rapid urbanisation; places where communities and nature thrive together to become valued and enduring assets for all.



The firm's track record of success is a result of multidisciplinary and collaborative working

City Strategy

Creating inspiring and practical visions to generate growth and prosperity



City of Tshwane Masterplan, South Africa

The strategic masterplan and implementation framework offered to guide the regeneration of South Africa's capital city over the next few decades and will play a critical role in the successful transformation of inner-city areas into thriving, diverse and safe environments. The new development strategy for Tshwane will generate an engaging urban setting for attracting sustainable investment from both the private and public sectors.

The development strategy for this 10km² city centre involved three stages: analysing baseline information, formulating a city-wide vision and spatial development framework; and producing implementation strategies for precinct plans. Key aspects informing the strategies include economics, culture, tourism, transport, environment, ICT, and stakeholder engagement. Central to these plans materialising for Tshwane is the establishment of a city-wide implementation agency and a small-scale projects delivery department that will bring about immediate physical change in the areas of amenity, public transport, jobs creation, and economy diversification.



Eco-Town for Leicestershire, UK

The masterplan and sustainability strategy was one of the proposals shortlisted by the government as the first generation eco-towns in the UK. The proposed eco-town will be a mixed use settlement of 15,000 dwellings, linked to Leicester by a rapid transit route, making a significant contribution to its regeneration.

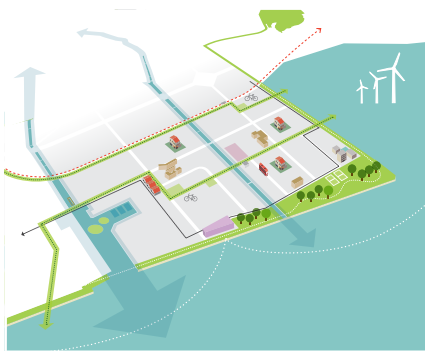
The primary challenges in the design and planning of an eco-town within this context are climate change, unsustainable lifestyles and the unaffordable cost of housing. The creation of new sustainable communities is underpinned by the innovative approach to the incorporation of the surrounding landscapes into the day-to-day activities of the residents. The strategy to create a town which is a 'living ecology' is supported by adopting urban farming techniques, eco-tourism and leisure activities and a range of environmental protection measures.



Wanzhuang Eco-City, China

This masterplan provides new housing for 400,000 inhabitants incorporating 42 existing villages and significantly preserving agricultural production. It redefines urban-rural linkages and promotes sustainable farming practices with reduced resource demand and increased yields to generate economic and social benefits for existing and future residents.

This ambitious masterplan promotes sustainable peri-urban residential models that harness rural landscape and lifestyle as an attractive part of contemporary living outside large metropolitan centres. The proposed innovative farming techniques, building on local skills are central to creating economic opportunities for the existing resident population. The masterplan balances the need for new development in a fast growing region with the retention of agricultural production as an integral part of living and working environments.



Urban strategy, Tokyo area, Japan

This high level strategy sets out a vision for redeveloping an urban area after the damage caused by the 2011 earthquake, integrating post-disaster resilience, urban regeneration and economic growth. The spatial framework and implantation projects recommended create an exemplar smart community that connects the city with Tokyo Bay's emerging economic transformation.

The spatial framework revolves around four themes: community and identity; education and knowledge; environment and nature; and economic growth. It sets out strategies for reducing upfront investment, creating incremental change, harnessing cross-disciplinary synergies, and formulating a clear implementation roadmap. Supported by quick win strategies, the new vision will deliver improved environments that respond to local needs while creating an exemplar for future smart developments in Japan.

Tottenham Investment Framework, London

The vision for Tottenham is to transform the area into an exemplar London neighbourhood. By 2025, Tottenham will accommodate 10,000 new high quality homes and 5,000 new jobs sustained by almost a million square feet of employment and commercial space.

The proposed regeneration strategy is founded on the promotion of social enterprise and employment, housing estate renewal, and infrastructure improvements. It includes the preparation of an overarching Physical Development Framework, production of area based action plans, development of masterplanning design, facilitation of stakeholder consultation, development of retail and workspace studies, and drafting of asset management plans. The strategy forms the basis for the Tottenham Regeneration Programme and is a central tool to facilitate discussions between investors and development partners. The strategy helped to secure a £500m government borrowing guarantee for housing and transport investments in Tottenham.



Environmental Design

Reconnecting people with nature to enrich lives and well being



Crystal Palace, London

The new Crystal Palace will be a major cultural attraction on the site of the original Victorian building, which burned down in 1936. The new plans for Crystal Palace include the full restoration of the surrounding park based on the original landscape design and planting scheme. The main works planned for the park include the restoration of the central tree-lined boulevard and concert bowl, the improvement of access from public transport, the introduction of new lighting, and the construction of retail and leisure facilities and a visitor centre.

