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# Magnet cities

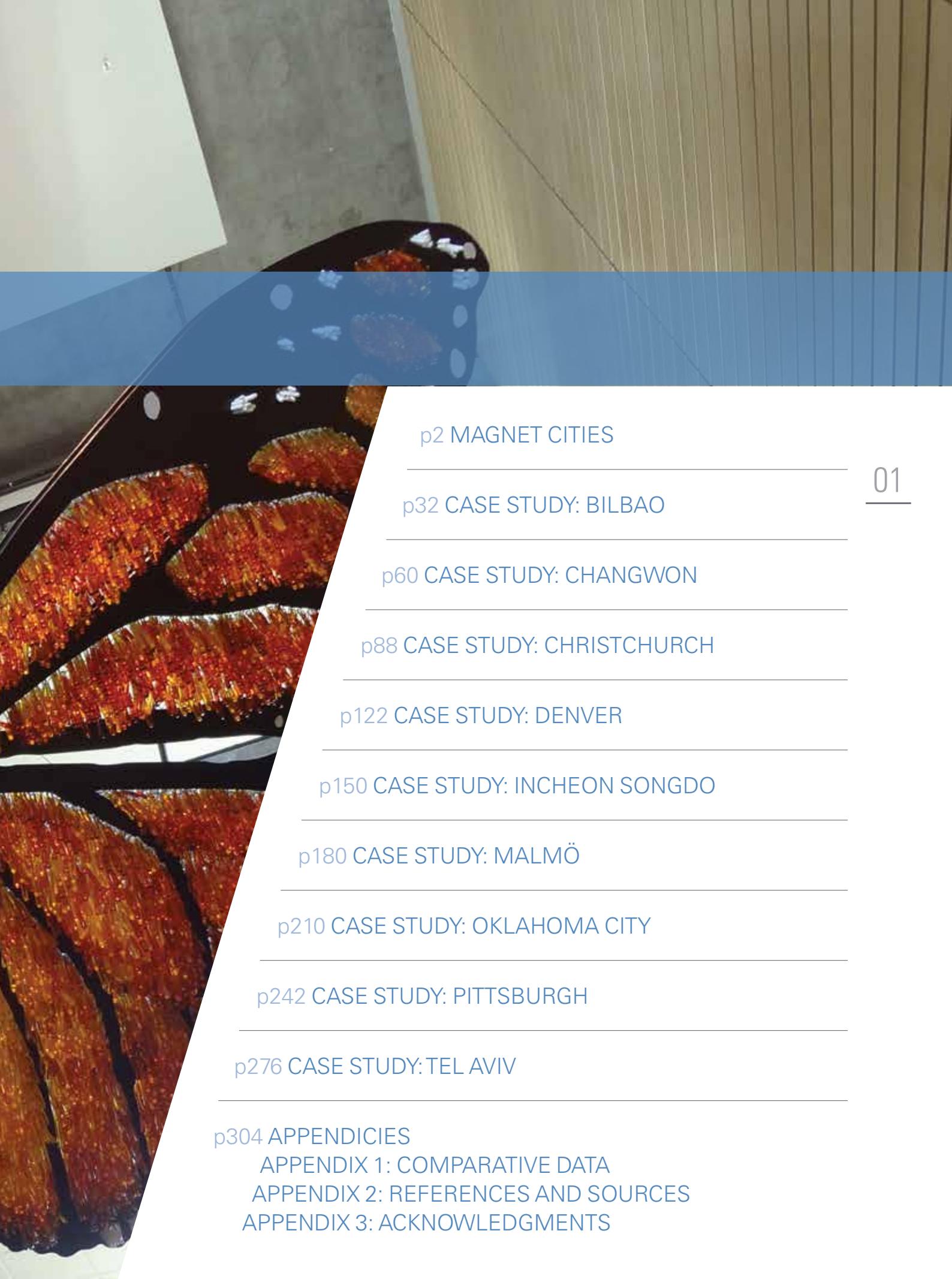
Decline | Fightback | Victory

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# INTRODUCTION

Cities are like magnets. Just as magnets can either attract or repel, so can cities. A city with a strong magnetic pull draws in new residents, visitors and business investment. People, ideas and money mix and ferment in magnet cities, like hops and grain in a beer barrel. Magnet cities bubble over with new ideas that help to establish new businesses, social networks and infrastructure. Restaurants, shops and bars blossom. Visitors appear and spend money. Big business is lured in by the buzz and new operations are established in the never-ending battle for talent. New jobs are created. The city's economy grows.

Equally, cities can also repel. A city with magnetic push casts off residents and businesses as people pack their bags and move to cities with greater magnetic pull. As the population declines, businesses shut down or move their operations elsewhere. The downtown urban core becomes blighted as restaurants and hotels close down. The city's economy shrinks.

Just like magnets, cities seem to have only two states: positive or negative. Cities tend to either grow or shrink. There is no such thing as a neutral magnet; nor is there a neutral city.

Large global cities like London, New York and Hong Kong exert worldwide magnetic pull. For centuries they have drawn in people from all over the world. Even when global cities face difficult times, as London did in the 1970s, or New York did during the 1980s, they continued to attract people from far and wide. People were still drawn to the economic opportunities, interesting mix of residents, global landmarks and arts & culture that bubbles away furiously in global cities.

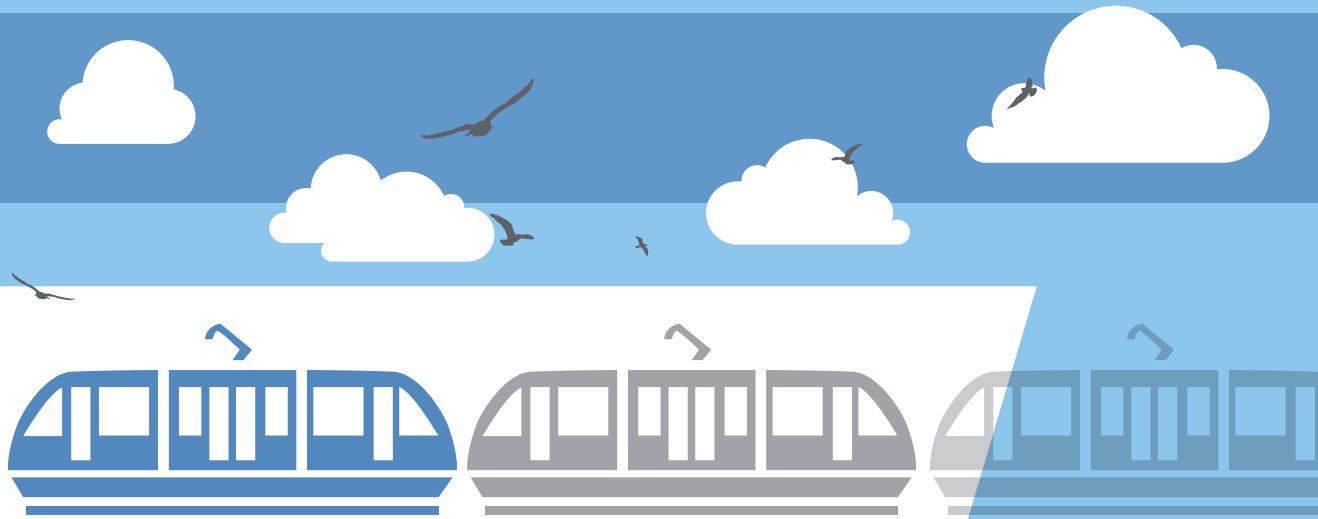
But the world is not just made up of global cities. In the developed world alone there are over 200 major cities<sup>1</sup>. And just like magnets, some of these cities are positive and some are negative. Some cities attract new residents and businesses and grow. Others cast off residents, forfeit jobs and investment and shrink.

The 200 plus cities across the developed world are either positive or negative magnets, some win at the expense of others.

If we look back over time, we can see that many cities have shifted magnetic orientation over history. Cities like Detroit and Cleveland that grew quickly during the first half of the 20th century have now become negative magnets, casting off residents and industry. Other cities like Malmö in Sweden and Bilbao in Spain have switched magnetic orientation twice. These were both major industrial cities that fell into spirals of decline and then managed to flip the switch to become vibrant and attractive once again. However, this is a difficult trick to pull-off. Not only must cities find ways to strengthen and maintain their own magnetism, but they must remain competitive against the changing magnetic pull of neighbouring cities as well.

It is important to have strong, healthy and well-functioning second (non-capital) cities. Smaller cities can offer a different pace and quality of life than the hustle and bustle of global and large capital cities. Yet they still provide the educational, cultural and occupational opportunities people seek. Businesses still benefit from large labour pools and local supply chains. And if designed and run well, they should be more environmentally efficient. Social networks should be stronger and provide greater support.

Yet today, many second cities are negative magnets. And some cities with a positive magnetic force find that their magnetic pull is overwhelmed by that of neighbouring global or capital cities. For instance, in the UK, cities find it difficult to compete against the super-strength pull of London. Cities like Sendai in Japan or Marseilles in France find it difficult to compete with Tokyo or Paris. The answer is not to lessen the pull of these large successful cities. It is to strengthen the magnetic pull of second cities in order to give people and businesses a valid choice. After all, not everyone wants to live or work in highly populated, super-busy, large cities. So what can be done to help second cities across the developed world improve their offer? How can second cities increase their magnetic pull? And is it possible to transform a negative magnet city into a positive magnet city?

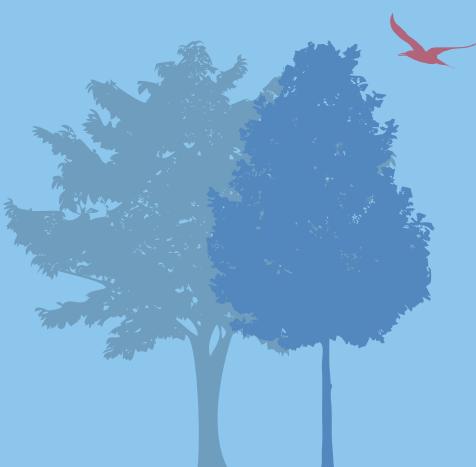


These were the questions we set out to answer in this research. We found nine developed cities around the world that have successfully flipped their magnetic switch. These cities once repelled people and were stuck in a seemingly intractable cycle of decline. They undertook bold experiments and huge risks to flip their magnetic orientation. Today they are fast-growing cities with economic growth that outstrips the national average.

Our focus was on developed cities; developing cities face a unique set of challenges around building infrastructure to meet the needs of a quickly growing population. Through extensive interviews with the political leaders, business people, community leaders and residents in each of the cities, we hoped to isolate the principles, decisions and investment tactics used to successfully turn these developed cities around. We chose these cities because they have made such extreme changes; because they were cities that have turned their magnetic push into magnetic pull. If the approaches used by these cities worked in such extreme circumstances, we believe they can be applied by second cities across the world. This includes cities that are successful today but would like to be more magnetic, as well as cities that are negative magnets.

We seem to be entering a fruitful era of city-based thinking and experimentation. In addition to the nine case studies, we came across a range of interesting city experiments. For example, in Zurich, the creation of Zurich West, a new neighbourhood aimed at artists and creatives, is a great example of how to create a new district with an entirely different economic base in a well-established city. In Berlin, the establishment of Happpinzolz, a new collective district, provides an interesting model for urban co-ownership neighbourhoods. The refashioning of an entire river-front in the Indian city of Ahmedabad has created a new modern, urban core in the middle of an old-fashioned city.

Over the following pages we outline the guiding principles identified in the nine case studies which we hope second cities around the world will use to rethink their fundamental purpose and the basis of how they compete.



# WHAT IS CITY MAGNETISM?



Seattle, USA

“...sometimes second cities become hotbeds for particular groups of people; the buzz about a city then explodes into regional, national or sometimes even global mass consciousness.”

City magnetism is difficult to define, let alone capture statistically. Simply put, sometimes second cities become hotbeds for particular groups of people; the buzz about a city then explodes into regional, national or sometimes even global mass consciousness. Seattle in the 1990s became known as a city that stood for coffee, Frasier and high-tech jobs. Despite the rainy climate, young IT graduates and young professionals flocked to the city to live a Seattle life of programming in Microsoft-styled start-ups and drinking coffee. Austin in the 1990s became known as a city that stood for beer, barbecue, film and music. Again young film school graduates and aspiring musicians from across the country descended into the city. The city quickly cemented its reputation as an alternative to Los Angeles; the capital of independently financed (as opposed to studio financed) film and music.

When the reputation of a city and what it stands for blow ups in the public consciousness in this way, it can seem random. But it usually happens one of two ways. It can happen organically as was the case with Austin<sup>2</sup>. Or it is the result of concerted hard-work by city leaders, universities, businesses and residents, as was the case in Seattle<sup>3</sup>. But regardless of the cause, the effect was the emergence of two cities with a strong magnetic pull. Both cities drew-in a specific group of target residents and as a direct result, new funding and jobs followed. This is city magnetism.

But be not mistaken. Population growth in a city does not automatically mean it is magnetic. We are living in an age of mass migration. Tens of millions of people move from country to country every year. Many of those move to cities. Population growth in a city is only a by-product of magnetism if it is complemented by economic growth. Alternatively, there are examples where cities have a declining population, but are magnetic cities with strong economic growth.

For example, Pittsburgh has had a declining population for more than a decade. Yet, it has emerged as a hotbed for university-led research start-ups that is drawing new residents into the city, creating new jobs, increasing tax receipts and city-wide investment that benefits all.

What did all of these cities, as well as our nine case study cities have in common? All of the cities with magnetic pull or buzz became highly attractive to a specific group of educated, ambitious and energetic young people. Young people had moved into the city and got working. Some took existing jobs in the city. But many started to create the jobs of the future; i.e., they created *new* jobs. Austin's new young residents made movies and music videos financed out of New York and Los Angeles.





## What is city magnetism

Pittsburgh's young residents worked in the labs at Carnegie Mellon University (CMU) on new research that so intrigued Steve Jobs of apple, he slept on a couch for two weeks and watched; shortly after he bought a young CMU spin-out called Bluefish and opened a new apple R&D facility in the city.

It is an inelegant term, but all of these young people can be described as young wealth creators. They are the people who create the jobs of tomorrow and with that, a city (and nation's) future wealth. The more young wealth creators there are in a city, the more that city will be assured of long-term economic growth. As existing (and some new) city residents fill existing city jobs, the young wealth creators create new net additional jobs. If a city can hold onto all of its existing industry and business jobs, these net additional jobs will drive future net additional economic growth. If a city cannot hold onto its existing industry and business jobs in the future, these net additional jobs will insulate against future economic decline.

This is not a new phenomenon. Throughout the ages young wealth creators shaped many of the most dynamic cities throughout history. Energetic and ambitious young immigrants from Ireland and Italy helped to transform New York City into a centre of trade and commerce. The influx of Huguenots from France into London's East End brought a new era of wealth as the area became a hub for textile manufacturing and silk weaving. American cities like Pittsburgh and Detroit were built on the ideas of young wealth creators like Andrew Carnegies and Henry Ford.

So who are today's young wealth creators? They include high-tech and low-tech entrepreneurs, researchers, designers, engineers, biologists, physicists, artists, bloggers, filmmakers, musicians, digital animators, food experimenters, app designers, games designers, clean-tech advocates, those that spin-out from existing businesses or identify and grow new industrial niches. And not all of these young wealth creators sit in the new economy; they include chemical engineers, mechanical engineers, accountants and those that specialise in advanced manufacturing.



Pittsburgh, USA

It is a wide ranging group. And second cities with the greatest magnetic buzz are not attractive to all young wealth creators, but rather to specific cohorts of them<sup>4</sup>. And clever cities think about the young wealth creators of tomorrow, just as companies think about the needs of tomorrow's customers. It is not sufficient to just mimic the successes of other cities. Very successful second cities become urban capitals for specific young wealth creating cliques. And intriguingly all nine case study cities also understood the importance of young wealth creators and city magnetism. All nine cities specifically set out to make their cities attractive to specific groups of young wealth creators. They instinctively understood that to halt the cycle of decline, a new generation of young and ambitious residents would need to be brought into the city (and kept in the city) to kick-start the recovery. The cities also instinctively understood that they would first have to refashion and sculpt their city into a physical place with a culture and atmosphere that this new generation would be drawn to.



And above all these cities understand they are in a global competition – just as companies compete to gain new young customers, so must today's cities.

Statistical analysis supports the importance of young wealth creators to a city's economic growth. To test the theory we constructed a dataset covering over 160 second cities around the developed world that included net GDP growth as well as a range of possible indicators of the presence of young wealth creators in a city<sup>5</sup>. These included the proportion of residents in the city aged 20-34; the logic being that cities that attract young wealth creators have a higher proportion of young people than average cities. The number of patents per 10,000 people was included as an indicator that the population was more heavily focused on research, R&D and start-ups and therefore likely to be young wealth creators. The growth rate in the urban core was included as an indicator of young wealth creators as their preference is to live in refashioned downtown areas, rather than suburbs or commuter belts.

It turned out that there is a strong and positive correlation between the variables that indicate a high proportion of young wealth creators living in a city and the city's economic growth rate<sup>6</sup>. The presence of young wealth creators correlates to a city's economic growth. But as all good statisticians know, correlation does not necessarily indicate causation. And this is why the nine case studies are important. The stories of these nine cities show that relentless focus on attracting young wealth creators into the cities led directly to economic growth. In other words, they suggest there is causality between attracting young wealth creators and economic growth.

So how does a city become attractive to a new generation of wealth creators? How can a modestly successful city today, turn itself into a magnet city of the future?

# THINK LIKE A MAGNET CITY



## "The competition for young wealth creators is growing fiercer."

Be warned. The competition for young wealth creators is becoming more fierce. Large global cities have long understood they need to keep one eye on securing the best and the brightest of upcoming generations if they are going to remain on top. As a result these cities have undertaken extensive research on what makes the 20-34 year old, high achiever tick<sup>7</sup>. The young and ambitious care deeply about sustainability and the environment; they embrace physical fitness and outdoor pursuits; they are foodies and enjoy artisan food, drinks and cocktails; they get stuck into neighbourhood and civic networks; they are attached to multiple electronic devices simultaneously. Global cities absorbed these facts and then went to work.

For example, New York's Mayor Bloomberg spoke often of the 'sixth borough', the term he used to describe the 520 miles of ocean, inlets, rivers and bays he refashioned into bike paths, kayak and canoe routes as well as the High-Line walkway that looks over the Hudson River, all designed to attract talented young people into the city<sup>8</sup>. Singapore was refashioned into a 'vertical garden city' that includes a vertical farm that grows sustainable food and which is sold in the city's grocery stores. Singapore's leaders understood that to attract and retain younger global talent, the city itself would need to adopt similar values. In London, the Mayor and the UK government have supported the development of Tech City, a high-tech start-up cluster geared at twenty-somethings located in a previously under-utilised part of the city.

It is this constant evolution that makes global cities so magnetic to the young. And the beauty of New York and Singapore's projects is that whilst they were designed to appeal to the urban young, the entire city population benefits from them. The decision to spend money on infrastructure and projects designed to attract the young, like bike paths and reclaimed water fronts, does not have to be a zero sum investment (that is at the expense of something older residents would prefer). When done well, the entire city benefits.

Many cities will argue they have tried this approach and it hasn't worked. For instance, some UK northern cities have invested great sums of money on physical and infrastructure developments that were arguably geared to the young. Old docks were refurbished and filled with restaurants, bars and clubs; city centres were filled with new expensive developments. And in many cases the city's populations grew. Yet over the last five years, the economies of most cities have contracted at a rate faster than the UK average, despite their growth in population. This is not to say the investment was misguided. But it is to say the investment was not focused on attracting a particular group of young wealth creators. The investments did not fundamentally change the way the cities were perceived by specific populations of young wealth creators around the region or country. As a result, cities continue to lose many of their home-grown young wealth creators to London's fierce magnetic pull<sup>9</sup>. Despite the increase in overall population, both cities are failing to attract or keep sufficient numbers of economically dynamic young people.

But there is no reason why small or medium sized cities shouldn't work to attract young residents with the same tenacity and confidence that global cities do. As mentioned earlier, not all young people (nor people of any age) want to live and work in large, congested and populated cities. In fact smaller cities are more suited to the ethos and values of younger generations.

But before city leaders can start to attract a new generation of young residents in, they will first need to look at their city through fresh eyes – through young wealth creator's eyes. How would *they* think the city compares to other cities?

In many cities, the results will be difficult. But this leads us to a more pointed question. If a city isn't good enough to attract new young residents, then why should current residents put up with it and live there? All it takes is for a few people to think in that way and a city's magnetic orientation can swing from positive to negative.

# MAGNET CITY PRINCIPLES



San Fransico, USA

**“Each city had faced a period of protracted, headline-grabbing crisis that forced its leaders and residents to consider the previously inconsiderable.”**

The theory of how to turn a city with magnetic push into one with magnetic pull is surprisingly simple: identify and target specific groups of young wealth creators and then refashion and leverage all of the city's assets to lure them in. It sounds easy, yet the nine case study cities demonstrate that it takes a herculean amount of time, planning, investment and energy to fundamentally reposition a city. But these were cities in the depths of despair.

And they were also cities that had no other choice. All were reeling from acute crises that threatened their futures. Bilbao and Christchurch were damaged by floods and earthquakes that decimated large parts of the city. Malmö, Pittsburgh, Changwon and Oklahoma City were in the midst of catastrophic industrial collapse. Congestion and high costs in Tel Aviv and pollution in Denver drove residents out in record numbers. Each city had faced a period of protracted, headline-grabbing crisis that forced its leaders and residents to consider the previously inconsiderable.

This made it much easier to build consensus that drastic change was needed across each of the cities. City government alone cannot reposition a city. It also takes a city's business leaders, academics and educational leaders, opposing political parties, investors, community groups and residents to buy-in to the need for change. This holds equally true for cities not in crisis, but hoping to further increase their magnetic pull.

What will be of interest to many cities is that the case study cities adopted a surprisingly similar set of guiding principles that underpinned their city reinvention programmes and made them successful.

Outlined below are the seven principles that underpin magnet cities.

## 1. Magnet cities attract young wealth creators

City leaders aspire to attract the same small group of young wealth creators; the same few names trip of the tongue around the world. Mark Zuckerberg of Facebook, Evan Williams and Biz Stone of Twitter and Sergey and Larry (no surnames needed) of Google are the dream residents of second city mayors around the world. These young wealth creators established disruptive technologies that created tens of thousands of jobs in the cities in which they were established. None of these young wealth creators were born or raised in the cities they set up their businesses. They moved there. As a result second cities around the world have set up incubators and tech start-up areas to try and lure the next generation of Mark, Evan, Biz, Sergey and Larry into their cities.

And it is easy to see why so many cities have gone down this route. When Facebook moved to Menlo Park in California it brought 10,000 new direct jobs and hundreds of millions of dollars a year in new spending power<sup>10</sup>. Twitter has recently taken space in the historic Art Deco San Francisco Mat Building. The building is slap bang in the middle of a deprived area and it is hoped that Twitter's presence will attract other companies and in turn kick-start an economic regeneration in the area<sup>11</sup>. Google has single-handedly changed the economic fabric of Mountain View, the small Californian city in which it is based. But let's be clear. It is no coincidence that these businesses were established where they were.

San Francisco has long been home to social agitators, intellectuals and risk-takers. This was the city of Haight-Ashbury<sup>12</sup> and Stanford University. The city is full of young, curious, highly educated, ambitious, experimenters. It is a hotbed of start-ups. It is no surprise that Twitter's founders moved to San Francisco to set up their business.

## Magnet City Principles

The reason for this diversion into US start-ups is to illustrate a point. There was a specific relationship between each of these cities and the young wealth creators who chose to move there. These cities provided the physical cityscapes, social networks, peer groups, restaurants, houses, investors, transport links, restaurants and bars they needed to set up their companies. And this is important for cities to understand. Simply throwing up a start-up space and a couple of new apartment blocks will not draw new young people into a city that doesn't offer anything else. A city's point of attraction must be authentic. Simply contriving a new city identity is not sufficient; it must be based in truth or the heritage of a city.

Needless to say, not every city can go after the next Facebook. There is a huge population of alternative wealth creating cliques that cities can pursue.

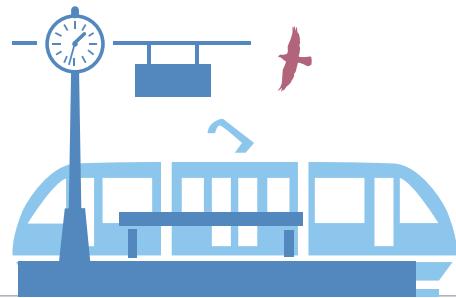
For example, Bilbao is a magnet for young people working in nanotechnology based medical devices. Pittsburgh attracts researchers in the robotics and artificial intelligence space thanks to the expertise of its universities. Songdo is a magnet for research and development in biopharmaceuticals.

Cities that successfully target particular groups of wealth creators do so because there is a logical link to the city. They then draw upon the strengths of their past and present to attract specific groups, groups that share a natural affinity with the city.

For example, Changwon is an industrial city on the south coast of Korea. For generations the city has been home to factory workers that assembled textiles and welded machinery. Over the course of the 1980s and 1990s many of these jobs were relocated to cheaper labour markets of China and Taiwan.



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Unemployment sky-rocketed and large areas of the city fell into disrepair. The city leadership decided that in order to diversify the economy they would need to attract a new cohort of wealth creators.

Changwon had also been the birthplace and home to a number of famous Korean artists and poets. The city leveraged this history to target a new generation of painters, potters, sculptors and poets into the city. Today a whole district of downtown Changwon has been refashioned into Changdong Artists Village, home and workspace to hundreds of Korean, American and European artists. The reason Changwon was able to draw so many young people into the city to work and live was the authenticity of its offer. This was a city that had nurtured and protected the memory of its artistic heritage for years. The creation of Changdon Arts Village was a natural extension of this.