The masterplan for the new Crystal Palace has been closely developed with the GLA and highly regarded experts to define the programme and form of the new iconic building and its park setting. The ground floor of the building will be a new cultural space for visitors from London, the UK and all over the world. The park will be strongly integrated into the ground floor of the building and create an enticing contemporary landscape setting for London's new 'international' emblem. The building will be constructed using the most advanced structural design tools and materials to showcase innovation and 'newness' to the world.



Jeddah Central District, Saudi Arabia

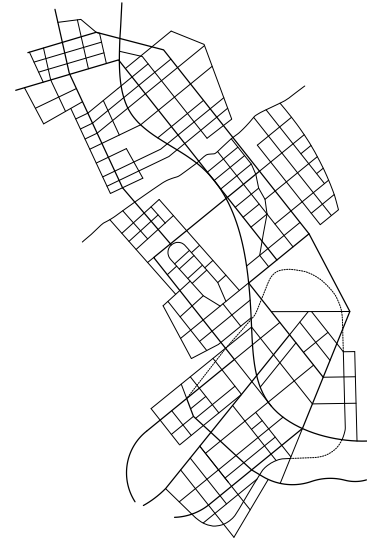
This integrated masterplan creates a sustainable development vision for Jeddah which includes the regeneration of the city's historic core and the transformation of the waterfront. The project represents a turning point in the planning of urban growth in Saudi Arabia, becoming a benchmark for environmentally sensitive, low carbon development.

The masterplan for the Jeddah Central District is underpinned by an innovative clean water strategy for the bay, unlocking development potential of the city's historic centre. The waterfront development includes a new, iconic residential and mixed-use proposal for the offshore barrier reefs which assist in water circulation and the process of cleaning the bay.

Down Ampney, Gloucestershire, UK

This visionary masterplan offers a new regional development model for sustainable communities. The vision proposes a new water-based economy set within a series of man-made landscapes from the quarrying industry, these revolve around the potential of new agricultural production, low carbon energy system and organic food research facilities.

The masterplan is located within the Cotswolds rural setting and capitalises on the recent transformation of the historical landscape. The proposed development strategy addresses the need for a proactive approach to the sustainable transformation of the area in order to achieve a long-lasting spatial legacy for local residents. The masterplan draws upon economic development strategies suggesting regional eco-tourism and food production as new economic drivers for the area. It also seeks to benefit from new regional transport networks to link the area more dynamically with its regional context.



Northstowe, Cambridgeshire, UK

Located within the unique fen landscapes of Cambridgeshire, Northstowe will become an exemplar new town in the UK, delivering 10,000 new homes and employment closely related to Cambridge's knowledge institutions and innovation industries. The new town promotes a sustainable lifestyle based on green modes of transport and smart technology.

Underpinned by the ongoing need for housing and economic growth in the region, the redevelopment of the 425ha brownfield site will become a prototype for new towns in the UK. Northstowe is designed around multi-functional green spaces which structure permeable and well-connected residential areas by incorporating a rich network of footpaths, bridleways and byways linking to adjacent towns and the wider landscape. Through innovative environmental design, Northstowe will create a high-quality living and working environment.

Preston Beach, WA, Australia

The integrated masterplan for Preston Beach offers a cutting-edge vision for the development of new communities in one of the world's most distinctive, environmentally protected areas along the coast to the south of Perth. The masterplan is guided by innovative environmental strategies to proactively mitigate climate change risks and protect unique ecological systems.

Set at the heart of a national park, the new development will offer homes, employment, retail, learning and community facilities, supported by a major infrastructure investment. Because of its unique and highly sustainable relationships with the environment, Preston Beach will be the first settlement of its kind in Australia.

Mobility and Infrastructure

Linking places and regions to create new opportunities for people



Stratford City, London

The masterplan for this new metropolitan Centre in London played a significant role in the city's successful bid for the 2012 Olympic and Paralympic Games. Today, following the Olympic Game, Stratford City provides the foundation of legacy plans for the area surrounding the Queen Elisabeth Olympic Park, which acts as the pivotal point for redevelopment.

With the majority of Stratford City completed prior to the start of the Olympic and Paralympic Games in 2012, the masterplan has proved to be a highly resilient development framework capable of delivering a novel, high-quality and sustainable piece of city within a dramatically-changing urban context. Balancing the pursuit of quality design, operation efficiency and development flexibility with challenging economic conditions continues to be the key story behind the transformation of one of the most engaging places in London.