Not only have the new residents created new direct jobs and brought in new money, they have changed the fabric of the city. It is now a more interesting place to live and as a result industrialists and business people are more willing to relocate into the city.

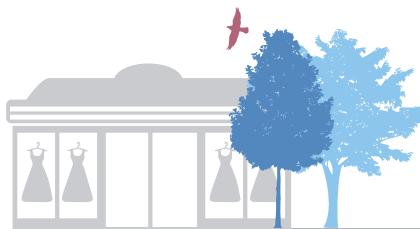
Malmö lost an entire generation when its main ship-building industry went under during the 1990s. The city leaders recognised that the only way the city would recover is if it drew young professionals back into the city. Drawing on the city's past strengths in engineering and design (the legacy of centuries of shipbuilding) the city focused its energy on attracting young sustainable-minded professional families back to the city. It is no coincidence that today Malmö is home to many fast-growing clean-tech start-ups and spin-outs.

In the 1980s Tel Aviv became too expensive and congested; the young were priced out of the housing market and many felt the cost benefit equation for living in the city no longer stacked up. Ambitious Tel Avivians left the country to set up businesses and gain international experience. To halt the city's decline, the Tel Aviv government realised they had to prevent talent from emigrating. Why should New York, Boston and San Francisco benefit from the talents of Tel Aviv's start-up generation? The city focused unrelentingly on making the magnetic pull of Tel Aviv so strong, its ambitious young would not leave. The efforts worked. In 2013 Waze, a crowd-sourcing traffic and navigation system was bought by Google for in excess of USD 1 billion, one of many start-ups coming out of the Tel Aviv start-up region<sup>13</sup>. That is why today global venture capital and investment funds go to Tel Aviv in search of new start-ups and talent; it is no longer the other way around.

In short, each of the nine case study cities identified and established a unique relationship between the city itself and the particular group of young wealth creators it aimed to attract. Successful cities do this instinctively. However, the case study cities demonstrate that a new relationship between a city and particular group can be forged, as long as the city's 'offer' is genuine.



Malmö, Sweden



## Magnet City Principles

### 2. Magnet cities undergo constant physical renewal

Global cities undergo constant physical renewal. Neighbourhoods change purpose, different areas fall in and out of fashion and new buildings are put up and torn down. Ongoing physical renewal keeps cities interesting and new. This is one of the reasons global cities stay so magnetic.

Yet many second cities do not go through the same cycle of physical renewal. When neighbourhoods or districts in smaller cities fall out of use they often lie dormant. Many smaller cities fail to evolve physically alongside the residents who use it. A time comes when the discord between the physical city and its residents becomes too great; the magnet flips from positive to negative.

Magnetic second cities adopt the same slow rhythm of physical renewal that larger global cities do. However, when a city has experienced years of physical decline and under investment, as the case study cities did, the physical renewal required to make these cities attractive again can be comprehensive. Not all cities around the world need to undergo such extensive capital programmes to improve their magnetism. With that said, too often the leaders of second cities view the urban landscape through eyes of familiarity rather than through the eyes of a city newcomer. Even cities that are healthy and attractive should consider what more can be done.

The case study cities illustrate the comprehensiveness of their thinking about physical renewal and may provide particular points of inspiration for other cities.

To begin with, all of the nine case study cities considered the state and location of their housing stock. Many young professionals favour housing in urban cores or in neighbourhoods that are linked to the urban core by quick and easy public transport. The design and sustainability features of housing is as important as its location; many prefer to live in mixed-use neighbourhoods that contain restaurants, bars, shops, offices, research space and studios.

Across all nine cities, it was understood that significant changes to the housing stock were a prerequisite to city renewal.



Melbourne, Australia

In Malmö, the old industrial docks on Western Harbour were decontaminated and developed into cutting-edge, architecturally-designed sustainable housing for over 5,000 people<sup>14</sup>. Areas of green belt land were sacrificed so a new family-friendly neighbourhood, Hyllie, could be built with direct subway links to the city centre. In Tel Aviv, strict zoning restrictions limiting all buildings to five stories were relaxed in the northern neighbourhoods of Ramat Aviv and Park Zameret to enable the private development of modern skyscrapers, favoured by young professionals, financiers and entrepreneurs. In Denver, the entire old industrial core of the downtown was rezoned and converted into lofts and apartments. In Songdo, a newly developed city in South Korea, the entire design and construction centred on creating beautiful sustainable housing built around parks and waterways. All of the cities understood that to attract new residents into a city,



Gordon Bell / www.shutterstock.com

housing is critical. The exception to this is global cities where people are willing to pay extremely high prices for very small spaces as their cost of entry. People are less willing to make similar cost benefit trade-offs in smaller cities, particularly when there are so many smaller cities to choose from.

The case study cities also put significant energy into rethinking and redesigning their downtowns or urban cores. Most cities physically grew out of their downtowns, usually the oldest part of the city historically. When cities decline, residents pack up and leave the downtown for other neighbourhoods and suburbs, leaving it ever more blighted. But a city without a strong downtown is like a cell without a nucleus. It falls apart, it loses its identity. The city becomes a constellation of abutting neighbourhoods rather than a cohesive whole. The existence of one city-wide identity becomes impossible.

Highly magnetic cities have strong and vibrant downtowns. Melbourne and San Francisco are good examples of cities with a variety of different neighbourhoods that are all knitted together by a single lively downtown area that everyone in the city uses. The case study cities prove it is possible to breathe life back into even the most neglected downtown areas.

For example, Oklahoma City's downtown core was blighted by a combination of self-imposed urban renewal in the 1960s where whole blocks were torn down and the bombing of the Alfred P. Murrah Federal building in 1995. As the current Mayor summed it up “you could shoot a gun down Main Street at 5pm and not hit anyone”<sup>15</sup>. The city carved a series of canals in the city centre that connect to the Oklahoma River.

## Magnet City Principles

Developers built new housing, bars and restaurants and created a new vibrant downtown area that draws Oklahoma City residents out into the city centre until the early hours. Bilbao's leaders understood that to make a downtown area vibrant, people must use it all day. They pedestrianised old squares and commissioned outdoor urban living rooms where people could sit. A downtown block that was once a wine warehouse was converted into a mixed use space containing a huge library, municipal swimming pool and gym, cinema and restaurants. The city's residents old and young, many of whom live with their parents until married, flock to the new spaces and fill the downtown streets until late at night. Tel Aviv converted its claustrophobic, congested streets into wide boulevards with walking spaces down the middle to encourage joggers, rollerbladers and bikers to use the downtown streets as a recreational space during hot days and balmy nights. The city redeveloped the ageing downtown waterfront which just a few years ago was barely used.

Denver is currently redeveloping Union Street railway station, its historic station in the middle of the city. The city is building a whole new quarter of apartments, restaurants and bars in part of the downtown that was once a no-go area.

The result in all of the cities has been the same. The vision and investment turned bleak downtown areas into interesting and desirable places to live or frequent. The physical renewal of the downtown has strengthened the magnetic pull of the entire city. Not everyone wants to live a downtown lifestyle, but the energy created by a city's urban core feeds the vitality of an entire city, suburbs and all. Leafy suburbs and adjacent neighbourhoods are pleasant but are essentially interchangeable between cities. It is the thumping urban core and the enthusiasms and interests of the people who live in it and use it, that gives a city its identity. Without a strong urban core, a city becomes identity-less. And given the number of interesting cities there are around the world, it then becomes very difficult for a city to attract new residents.



Arina P Habich / www.shutterstock.com



In hindsight the case study cities made the right decisions to repurpose old downtown industrial areas and buildings. But at the time they weren't easy or popular decisions to make. In handing over Western Harbour to property developers, the residents of Malmö were forced to accept that shipbuilding and heavy industry would never return to the city. For a city that was built around this sole purpose, this was a difficult decision to accept. Bilbao had been the capital of Rioja wine. For years the city's one square block wine warehouse stood empty as people hoped it would return to use. By refashioning the iconic building into a Philippe Stark designed leisure and cultural centre, residents were forced to accept this important part of their cultural heritage would no longer feature. Many of the old conservative residents of Oklahoma City could see no good in encouraging young people to go to bars and drink in a hip, new, loft-style downtown area. But today they are proud of the change. It takes tenacity to change what a downtown area stands for, even a blighted one. And it means closing the door to parts of a city's past to make way for the new.



Denver, USA

### 3. Magnet cities have a definable city identity

Cities that attract young wealth creators have a strong and clear city identity that new residents identify with. The identity of a city reflects the values, interests, skills and behavioural tendencies of its residents. While it is heavily informed by national identity, a city identity can also be significantly different.

Global cities have very clear identities, many going back decades. New York has long been the city that never sleeps; London a cosmopolitan global crossroads and Hong Kong the buccaneering gateway to the east. The identities of these cities draw residents, visitors, businesses and investment.

Smaller cities can have equally strong identities. For instance many around the world associate Copenhagen with tolerance, equality, sustainable living and creativity. Barcelona is associated with creativity, design and a laid back cosmopolitan atmosphere. Berlin is becoming associated with innovation and social experimentation.

Yet as more cities try to compete for new residents, not all recognise the importance of a clear city identity to draw people in. There are many cities across the developed world that have no clear identity, or the identity people hold to be true is long out of date. For instance we asked each case study interviewee to sum up what they thought the city identities were of several UK cities. The global perception of most UK cities was decades out of date and most interviewees could not differentiate between cities outside of London.

Without a clear city identity it is difficult for future residents to clearly understand what a city stands for and whether they are attracted to it. The same holds for existing residents who may be lured away by a strong identity in a neighbouring city.

Is it possible to engineer a strong city identity? The case study cities demonstrate that with concerted effort it is possible to refine, re-establish or entirely reinvent what a city is known for. However, it is not up to city government alone.



## Magnet City Principles

Oklahoma City is an interesting case in point. Oklahoma City, like many other western cities, lost an entire generation during the oil price collapse of the 1980s. The city's young left for jobs and opportunities in cities like Boston and Dallas. As the city reeled from the bombing of a major Federal office building downtown, the city realised that to recover, its identity would first have to stand for something other than tragedy and decline. There was very little to do recreationally in the city. But as a deeply conservative western city, the residents were sports mad. Yet there were no major sporting teams in the city. As part of its programme of reinvention, the city and business leaders built a new stadium and acquired an NBA Basketball team; an ice hockey team was established and further support was given to the baseball team. White water rafting facilities were built along the Oklahoma River. Hundreds of miles of bicycle trails were built across the city. The Mayor put the entire city on a diet and appeared across national television; fast-food chains like Taco Bell introduced 'Mayor Cornett' low calorie items.

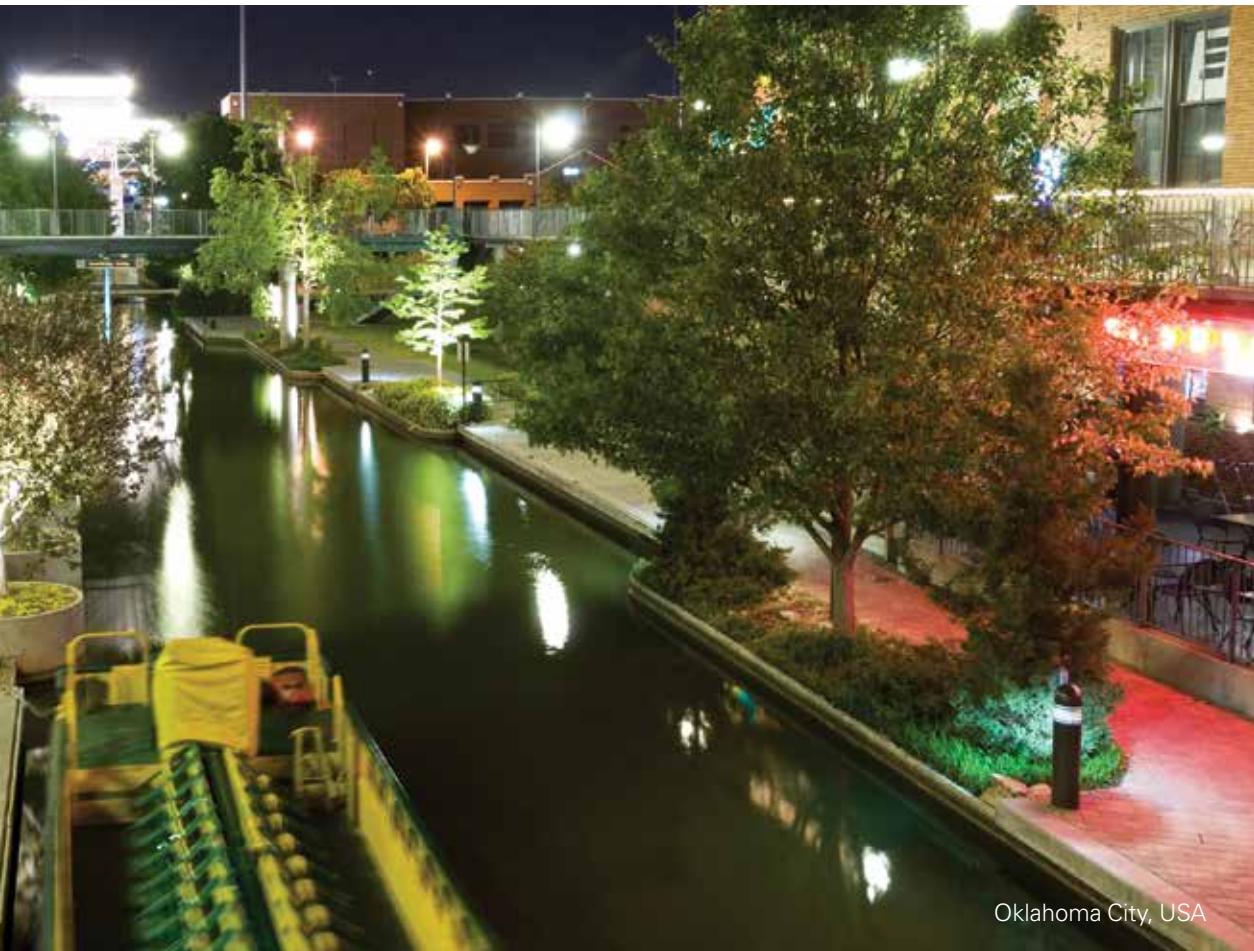
Oklahoma City became known as a wholesome, outdoorsy, sports-mad city with sports bars and foodie restaurants. People started to talk about it. The city began to attract new residents into the city; those who had left Oklahoma City years ago moved back. A younger generation, with no previous links to the city, chose it as home over other US locations. Today, Oklahoma City regularly appears in US lists including top ten cities to live in and top ten cities for business<sup>16</sup>.

Tel Aviv also took bold steps to change its city identity. In the late 1990s city leaders recognised that Tel Aviv's identity as a city was indistinguishable from that of Israel – conservative and religious. For the city to attract and retain their free-spirited and sometimes maverick young, the city had to embrace the values of cities like London, New York and San Francisco, the cities so many young Tel Avivians migrated to. What better way to demonstrate the city's liberal values than to host a huge Gay Pride festival? The city encouraged restaurants, bars and nightclubs to stay open all night. Nightclubs were encouraged and the city actively cultivated an identity as a 'non-stop city'. Today Tel Aviv is known globally as a vibrant, tolerant city that attracts like-minded people to visit and live.



Tel Aviv's young wealth creators now stay in the city and don't leave.

These stories demonstrate it is possible to carve-out a city identity where there isn't one, or where an existing city identity is negative. The stories make it look easy. But huge effort was required. Oklahoma City was on the verge of bankruptcy. The only way they could raise the money to build the sports arena, downtown canals, river rafting and bike trails was to ask the residents to directly pay for them through a one cent city sales tax levy. Many of Tel Aviv's older and more conservative residents were initially unhappy with city's repositioning as an enclave of liberalism. But in taking difficult and sometimes contentious decisions, these cities demonstrate that even relatively small cities can exert national or even global magnetic pull if they have a unique identity that resonates with those they aim to attract.



Oklahoma City, USA

#### 4. Magnet cities are connected to other cities

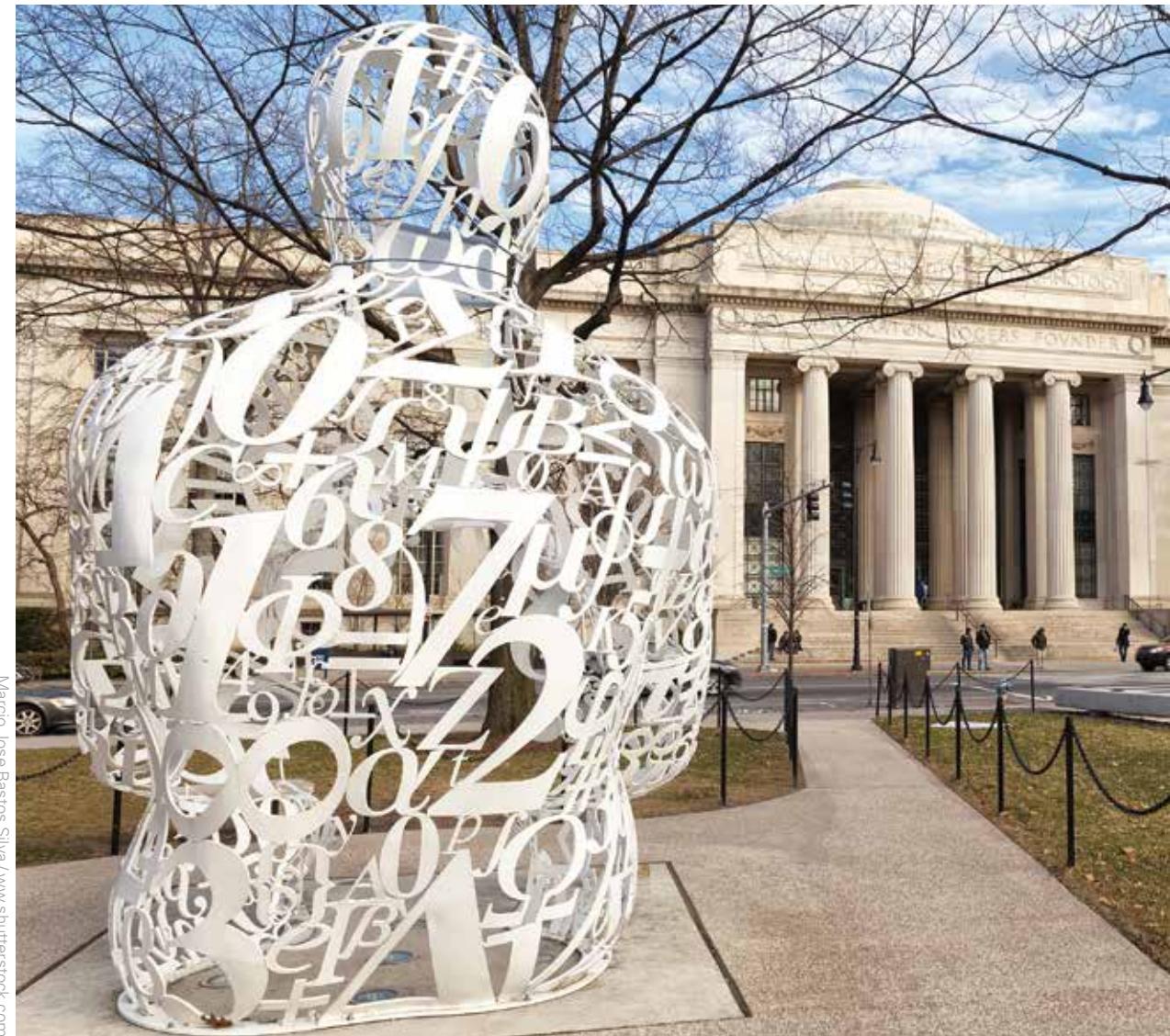
It should be no surprise that magnet cities are well connected to other cities. The importance of transport connectivity between cities is usually argued on economic productivity terms alone. Time is saved, businesses grow because people can get to meetings elsewhere, exports and supply chain imports become cheaper and labour pools expand making it easier for businesses to find qualified staff.

While this is true, quick and economical transport such as high speed trains and airports are important to magnet cities for a different, simpler reason. If a city is going to attract a new generation of residents, the city must be easy to get in and out of. Young wealth creators who move into a city are likely to travel back and forth more frequently to other places or cities for work and to visit family or friends.

A city that is difficult, time-consuming or expensive to get to will find it difficult to attract young wealth creators. Many cities in the north of England find it difficult to attract or retain high-earning, young professionals for precisely this reason<sup>17</sup>.

Easy transport access into a city is not just important for residents. As a city goes through the process of renewing itself physically and changing its identity it needs people to visit, to see and experience the changes for themselves. Journalists, bloggers, TripAdvisor reviewers, students, tourists and business people spread the word about a changing city. The more connected a city is, the more people will visit it, particularly as momentum builds. Today's visitors become tomorrow's residents. A flow of people into and out of a city is necessary to create magnetism.

# Magnet City Principles



Marcio Jose Bastos Silva / www.shutterstock.com

For example, for many years Bilbao was a notoriously difficult city to access. Slow local trains cut-off the northern Basque region in which Bilbao was based. Whilst a new airport helped to draw international tourists into the city in greater numbers, many Spanish people preferred or could only afford to use trains. As the city turned itself around and established itself as an interesting arts and culture hot-spot, with the Guggenheim Museum and a new range of civic buildings, the Spanish government decided to invest in a high speed train link between the city, Madrid and Barcelona.

As Malmö recovered and became a capital for clean-technology and science-based academic research, the German government invested in high speed rail to connect the city to Hamburg.

However, there is one warning. Quick and economical transport links don't just provide routes into cities. They also provide routes out. New transport links into a city with magnetic push, can accelerate the decline. For transport links to be helpful, the city must first have regained some magnetism.



Cambridge, USA

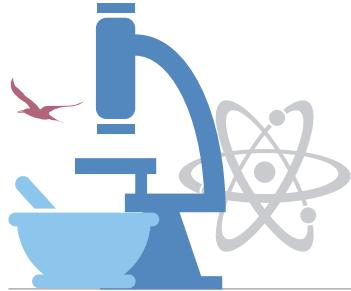
To illustrate, Denver began its recovery after it invested in a new state of the art airport to leverage its position as a major hub. Much of the city's investment and renewal followed that initial investment. The reason the airport expedited the city's renewal and brought more people into the city, despite the fact it was still in a cycle of decay, was down to the Rocky Mountains. Despite the job market collapse and recession, the city still retained some magnetism. The new airport helped to increase the volume of traffic going in and out of the city and was an important first step in the city's renewal.

## 5. Magnet cities cultivate new ideas

Cities that attract young wealth creators are cities that nurture and take pride in new ideas. The culture and heritage of the city, mix of residents, academic assets, investment community and physical cityscape all contribute to a culture that cultivates and supports the new. Cities like Boston and San Francisco have long created and attracted America's finest inventors, researchers and investors. Long before San Francisco was known for Silicon Valley, Boston had Route 128, home to a generation of entrepreneurs and venture capitalists. Today both cities are in the top five cities in the world ranked by patent applications per head of population<sup>18</sup>. This is not surprising. Both cities are home to world-leading universities. Their residents are smart and ambitious and this in turn attracts smart and ambitious people who want to work with them or for them. Both cities have a liberal outlook, a significant investment community and supportive city governments. It is this consistency that makes them such attractive magnet cities.

But few cities are endowed with the educational assets and reputational legacies Boston and San Francisco are. Instead many cities have to work hard to cultivate a city culture that encourages the formation and fermentation of new ideas.

The city of Pittsburgh illustrates how this can be done. The bottom fell out of the city's economy when the steel industry, the heart of its economy, fell victim to cheaper steel imports. A progressive Mayor, working closely with the Presidents of its two universities, Carnegie Mellon University and the University of Pittsburgh, a strong medical research institution worked to attract the world-leading academics and researchers. In fact, Carnegie Mellon cut down the range of degrees it offered to specialise in computer science and robotics, subjects that linked the school back to its technical origins. To support the institutions, the city built a large commercial building in the middle of the university district to provide space to new companies that spun-out of the university as well as technology firms like Google and Apple that opened research and development operations in partnership with the universities.



## Magnet City Principles

The city's businesses put together an investment fund to provide seed funding to emerging technologies developed by university researchers to help them commercialise. The results have been staggering. Today Pittsburgh's academic institutions receive almost USD 1.5 billion a year in private and public R&D funding and the city's new residents have turned the city into a global centre for medical robotics<sup>19</sup>.

Malmö is another city that lacked a city culture that supported the new. For decades the city's economy was based on its shipbuilding industry. When the main shipbuilder went bankrupt, not only did the city lack alternative employment, it also lacked a population who could create new jobs. The city did not have a university since most of the residents had worked in shipbuilding or in related supply chains. The city persuaded the Swedish government to establish a new university by donating a large area of land in the city's downtown.

The new university focused on disciplines related to science, technology and engineering to build on the city's heritage. To encourage the creation of new sustainable technologies, the city offered itself as a guinea pig for all emerging technologies and ideas. New sustainable technologies for residential housing were tested and developed in city-owned housing stock. The city essentially offered itself up as a prototype testing ground. Today, Malmö has the fourth highest number of patent applications per capita of all cities in the world. More recently it was announced that the new European Spallation Source, a particle accelerator, will be built outside of Malmö in Lund. The new 100,000 square metre campus will house 4,000 physicists and scientists; a whole new generation of young wealth creators<sup>20</sup>.

The cultivation of the new does not just have to revolve around universities. However, all of the case study cities leveraged their academic institutions to various degrees to bring change into their cities.