Zuidas, Amsterdam

The vision, strategic regeneration and guiding development principles for the Zuidas district consolidate the delivery of some of the most ambitious and complex urban projects in Europe. It involves the relocation of one of the country's busiest transport infrastructure corridors below ground in order to create a sustainable and dynamic piece of city with new land uses, open spaces and amenities.

The delivery of mixed-use development and large-scale infrastructure is guided by a range of innovative spatial and economic strategies supported by cutting-edge engineering. The successful integration of this new business district in Amsterdam's historic city fabric provides the cornerstone for a timeless and long-lasting development for Zuidas.



Baku City, Azerbaijan

The vision and spatial strategy for Baku present a turning point in the growth of the city as part of Azerbaijan's transition towards a post-oil industrial economy, as well as an urban development model for other oil economies across the Caspian region.

A series of new districts are designed to strengthen urban economic processes and sustainable living patterns in order to bring about vibrant urban change in Baku towards 2030. Central to the overall development strategy are green spaces, soil and water remediation measures built into the design of open areas and a network of lakes that provide Baku with a new identity and renewed urban fabric.



The International Quarter, Stratford, UK

Located at the heart of Stratford City and overlooking the Queen Elisabeth Olympic Park, the masterplan for this new business district provides a unique place for workers, residents and visitors alike. Unrivalled in connectivity and high-quality open space, this 6.8ha world-class mixed-use environment is central to the implementation of the Olympic Legacy Plan for the wider area and set to become London's new premier business destination.

The robust and flexible masterplan will deliver a commercially viable, resilient, and truly sustainable district around three distinct public spaces, each one with a unique character. Excellent linkages across the site and efficient access to world-class amenities and public transport will help setting new standards in environmental sustainability.