The city of Tel Aviv supports the creation of new jobs in a different way. All Israelis must spend two years in the Israeli Defence Force some of whom join the Intelligence Services. Following two years working with cutting-edge communications and tracking technologies, many Israelis use this knowledge to develop new communications and web-based technologies. The city of Tel Aviv plays an active role in supporting the growth of these businesses by supporting a Start-Up week annually<sup>21</sup>. Start-ups, venture capitalists, angel investors and leading multinationals from all over the world descend on the city to hand-pick investment opportunities and secure funding. The week-long speed dating between young entrepreneurs and investors pulls in 1,500 participants and 100 speakers. The rest of the year the city uses its assets, like its downtown library to incubate start-ups. Tax breaks are given to venture capital backed accelerators who set up in parts of the city.

The city of Songdo probably has the most aggressive approach to attracting and securing new ideas and future industries. Songdo is a brand-new district in the South Korean city of Incheon, about forty miles from Seoul. Songdo has been designed to be the new research and development capital of Asia. The new physical city has been designed to provide every amenity new young wealth creators would need. A new international airport connects one third of the world's population within a three and a half hour flight time<sup>22</sup>. Steel and glass apartments surround rolling parks and waterways; Jack Niklaus designed the new golf course which now hosts the Asian Masters. International schools and universities like George Mason University (US) and Ghent University (Belgium) have set up campuses. The entire city has been designed specifically to attract wealth creators by offering a quality of life that is unachievable elsewhere in Asia.





## Magnet City Principles

On top of that the Incheon and Korean government suspend all taxes for a period of three years for companies that set up R&D facilities in the area<sup>23</sup>. The development pace of the city has been delayed by the 2008 financial crisis. But despite this, the city continues to attract highly desirable companies and organisations. For instance, Samsung has established a large research centre. The World Bank recently moved their Secretariat headquarters to the city. Each time a company establishes a new headquarters, the city builds a pipeline of new jobs. Companies design new products and technologies and then go onto manufacture them in Songdo thanks to a tax break structure that encourages firms to co-house manufacturing and R&D facilities.

It should be noted that the cities did not go after everything. They did not have economic development plans that covered every industry under the sun. Each city was very specific about the clusters it would support. Publicly owned assets and funds were used or leveraged to support specific areas. Ten years ago, the city of Pittsburgh did not know that medical-robotics would become a hot area. But they did know robotics combined with another discipline was likely to become important. The city chose to support robotics, artificial intelligence and related areas. Pittsburgh's leaders were narrow in the choice of disciplines and emerging niches they would support, but then relaxed and supportive as the niche area developed. If Pittsburgh had supported financial services, insurance, construction, tourism and robotics it is unlikely it would have had such success. The disciplined investment, focus and support provided by the cities political, business and academic leaders nurtured a micro-niche into a competitive and lucrative commercial area.

But once again, this takes tenacity. When a city is filled with established businesses and industries that are suffering, it is difficult to make the case for putting limited public funds into new, untested areas. And the risk is high. For instance, Carnegie Mellon's computer science department developed the first distributed processing network called 'Andrew'. The computer network became central to the progression of computer science and commercial computing. CMU's spin-out, FORE Systems, competed with a small upstart company called Cisco.



Songdo, South Korea

FORE Systems was bought by GEC Marconi and disappeared. Cisco went on to dominate network computing and grew into a multinational behemoth. Not every bet wins.

But the case study cities demonstrate that it is possible to foster a culture that supports the new alongside an established commercial base. The case study cities made room physically and culturally for people to generate new ideas, and this benefited the entire economic base. The educational and skills profile of the labour market changed as new people moved into the city. Existing businesses gained new customers. Supply chains were strengthened. Investors turned their attention to the city for the first time in decades. Everyone won. And if these cities, cities that were once hostile to new ideas could so comprehensively change, then there is no reason why all cities can't do more to encourage the new.



## 6. Magnet cities are fundraisers

The city governments in magnet cities play a unique financial role. They don't just see themselves as the distributors of city funds. They see themselves as fundraisers on behalf of the entire city. Their job is to attract private investment, research grants and public funds into the city. And the most progressive magnet cities offer their own risk capital to attract investment and funds. They capitalise city assets and leverage balance sheets. To quote the phrase, they 'put skin in the game'. In this way magnet cities find ways to become less reliant on national, provincial or state governments for financial help. They do it for themselves. This spirit of financial self-determination is fundamental to becoming a magnet city.

This gives cities much greater freedom. When a city government asks federal, provincial or state government for money, it also asks for permission.

Different layers of government grant these permissions on the basis of quantitative and qualitative evidence bases; cost benefit ratios, Gross Value Add impacts and risk assessments. This requires time. It also means the projects and funding requests that incur the lowest risk often win. Game changing ideas rarely get funded in this way.

Even when a city is facing financial dire straits, it has a range of assets it can use to attract new funds to invest in new infrastructure, housing and commercial developments. A city's balance sheet can contain assets worth hundreds if not billions of dollars ranging from land, commercial and residential buildings, landmarks, infrastructure and trading companies. All of the case study cities faced great financial difficulties. Yet by creatively using assets such as these they were able to access investment that led to major transformations in their cities.

## Magnet City Principles

For instance, several cities repackaged and sold city-owned land at a profit by first installing new infrastructure, granting planning permission and selling on at an increased cost. The city government of Malmö borrowed funds to clean up and install high-specification sustainable infrastructure into brownfield land on Western Harbour. It was not easy. The city had to negotiate with private owners to create a single large plot that initially covered 187 hectares. Once cleaned up the city sold the land to developers with strict covenants about greenery ratios, light and CO<sub>2</sub> standards. The city made enough profit to cover the capital and interest repayments as well as enough funds to start a second phase of investment. And the by-product was tens of thousands of new, interesting homes built using leveraged private funds. The city of Incheon in South Korea paid for its entire new district of Songdo in the same way. The city sold an entire city-sized plot of land to a consortium of developers and construction companies to finance and build privately. Oklahoma City raised and spent USD 363 million in the initial programme of work<sup>24</sup>. In return, private developers spent USD 2.4 billion on new lofts, warehouses, restaurants and bars, and transformed the downtown<sup>25</sup>.

Many cities raised debt for large infrastructure projects like airports, new train stations and downtown investments by offering new tariffs or future tax receipts to underwrite the bonds.

Some cities, like Pittsburgh, went straight to the business community to raise funds to create city investment vehicles for emerging technologies and start-ups.

Other cities persuaded national or federal governments to invest in key infrastructure projects or assets. Malmö's government persuaded the Swedish government to underwrite the Øresund Bridge and pay for a new university. But the funds were not provided as state handouts. The city approached the Swedish government with a clear business case that included a clear contribution by Malmö itself.

All of the cities understood that a city cannot be transformed using city administered funds alone. The radical improvement of a city requires public and private money to work hand in hand.

But private money will only come to the table if a city takes commensurate risk in the deal or puts assets or future revenues into a deal. After all, there are many cities around the world all competing for the same pots of private investment.

Direct taxes also play a role. The case study cities with direct tax raising powers used tax receipts to leverage private funds. The most interesting of these is Oklahoma City, a city with a firmly Republican, anti-taxation electoral base. On three occasions the residents of Oklahoma City voted for a one cent city sales tax levy to pay for investment in the city. The funds were used to pay for a number of capital projects including the aforementioned canals, a sports stadium, new conference centre, river clean-up and improvements to all downtown schools. These tax receipts were essentially the city's seed capital to entice further investment. For example, the city's investment in a new conference centre was matched and exceeded by the investment of large hotel chains like Hilton and Marriott to build new hotels next door.





The city's investment in a new sports stadium was matched and exceeded by the acquisition (through private funds) of an NBA basketball team to be based in it.

Bilbao levied a separate water tax on all residential and commercial bills to pay for the clean-up of the polluted Navarro River, the river that meanders through the middle of the city. Following extensive floods in 1983, a result of over-use by industry and chronic under dredging, the city realised that they would first have to clean up the river and return it to use as a city asset, instead of the city sewer it had become. That investment opened the gate to private investment along the cleaned-up riverbank. Today the riverfront is full of new hotels, beautiful office buildings, shopping centres and the Bilbao Guggenheim.

The leaders of global cities like London and New York have long understood their role as city fundraisers. After all, investment funds, pension funds and large companies are headquartered in the cities.

But there is no reason why these same funds will not invest in second cities, even if they don't have operations there. The case study cities demonstrate how achievable this is. But to succeed a city must offer an investment opportunity or deal that is clearly articulated, priced to reflect the level of risk and which involves an injection of risk capital from the city itself. Direct tax receipts are undoubtedly the easiest way to leverage investment. However, a range of assets can be used equally effectively.

But all of this is only possible if a city's leadership is determined to stand on its own two feet financially and take on risk. Without this it is difficult for cities to wean themselves off the cycle of asking for national, provincial or state handouts. In short, the ambition to be financially independent is a prerequisite to becoming a magnet city.



## Magnet City Principles

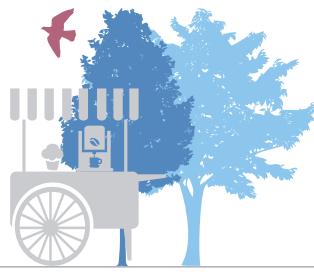


### 7. Magnet cities have strong leaders

The application of the Magnet City principles is not easy. When a city redevelops a downtown area it is inevitable that some businesses and residents will be unhappy. For instance, to create a plot of land for a new university in the centre of town, the city of Malmö had to negotiate with a range of businesses and homeowners to agree to sell-up. In Bilbao, businesses were persuaded to relocate from the riverfront to a new industrial area outside of the city at great cost. Across the case study cities, residents were forced to turn their backs on significant parts of their city's heritage.

City governments invested in projects and developments that were seen to benefit the young middle classes at the expense of the city's workers. The political leadership in each of the case study cities experienced periods of high-pitched, public dissent. Newspaper columnists railed. News anchors cried foul. Unions went on strike.

The case study cities pulled off city reinventions on this scale because they had strong mayors and civic leaders who led the city post crisis. In almost every case, that mayor came from a non-political background. These were individuals who were compelled to step up and help save their cities; their



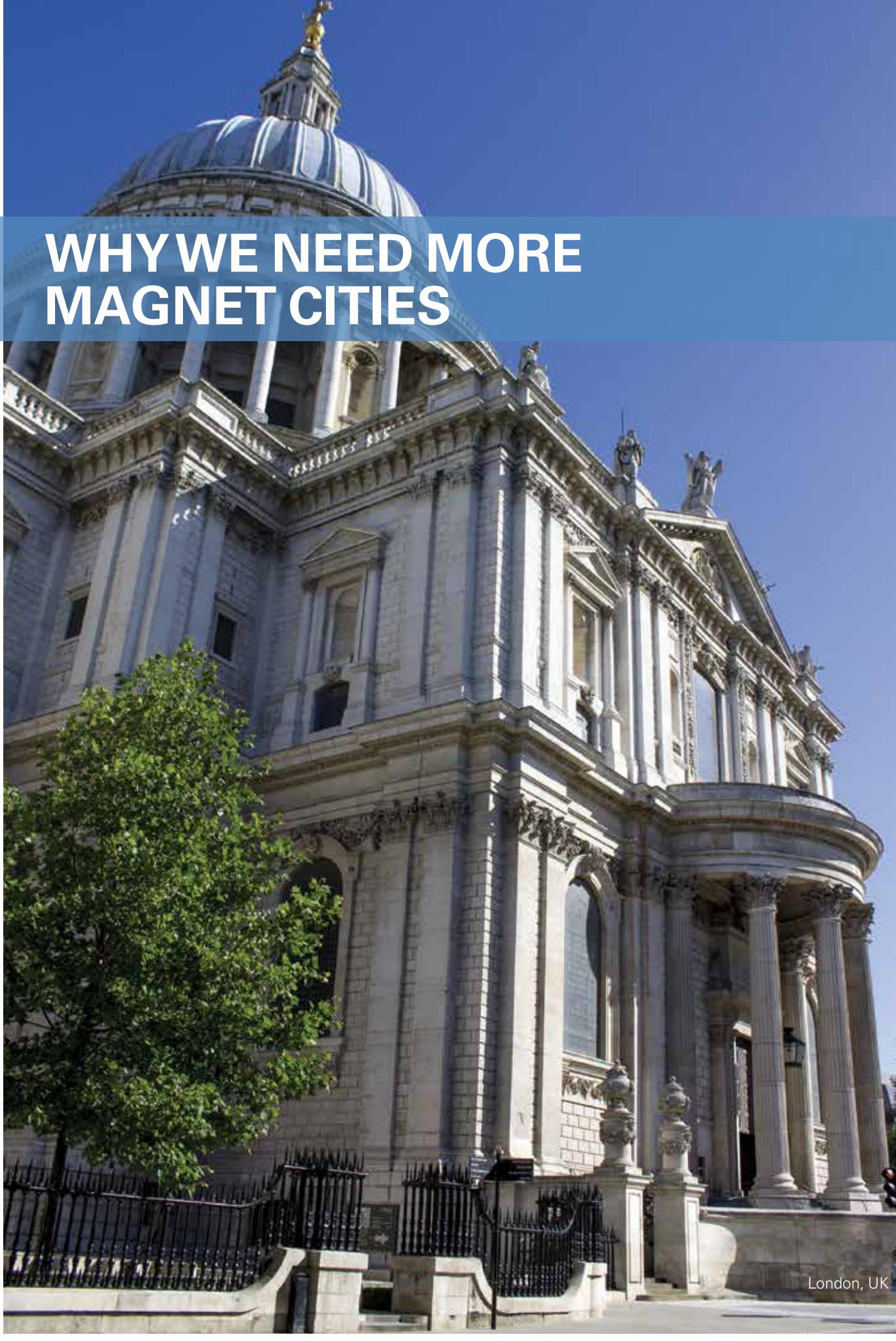
Christchurch, New Zealand



overriding concern wasn't partisan politics. It was finding the quickest and most pragmatic way to turn their city around. These individuals tore down barriers and rejected status quo thinking and approaches. They put forward a vision for their city and then stuck with it; they had the fortitude to facedown criticism and hostility. It was old fashioned strong leadership. As one interviewee put it, "when your city is facing certain death, there is less time for democracy.<sup>26</sup>" All of the mayors saw the ballot box as the ultimate democratic test.