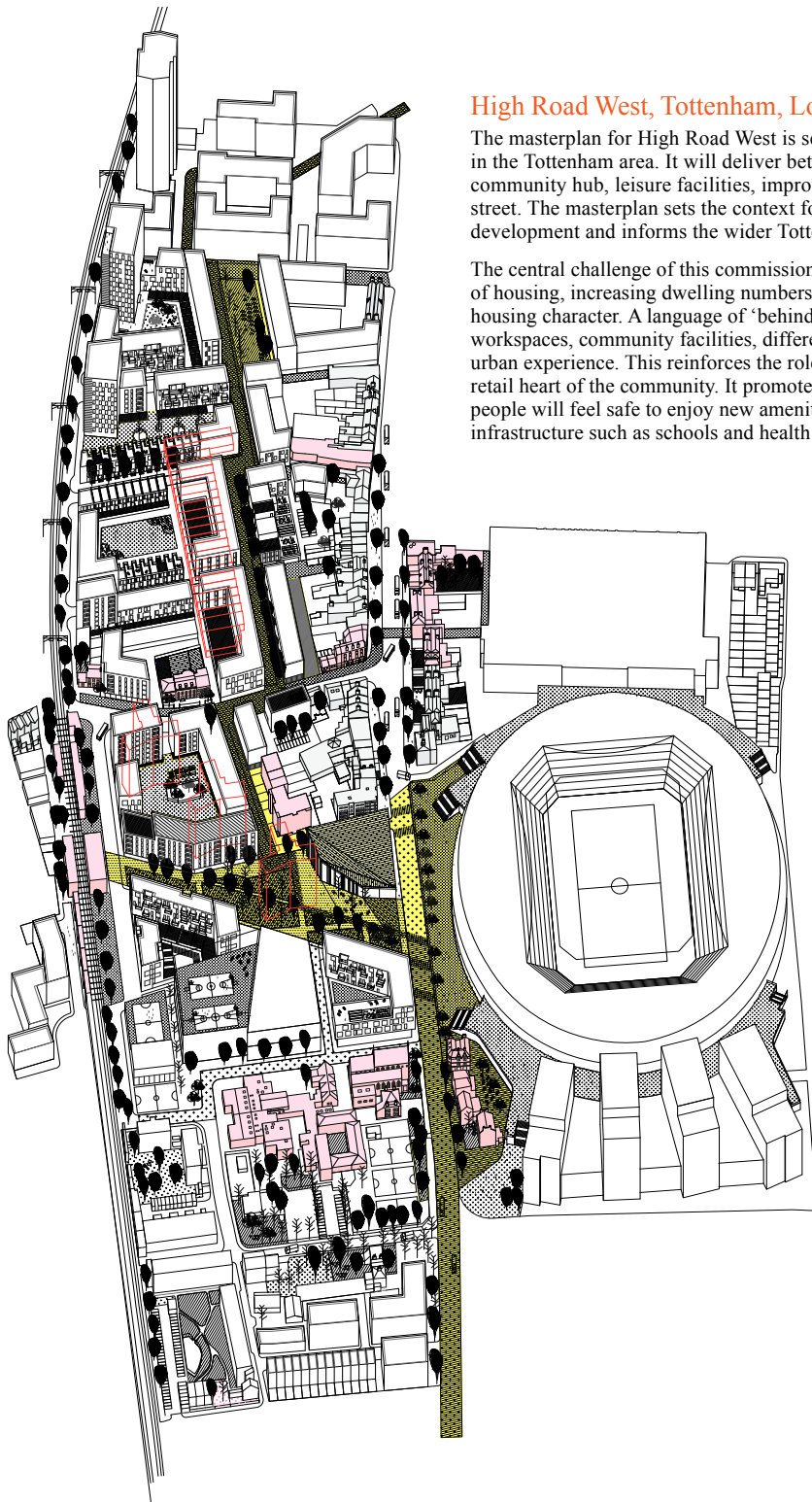
Ebbsfleet, Kent, UK

The masterplan for Ebbsfleet capitalises on the international railway station's strategic location as a gateway to Europe for developing a world-class regional centre. The dramatic post-industrial quarry setting that characterises the area creates a series of unique locations for living, working and recreation critically supported by high-speed and sub-regional rail services.

The proposal comprises 17 million sq ft of mixed-use development, 10,000 new homes, 6 million sq ft of commercial offices, 3 million sq ft of retail, and leisure and community facilities. The total programme will be distributed across different development zones in the site varying the scale, mix and density of uses for catering a diversity of users. The integration of state-of-the-art mobility systems and mixed-use development zones creates an opportunity for the area to become the new heart of the Thames Gateway.

Community, Education and Sports

Creating diverse and healthy communities to enrich the social fabric of places



High Road West, Tottenham, London

The masterplan for High Road West is set to become the guiding strategy for wider regeneration in the Tottenham area. It will deliver between 900 and 2,500 new homes, 700 jobs, a new community hub, leisure facilities, improved railway station and a reinvigorated High Road street. The masterplan sets the context for the new Tottenham Hotspurs Football Stadium development and informs the wider Tottenham Physical Development Framework.

The central challenge of this commission has been to balance the demands and diversification of housing, increasing dwelling numbers and mix without losing Tottenham's socially driven housing character. A language of 'behind the High Road' has been developed – a fine grain of workspaces, community facilities, different types of housing and open spaces – to layer the urban experience. This reinforces the role of the High Road as a primary artery and also as the retail heart of the community. It promotes local neighbourhoods and creates public spaces where people will feel safe to enjoy new amenities and activities. It matches the provision of social infrastructure such as schools and health facilities with a growing population.



El Hassan Science City, Amman, Jordan

El Hassan Science City (EHSC) is envisioned to become a globally recognised research, scientific and learning environment focused on the development of solutions to critical issues of human existence and human rights that transcend boundaries of politics and religion.

Founded on the principles articulated by his Royal Highness Prince El Hassan bin Talal, EHSC was inaugurated on April 17, 2007 by His Majesty King Abdullah II. Its objective create knowledge-based clusters and innovation workspaces that develop Jordan's science and technology. This new scientific and technological setting, including applied research facilities and entrepreneurship and Information and Communication Technologies (ICT) education spaces, is set within a 95-acre site in Al Jubaiha Amman adjacent to the Jordan University.



King Abdullah Sports City, Saudi Arabia

King Abdullah Sports City (KASC) is a world class multi-sports, cultural and educational facility, promoting the Kingdom's economic, social and health agendas through sports. The landmark 900ha project, located 55km north of Jeddah, will be a world class sports city including a range of multi-functional sports, recreation, cultural, medical and training facilities. It will be the major elite sports centre in the country as well as an iconic destination attracting visitors and major events from all over the world.

KASC has been designed to be an innovative architectural masterpiece in accordance with the highest international standards. It is planned to be an integrated city, designed with longevity, flexibility and optimum utilisation all year round. All the sports facilities are designed to the highest environmental standards, using passive design methods to deal with the harsh local climate. From a cultural perspective, KASC has been designed as a catalyst for inclusive communities, promoting openness and equality through sports.



NOMA (the Co-operative), Manchester, UK

Known as the Northern Gateway to Manchester, the masterplan for this strategic 20 acres city-centre site creates an inspiring European benchmark for responsible and sustainable development. The unique vision has become a catalyst for further investment, regeneration and job creation in the area.

The competition-winning scheme incorporates a range of innovative strategies including a downgrade and re-routing of the inner ring road to facilitate sustainable means of transport, contemporary extensions and renovation of listed buildings and world-class and low-carbon public realm. Phase 1, which comprises the Co-operative Group's BREEAM outstanding new headquarters and a new public square, is currently complete. A digital masterplan and knowledge-based space activation strategies are currently planned to guide the next phases of the development.

Singapore Sports Hub, Singapore

Singapore Sports Hub is a new mixed-use district and landmark sports destination, forming a significant part of the transformation and new identity of the Greater Marina Bay area. The Hub is Singapore's focal point for sports and recreation, with capacity to stage large-scale, local and international events.

The competition-winning and innovative masterplan creates an integrated mega-structure that pushes the boundaries of structural and environmental design. With an elegant 312 metre dome, Singapore's new stadium will be the largest free spanning dome in the world. The stadium will also be the first naturally ventilated stadium to have an integrated cooling system, with energy-efficient technology delivering cool air to every single seat. The retractable roof will provide shade and shelter from the tropical weather and will open up the iconic vista towards the Singapore skyline.

Smart City

Creating knowledge-based communities to leverage the potential of the digital age

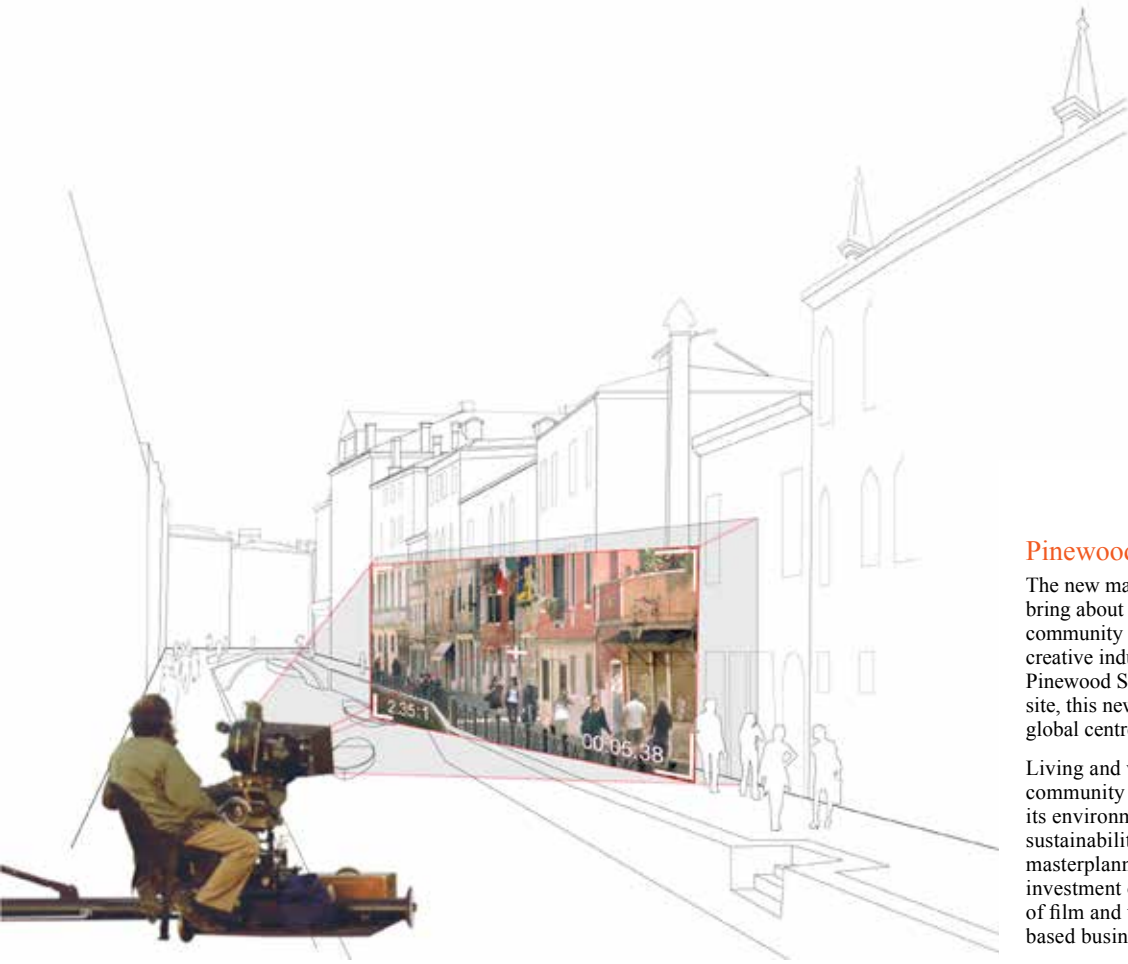


Low 2 No, Helsinki, Finland

The sustainable masterplan developed for SITRA (the Finnish Innovation Fund) brings together urban concepts, environmental technologies, carbon-negative initiatives and economic strategies that render the city as a Living Factory of Ecology, creating a replicable model for delivering a zero carbon district in Central Helsinki.