Despite not wavering from the course they outlined, all of the mayors worked more collaboratively with residents, investors, developers, businesses and universities than is the norm. They were relatively inflexible about changes to the future vision for the city once it was agreed, but extremely flexible about the steps they took and who they involved to get there.

# WHY WE NEED MORE MAGNET CITIES



London, UK

## "The entire city benefited because the bar of aspiration was raised."

Some will argue that the focus on reforming a city to attract young wealth creators is unjust to existing residents; it is an excuse to focus on the elite at the expense of the poor. But the evidence doesn't bear this out.

All of the investments the case study cities made, whether in infrastructure, downtown renewal, housing, sports stadiums or riverfronts benefited the entire community, not just a small group. And the changes to the cityscape and the new city amenities helped to build a renewed sense of city-wide pride. The entire city benefited because the bar of aspiration was raised. The economies in all of the cities grew rapidly. Lots of new jobs were created. Unemployment declined. Not only did the cities look better, but there was more to do. How can this possibly be a bad thing?

If anything our economies and society will benefit if we can increase the magnetism of more second cities in this way around the world. As the case study cities demonstrate, individual magnetic second cities can be the natural home to specific groups of dynamic people with similar values, interests and curiosities. Cities should work hard to attract them. And these groups in turn give smaller cities their identity, their city niche. Smaller cities can then compete with large capital cities and global cities just as niche companies do against multinationals today. After all, not everyone wants to work for Microsoft. And not everyone wants to live in London, Tokyo or New York. There is room for both. But first we need to increase the magnetism of second cities around the world to give people choice.

Over the following chapters each of the stories of city reinvention across the nine case studies are told. We hope the stories inspire all of those who are interested in re-magnetising their city – politicians, businesses, city officials, charities and above all residents. As you read through the case studies that interest you, we suggest you hold the following questions in your mind:

- Who do you need to attract or retain in your city to generate future wealth?
- How can you compete against other cities to attract them?
- What are the big assets in your city that could be leveraged?
- What financial risks are you willing to take to change your city?
- How can you galvanise your city to take such bold steps?

We hope the case studies provoke and inspire. And we look forward to sharing the stories of the next generation of Magnetic Cities and their inspirational leaders in the future.

# Bilbao

The city that faced an abyss and bounced back



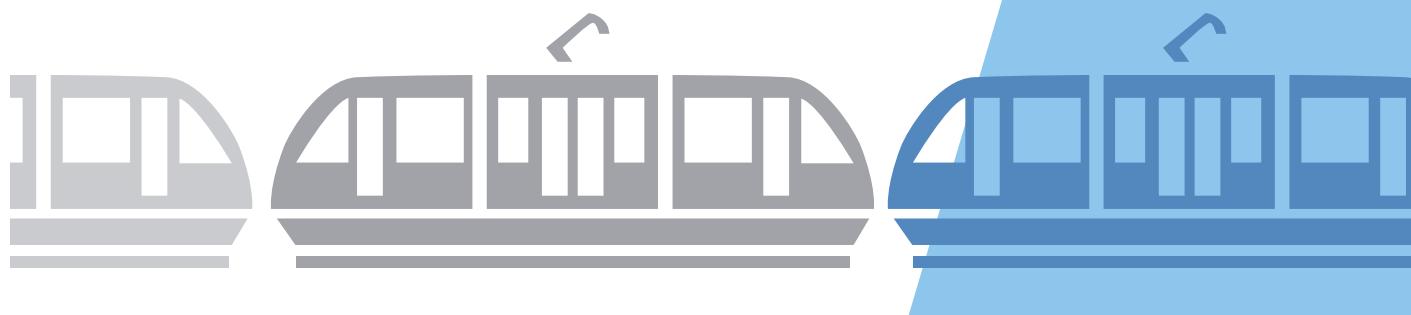


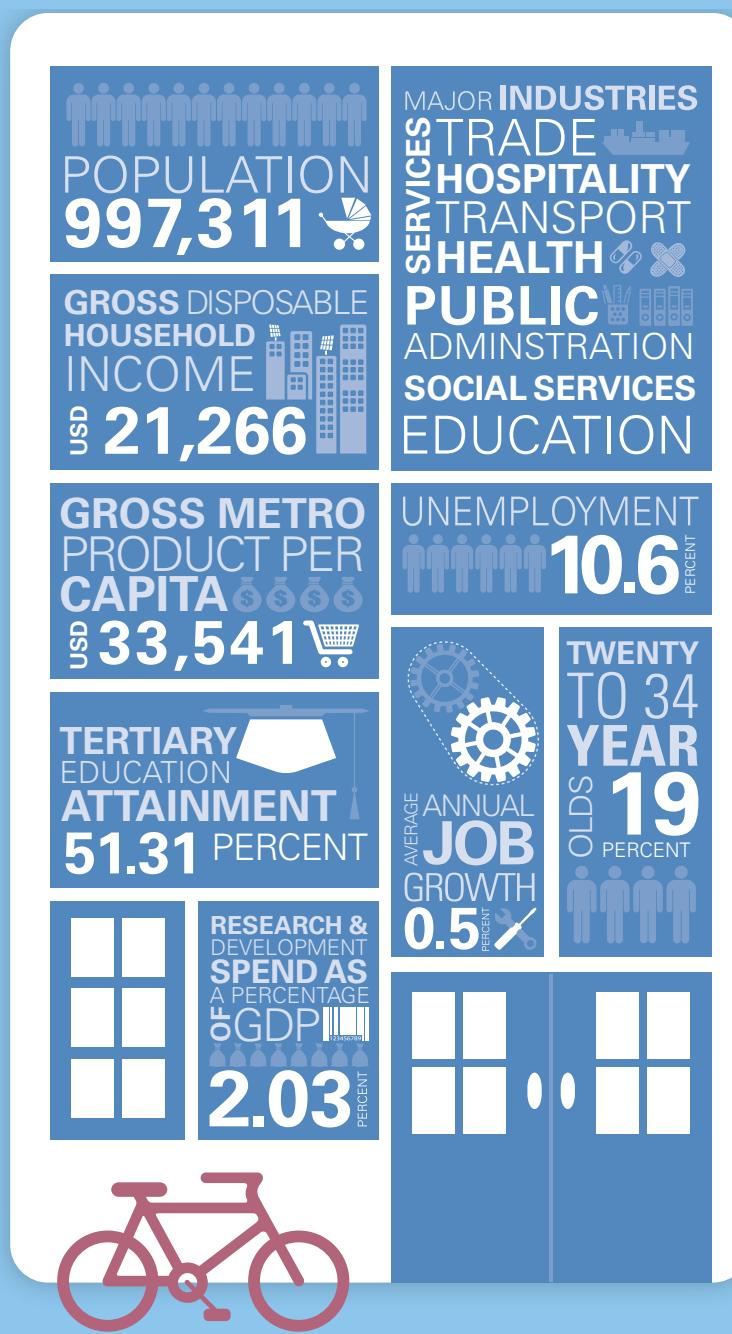
# INTRODUCTION

Bilbao is an elegant, supremely calm city. Its physical beauty is augmented by the calmness of its people and way of life. Located on Spain's northern coast, the city sits in a valley, surrounded by green verdant mountains. A tidal river divides the city into two halves. When walking around you are struck by how cheerful, laid-back and sociable its residents are. Every city block houses an array of bars where people stop throughout the day for a chat and to graze on a selection of pinxtos, the Basque Country's tapas. Tourists from an array of different countries walk through the streets and take pictures of the interwoven historical and modern buildings. Young people meet throughout the day to network and trade ideas.

With all this bustling activity it is no surprise that GDP per capita is significantly higher than in the rest of Spain. Over the last ten years Bilbao's economy has grown by 18 percent, which given the difficult state of the Spanish economy over the last several years, is strong<sup>28</sup>.

The laid-back confidence of Bilbao's people comes from recent history; they faced the abyss and bounced back. This is a reinvention story of two halves. In the first half, the city quite literally redesigned the heart of the city. The entire industrial centre of the city was moved to the outskirts to make room for a new resident-friendly centre. During the second half the city targeted young wealth creators through a range of measures. However, if the city had not invested so heavily in the physical renewal, young wealth creators wouldn't have come back to the city. It is the originality and creativity of the physical redesign of the city that pulls so many in.



BILBAO METRICS<sup>27</sup>

# THE DECLINE



Bilbao's heritage lies in mining and heavy industry. For centuries the city was the economic powerhouse of the Basque Country and its industrial might was on par with Barcelona. The mountains around Bilbao were rich with iron ore and most of the population worked in quarries, refineries, shipbuilding or in Bilbao's port, which was located right in the middle of the city. The city had long been a major producer of iron and steel; the swords exported by Bilbao were known as 'bilboes' and referenced by Shakespeare. In the early 1980s 49 percent of the population worked in industry and 36 percent worked in services, the restaurants, bars and hotels that took care of industrial workers<sup>29</sup>.

As one of the most economically successful cities in Spain, thousands of people from outside of the Basque Country migrated to the city to secure lucrative jobs. Today gothic mansions built by Bilbao's 19th and 20th century industrialists still stand along the right bank of the river.

“Bilbao had hit rock bottom. It faced an economic crisis, an environmental crisis, a social crisis and a political crisis all at once.”

These houses would have looked directly over Bilbao’s port and provided their owners with direct sight of their fortunes leaving and entering the port from the gilded opulence of their drawing rooms. The large flow of money into and out of Bilbao led to the establishment of two large banks, the Banco de Bilbao and the Banco de Vizcaya, today known as BBVA, one of the largest banks in Spain<sup>30</sup>.

The city physically grew out of its industrial core. Not only was the port located on the river in the middle of the city, but so were all of the refineries, machining facilities and shipbuilding companies. Huge ships travelled up and down the river forcing the bridges that connected the two sides of the city up and down like yoyos. The city’s railway line was located alongside the left bank, just behind the industrial facilities. The people of Bilbao could not approach the riverfront – they were physically blocked first by the railway lines and second by industrial buildings. As Bilbao was built up, the buildings were oriented away from the river and towards the mountains. As the city grew, it literally turned its back to the river.

As more people moved into Bilbao, the city became more congested. Cars were a symbol of progress and everyone drove one. The city experienced a perpetual traffic jam as the bridges over the river rose and fell. The fumes of idling cars filled the narrow streets. The river Nervión became alarmingly polluted thanks to all of the industrial waste dumped into it. It was eventually declared ecologically dead with oxygen levels far below the 60 percent minimum standard<sup>31</sup>. The city’s industrial success was starting to destroy it. Bilbao’s nickname across Spain became ‘El Botxo’ or ‘the hole’ in Spanish.