The sustainability assessment and cost-benefit analysis undertaken to support C_Life's development plans offer low-carbon living, leisure and innovation environments estimated to reduce carbon footprints by 37% in 2012 and by 43% in 2037 in relation to other living areas in Helsinki. An offsite wind farm will offset the remainder of the carbon emissions, making C_life carbon negative by 2021.

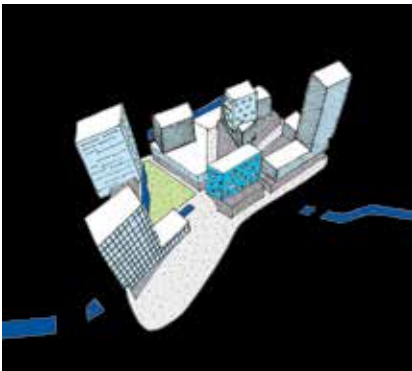
©Sauerbruch & Hutton Architekten



Pinewood Studios, London

The new masterplan for Pinewood will bring about a sustainable living and working community around the film, television, and creative industries. Closely connected to Pinewood Studios and set within a green belt site, this new 'green' community will form a global centre for media and creative excellence.

Living and working in the new Pinewood community will be enriched by the quality of its environment and the benefits of its in-built sustainability generated by an integrated masterplanning process. It will promote investment opportunities for different scales of film and television production, knowledge-based businesses and learning.



Lewisham Gateway, London, UK

The masterplan for Lewisham Gateway transforms a major transport interchange into a mixed-use, contemporary environment, becoming the heart of one of London's growing urban centres. The masterplan for this strategic gateway site unlocks development potential across the wider area through the incorporation of smart mobility infrastructure with attractive living, working and recreation environments.

The design strategy for this highly constrained site involves a complete reorganisation of the transport network to release two hectares of land for new development. The linking of the site with the adjacent railway viaduct becomes the main spatial feature for this new sustainable urban area. Reinforced pedestrian connections to the surrounding parks ensure that the new development becomes an integral part of this knowledge-based urban fabric.



BSkyB, London

The masterplan for BSKyB's headquarters in Osterley Park, London is based on a simple but powerful concept of creating a central spine for pedestrian circulation, people gathering and amenity, as well as consolidation of all critical electrical and mechanical services to support this globally renowned broadcasting facility.

The proposed spine will be the central factor in boosting BSKyB's identity as a modern, desirable and attractive place to work. The flexible spatial framework for BSKyB's upgrading and expansion is founded on a 10-year implementation strategy that allows for uninterrupted day-to-day broadcasting activities. BSKyB's corporate sustainability is fulfilled by the creation of green roofs on all new buildings, a canopy structure harnessing rain water for irrigation and a central heating and power plant (CHP) for energy production and efficiency.



Al Jazeera, Doha, Qatar

The design for the heart of the Al Jazeera campus in central Doha integrates façade design, landscape and shading structures to create both the cinematic backdrop for a television studio and a new place for employees and visitors to socialise and connect. It provides a new focal point for the city and creates a unique identity for the Al Jazeera brand seen by millions of viewers worldwide.

The different elements set up a clear vista for the news programme, provide an access route sheltered from camera view and create a micro climate allowing for extended use of the open space in the hotter months. At the same time they address issues around glare and direct sunlight exposure to offer more flexible viewing angles from the studio. An integrated lighting strategy creates both a unique atmosphere at night and caters for the specific requirements of TV broadcasting.



Singapore Sports Hub was commended by the Jury for

“its exemplary masterplanning vision, engineering solutions and handling of diverse program scales – [in order] to generate an important new addition to Singapore, which will be open to all.”

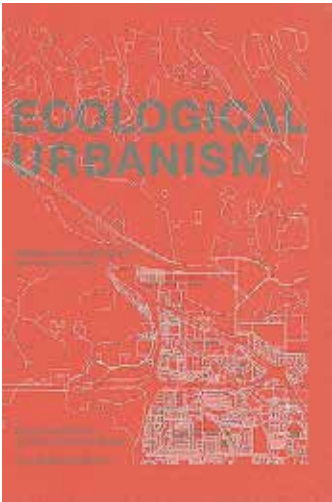
Singapore
Sports Hub,
Masterplanned
by Arup

World Architecture
Festival Winner:
Future Projects
category Singapore
Sports Hub (2013)