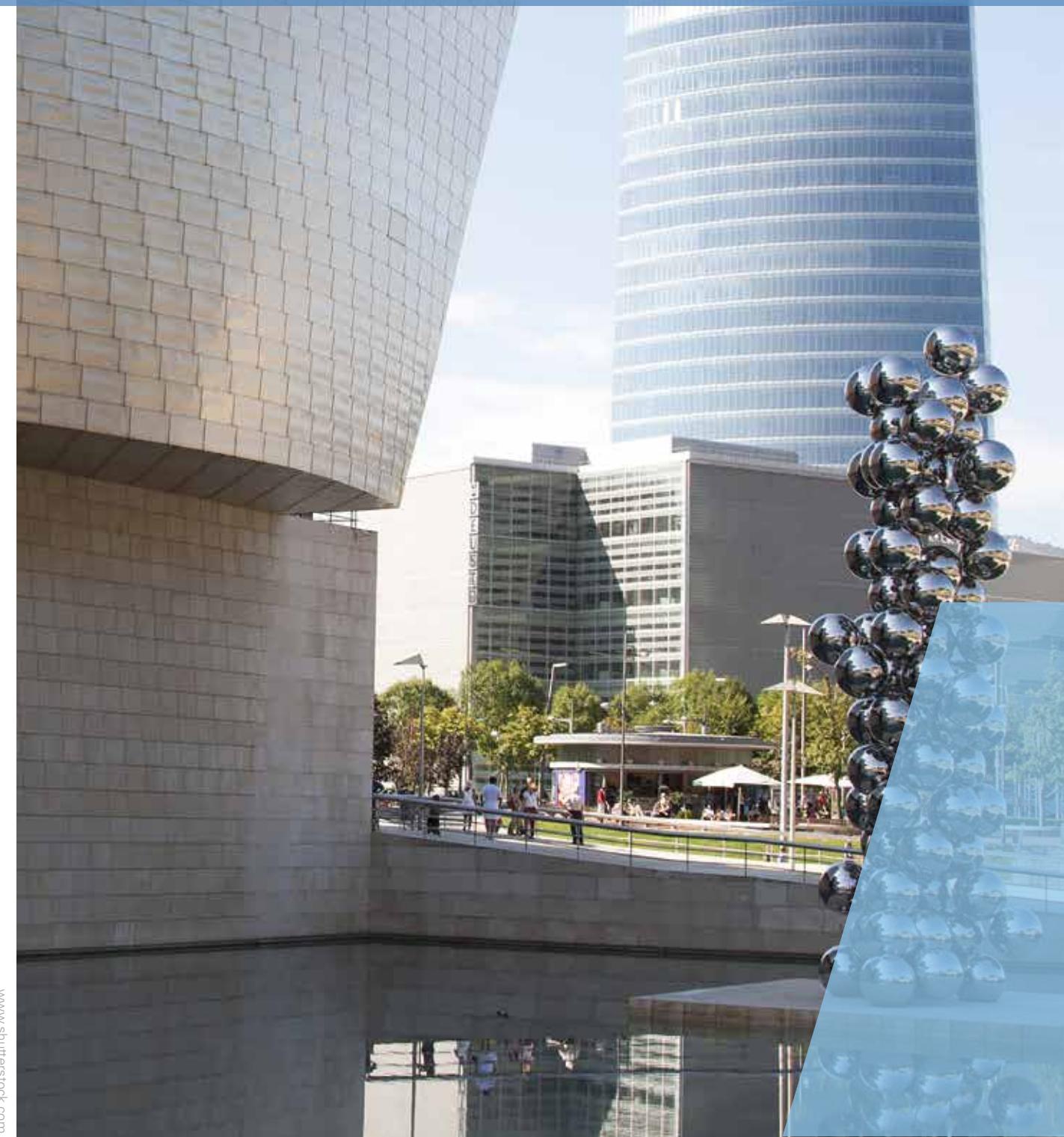
Bilbao and the Basque Country’s reputation during this period was not helped by the emergence of Euskadi Ta Askatasuna, or ‘ETA’. The Basque separatist movement had become more active and set off a number of explosive devices around Bilbao and the region.

This did much to harm Bilbao’s reputation internationally. To raise funds ETA forced many Bilbao-based companies to pay “impuesto revolucionario” (revolutionary tax) or instead face being targeted.

As the city’s economy relied on heavy industry, the 1970s oil shock had a profound effect on Bilbao. The increase in oil prices forced up production costs and the resulting recession reduced global demand for Bilbao’s steel, iron and ships. Without an outflow of goods to export, Bilbao’s port became less busy. Thousands of Bilbao’s workers lost their jobs. Those who had come to Bilbao from outside of the Basque Country left, but still the unemployment rate reached between 25 percent and 30 percent<sup>32</sup>. The city had little idea of how to deal with the crisis. The population was trained to do industrial jobs only. The service sector was geared to support industrial workers; without them, there were few customers. The city had never anticipated such a crisis and had few if any social services in place to support individuals or families. People demonstrated and directed their frustrations and anger at the government. Drugs became a problem as the disheartened looked for an escape.

As the city struggled to deal with the ongoing impact of the oil crisis, a new crisis hit. In 1983 following heavy rainfall, flash floods washed through the old city. The narrow streets turned into sloshing water canyons with water reaching up to the second and third stories of the five story buildings. Much of the water came from the polluted river and was full of chemicals and sludge. Over 30 people died<sup>33</sup>. Historic buildings including Bilbao’s food market were washed away. Once the water receded a putrid mud filled the streets and houses. Bilbao had hit rock bottom. It faced an economic crisis, an environmental crisis and a social crisis all at once.

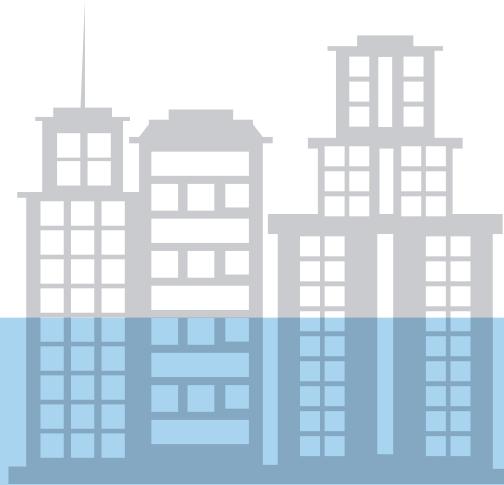
# THE FIGHTBACK



**"The Basque people and politicians knew it was up to them and not the Spanish federal government to sort things out."**

Immediately following the flood, all efforts were focused on cleaning out and saving the old city. The smell of putrid sludge sat over Bilbao for years. Politicians at all levels of regional government agreed a drastic course of action was required if Bilbao was to bounce back. The city was literally repelling people. Only those with few other choices stayed. The Basque people and politicians knew it was up to them and not the Spanish federal government to sort things out. This was a Basque problem and it would be solved by the Basque people without the help of the Spanish federal government.

The political landscape in Bilbao is a complicated relic of history. There is a Basque Country elected government, three provincial area governments that sit under the Basque Country government (Biscay, Álava and Gipuzkoa) as well as city-level governments. So Bilbao is governed by three layers of government, the Basque, Biscay and Bilbao city governments. Yet in that moment all levels of government and political parties were united by urgency; an urgency that gave them license to reinvent Bilbao.



## Fiscal autonomy

The Basque Country is unique as its fiscal policy is completely devolved. Since the 12th century, when the Basque Country first joined the Crown of Castile, the region has been responsible for its own finances. The arrangement was formalised in 1876 and ran until Franco ruled Spain, at which point it was suspended<sup>34</sup>. Following Franco's fall in 1978, the Economic Agreement was reinstated and under its terms the Basque Country's three provinces set, administer and collect all direct taxes. In return the Basque Country pays the Spanish national government a 'quota' of 6.24 percent to cover national expenditure made on behalf of the Basque Country's citizens, for example, defence<sup>35</sup>.

The Basque Country has the right to directly tax the income of its residents as well as all income generated in the territory through corporation tax. Additional taxes can be levied as required, for instance the water tax. Under the terms of the Economic Agreement the provinces cannot seriously undercut tax rates to become more competitive and the ratio of total tax collected to GDP must stay in line with that of the rest of the country. Fiscal autonomy is granted to the three provinces, not to the Basque Country as one geographic area. As a result the three provinces have different tax rates, but in the most part they are harmonised.



## The Fightback

### Bilbao rediscovers its river

Bilbao had turned its back to the river that ran straight through the middle of it. For decades it had been used as a sewer by industry. It hadn't been dredged. And for years it hadn't been usable by Bilbao's residents. What was once the city's greatest asset had become its greatest problem. The pollution and flooding caused by the river was putting the city at risk.

The city leaders and residents agreed that the city had to reclaim the river for residents and make it the centrepiece of Bilbao's recovery. The vision was to make the river the centrepiece of a physically transformed city, a modern, social and cultural city. If the Basque government did not have the autonomy to fund the plan itself, it is questionable whether the plans would have been funded. A federal government would have prioritised the short-term interests of Bilbao's industrial companies located along the riverside over the long-term interests of Bilbao's citizens.

The decontamination of the Nervión River was one of the most costly elements of Bilbao's renewal. The city spent about USD 1 billion to build 51 central conductor pipes to run under the city, 42 pumping stations, 84 spillways and 27 treatment plants<sup>36</sup>. The river was dredged and 280 kilometres of pipes to carry household and industrial sewage were installed<sup>37</sup>. The costs were funded through loans secured against an increase in the water rates paid by Bilbao's residents and businesses. To this day the river tax appears as a separate item on people's water bills.

Despite the very quick completion of this massive project, it took about two decades for the river to recover. Today crustaceans, mackerel and sole can be seen in the clear waters of the river, but the cries of delight from Bilbao's residents betray the fact that this is still a novelty.

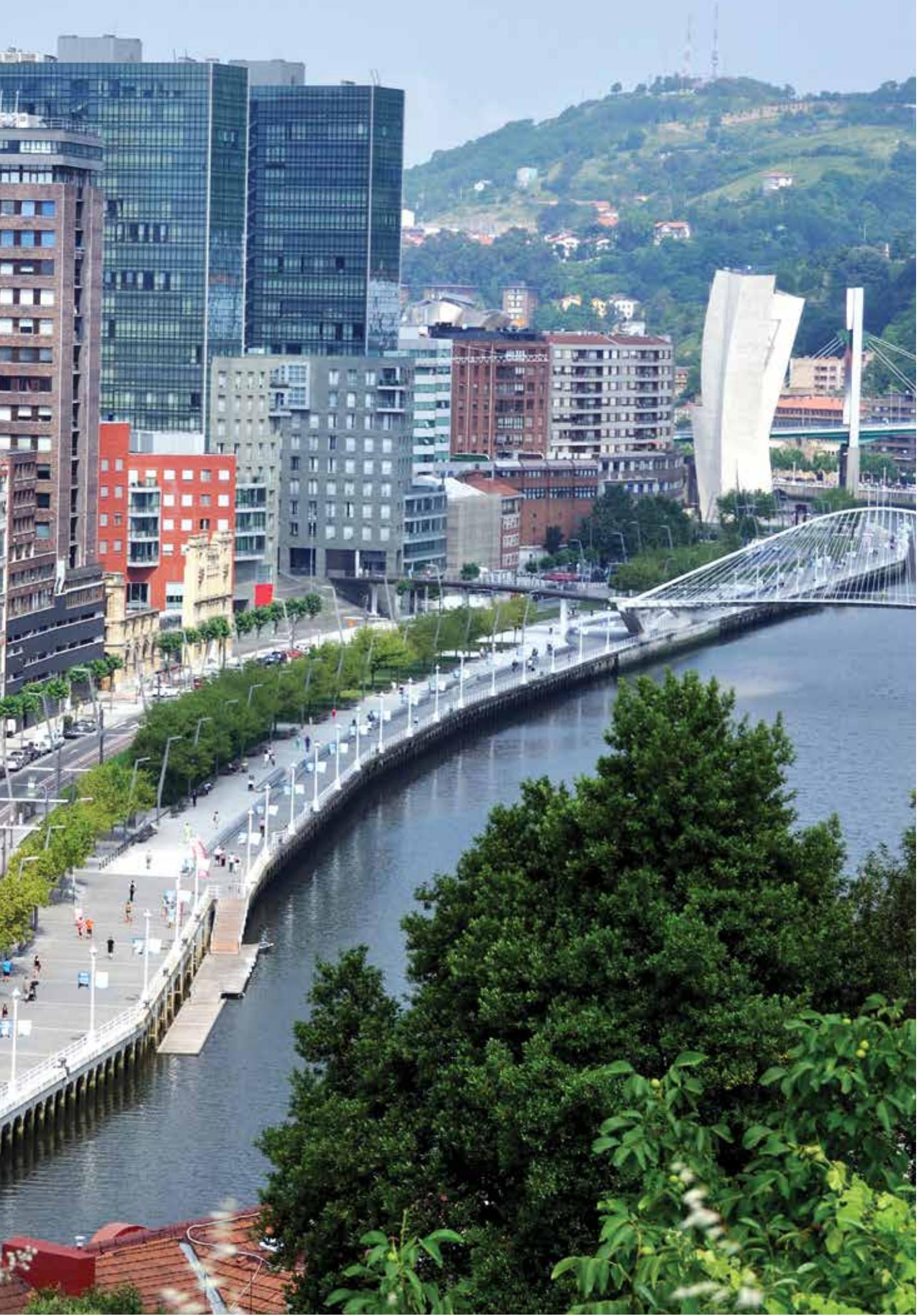
For the river to be reclaimed, Bilbao's port and the heavy industry located along the riverbank had to be relocated. This was a herculean task as with the exception of the port, which was owned by a number of municipalities, the industries were all privately owned. To begin it was decided to relocate the port out of the city centre, 15 kilometres west at the mouth of the river and the Bay of Biscay.