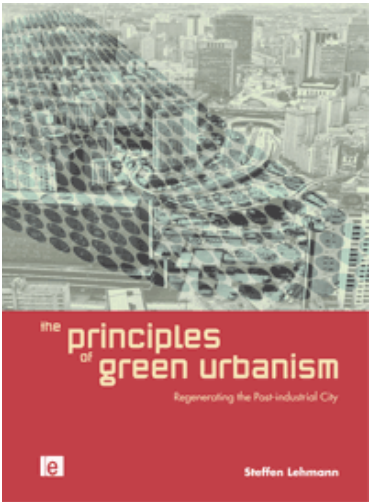
Publications

2009 Architecture
+ Urbanism, on Arup
Sustainable Buildings

2009 Ecological
Urbanism



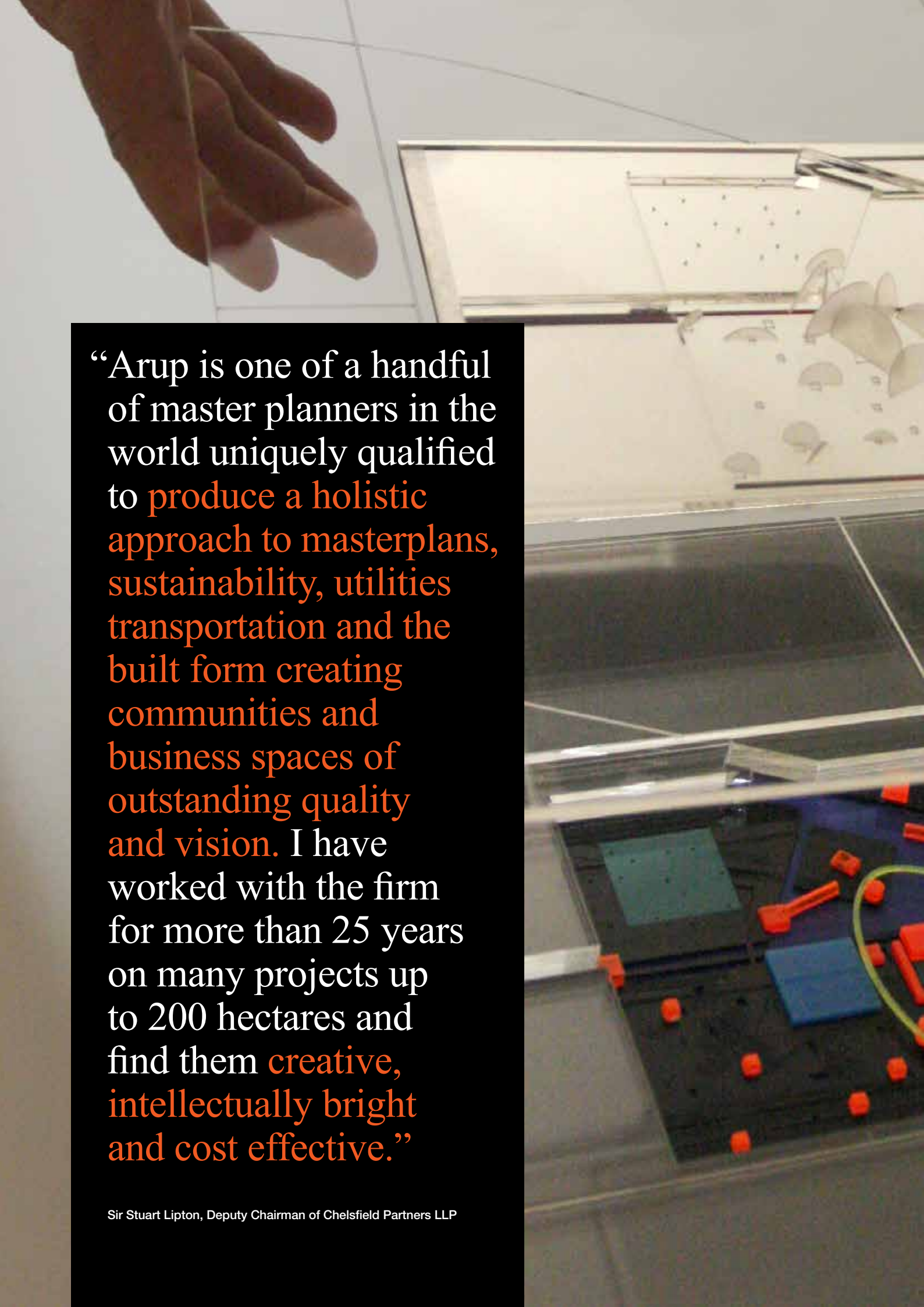
2010 The Principles
of Green Urbanism



2010 My Green City,
Back to Nature with
Attitude and Style

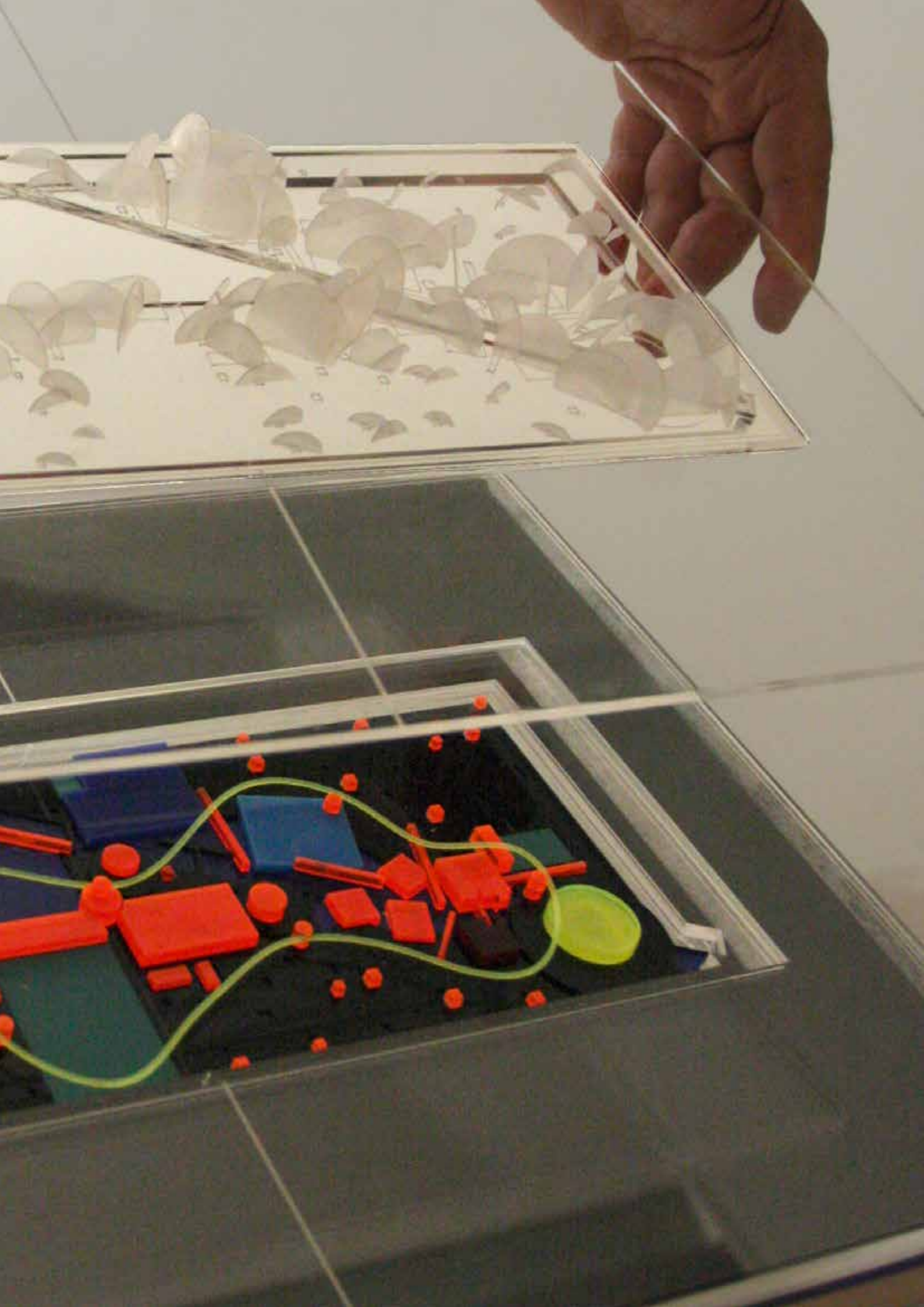


2013 Drivers
of Change

A hand is visible in the upper left corner, pointing towards a display case. The display case contains several architectural models, including a large white model of a building with a grid of windows and a smaller model with blue and orange components. The background is a light-colored wall with a grid pattern.

“Arup is one of a handful of master planners in the world uniquely qualified to produce a holistic approach to masterplans, sustainability, utilities transportation and the built form creating communities and business spaces of outstanding quality and vision. I have worked with the firm for more than 25 years on many projects up to 200 hectares and find them creative, intellectually bright and cost effective.”

Sir Stuart Lipton, Deputy Chairman of Chelsfield Partners LLP



Arup is the creative force at the heart of many of the world's most prominent projects in the built environment and across industry. We offer a broad range of professional services that combine to make a real difference to our clients and the communities in which we work.

We are truly global. From over 90 offices in 38 countries our 11,000 designers, planners, engineers and consultants deliver innovative projects across the world with creativity and passion.

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