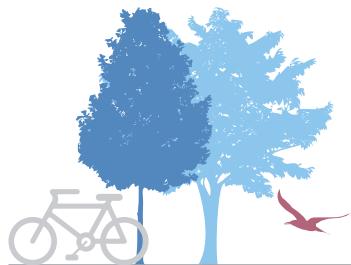
An existing port, Outer Abra, was chosen as the new location, but required significant refurbishment. For instance, break walls had to be built to protect oil shipments and refineries. Since 1992 the Port of Bilbao Authority has spent USD 986 million to build the new port using debt raised against future income<sup>38</sup>.

Once agreement was made to move the port from the centre of downtown, the city turned to the next challenge. They still had to persuade all of the industrial companies located along the riverfront in the centre of Bilbao to move either to the Outer Abra port, or into new industrial parks on the outskirts of Bilbao. To achieve this Bilbao hit upon a clever solution. The city set up a new company called 'Bilbao Riá 2000', which translates to 'Bilbao's River in 2000'. The purpose of the company was to establish a master plan for the river area and to coordinate the release of land from industry.

Board members were appointed from the public sector companies that owned the majority of the riverbank land as well as Bilbao's Port Authority, the railway companies and different levels of government. Only the most senior representative of each organisation was accepted (the Board was chaired by the Mayor himself). Board members were expected to take decisions in the meetings without having to go back to first check with their organisations.

The founding members of Bilbao Riá 2000 agreed to transfer the title deeds on all of the riverbank land they owned into the new vehicle. Private owners of riverbank land not yet covered by the company were approached by the group. Many of these smaller companies were still suffering following the global industrial recession; most owed significant back tax. And here Bilbao Riá 2000 made a compelling offer. In return for transferring the title deeds of their river land holdings into Bilbao Riá 2000, the Biscay government agreed to forgo their unpaid tax. And in this way Bilbao Riá 2000 took back ownership of vast swathes of industrial riverfront land. Against this large land holding the company was able to secure a credit line and sell off specific plots to developers who undertook projects specified under the master plan.





## The Fightback

### Bilbao Ria 2000

Bilbao Ria 2000 was set up in 1992 as a public corporation. The company is owned by: SEPES – State Owned Land Management Company (25 percent); Bilbao Port Authority (10 percent); ADIF, a railway company (15 percent); the Basque Government (15 percent); the Bizkaia Government (15 percent); Bilbao City Council (15 percent); and Barakaldo City Council (five percent)<sup>39</sup>. The company designed and controls the master plan for the redevelopment of the river front area and directly owns the majority of the waterfront. In some cases plots have been sold to private sector developers to execute elements of the master plan.

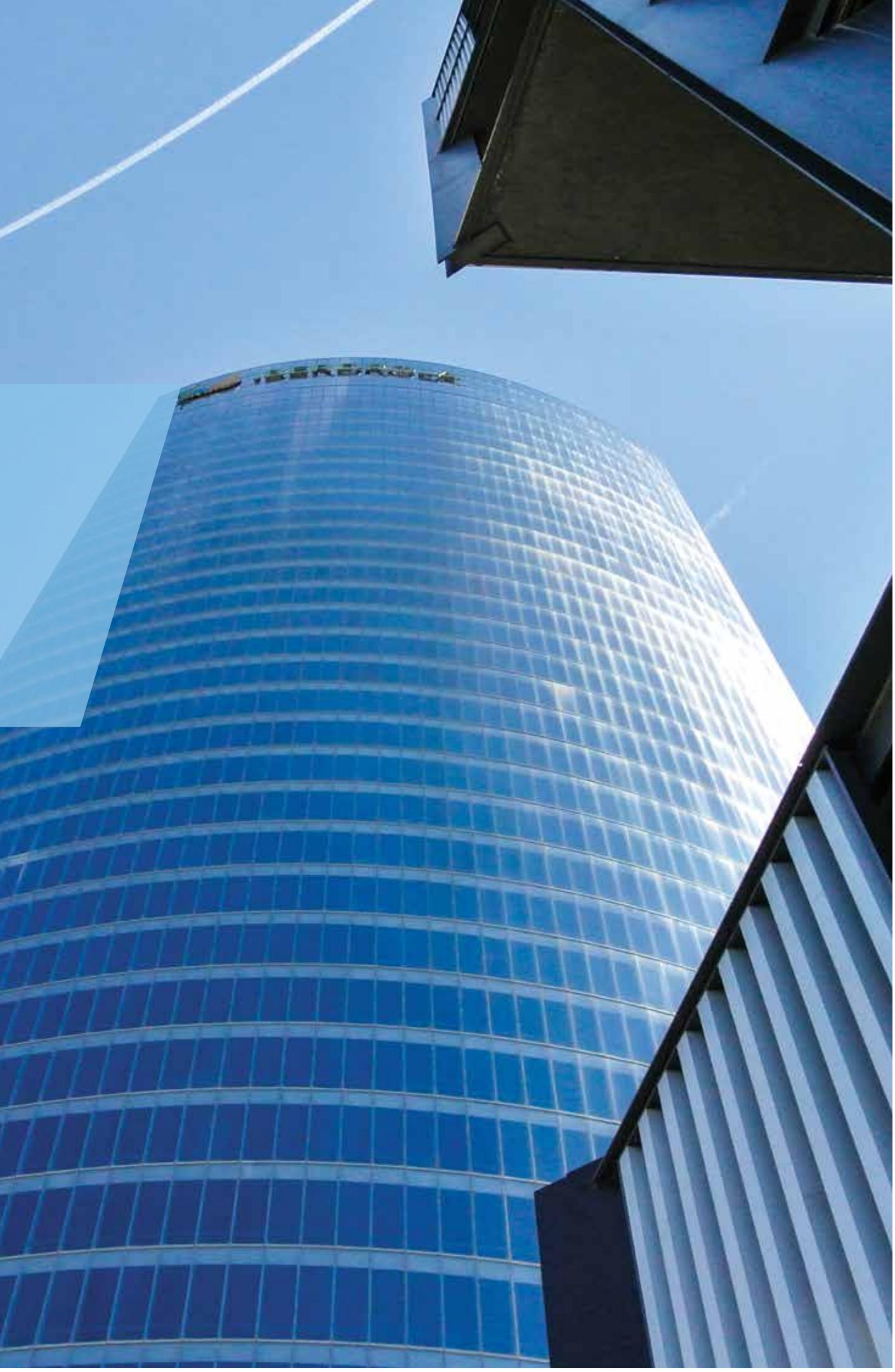
These include the Hotel Sheraton Bilbao and a major new office skyscraper (Torre Iberdrola). Bilbao Ria 2000 has also raised significant debt to cover the USD 1.2 billion of redevelopment costs to date<sup>40</sup>. The company employs 20 people who contract directly with private sector providers to undertake the engineering and construction work required of the projects<sup>41</sup>.



Located just behind the waterfront industrial buildings were railway lines that ran alongside the river. By co-opting the railway companies into Bilbao Ria 2000, the company was able to quickly come to an agreement to rip up the existing railway lines and reroute them through and under parts of the city. In this way direct access to the waterfront was once again made possible. And to draw more people back to the river, early on, Bilbao Ria 2000 commissioned the construction of a number of architecturally significant bridges and literally welded shut the existing historical bridges.

### Bilbao redesigns the downtown

As Bilbao Ria 2000 worked to clean up Bilbao's waterfront, a second organisation was established to oversee the renewal of Bilbao's downtown, Bilbao Metropoli-30. Bilbao Metropoli-30 was established as an alliance of businesses and private institutions with a vested interest in the regeneration of Bilbao. The founding group of 19 members believed strongly that Bilbao would only recover if the city started to attract creative, innovative, educated and professional residents once again, the young wealth creators<sup>42</sup>. But to do this, Bilbao required a new identity. The group debated and formed the view that Bilbao should be known for culture and creativity, an identity that would draw Spain and Europe's young into the city. The group then set out reinvent the metropolitan area as a space that resonated culture and creativity. If the plan succeeded, the prize was great; fewer of the city's young would leave for Barcelona, Madrid or London.





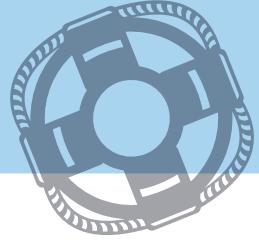
## The Fightback

### Bilbao Metropoli-30

Bilbao Metropoli-30 is an association for the revitalisation of the metropolitan Bilbao. The Association oversees the implementation of Bilbao's 'Strategic Plan for the Revitalisation of Metropolitan Bilbao' including planning, researching, coordinating and tracking underpinning projects. At launch Bilbao Metropoli-30 had 19 members and today has over 130 members<sup>43</sup>. The organisation is staffed by eight people who design, contract and oversee a range of public-private projects across the downtown area. Key projects have included: Abandoibarra area; Zorrozaurre area; Guggenheim Museum; Bilbao Airport; Bilbao Port; Technology Park; Bilbao Exhibition Centre; and the water treatment of the river.

As a non-profit partnership, the majority of Bilbao Metropoli-30's budget is obtained from its members. In 2008 the total budget was USD 2.9 million<sup>44</sup>.

Since its inception the Association has tracked Bilbao's turnaround using a series of metrics and publishing an annual progress report. One such metric is the "Creativity Index" which was designed by Charles Landry to measure the city region's creative capacity.



All of the projects under Bilbao's metropolitan renewal programme followed the 'culture and creativity' brief religiously. Immediately money was put into the metropolitan area to pedestrianise large boulevards. Bilbao's 19th century squares and elliptical circuses were filled with beautifully landscaped gardens overflowing with flowers. The streets were filled with fountains and places to sit. Pavements were doubled in width to give pedestrians more room to walk, and cars limited chance to park. Large parking lots were built outside of the city to encourage people to ditch their cars before travelling into the city.

Today Bilbao Metropoli-30 actively curates the revitalised downtown by choosing where retailers should locate, and sometimes whether a retailer should open a premises downtown, particularly if it is not consistent with Bilbao's new identity.

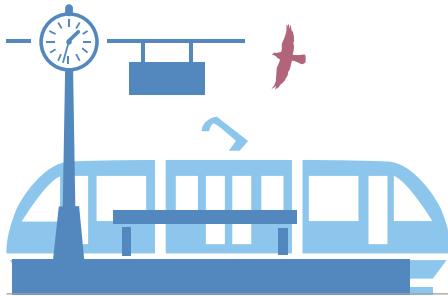
### Bilbao gets connected

If Bilbao was going to attract people into the city, the city had to be easier to get to. There was a small regional airport and an old train system that connected the Basque Country to the larger cities of Madrid and Barcelona. However, the region and city was relatively isolated. Many relied on ferries to get them in and out of the area.

The city lobbied the state company that runs Spain's airports, AENA. Following the investment the city had made to improve the riverfront and the downtown area, it was agreed a new iconic airport would be built, designed by renowned Spanish architect Santiago Calatrava, to keep in the spirit of the city's new identity. Today, there are some who say the new airport will soon be too small to accommodate the projected future visitor numbers. However, AENA, has been reticent to expand the airport; there are dozens of mothballed new airports across Spain, some in close proximity to Bilbao, a legacy of the pre-2008 Spanish building bonanza.

Once the city was better connected to the outside world, it became clear it should also be better connected within the city. If Bilbao was going to be a modern city that attracted the young and creative, it required a public transport system. In a flash of inspiration Bilbao awarded Sir Norman Foster + Partners the contract to design its metro stations. This wasn't going to just be a bog-standard metro system, but an award winning metro system. Today, 40 plus new metro stations resembling glass and steel caterpillars are dotted around the city. The locals affectionately refer to them as 'Fosteritos' after their architect. The state of the art metro system cost Bilbao USD 1.2 billion and was financed through long-term debt<sup>45</sup>.





## The Fightback

To further encourage people to use public transport, financial incentives are put in place to encourage people to leave their cars outside of the city when travelling in.

Following that, a modern tram system was built to connect the city's most heavily used facilities, for example the shopping centres, sports stadiums, universities and hospitals with the residential districts. In the centre of town the tram tracks are laid on a carpet of artificial green grass and painted green which makes them seem playful, another example of the creative flourishes that fill the city.

And if this had been the end of Bilbao's reinvention story, it still would have been impressive. The river had been cleaned, the riverfronts reclaimed and public access restored, new buildings built, the metropolitan area redesigned and new transport links put in place. But if the story of Bilbao had stopped there, the world would not know its story.

### The Guggenheim Museum arrives

In the late 1980s the Solomon R. Guggenheim Foundation in New York started to look for a site in Europe. An additional site would enable the collection to reduce the cost of storage and increase revenues.

The Foundation approached Salzburg, but at that time the city was focused on planning global celebrations for Mozart's bicentennial and declined. Madrid was approached but declined on the basis they already had a large number of museums and Barcelona declined as they were focused on preparing for the 1992 Olympics.

Bilbao heard of the Guggenheim's interest and put the city forward as a potential site for the new museum. The Guggenheim Foundation put together a team of people, including the renowned architect Frank Gehry, to scout potential locations. As the story goes, the team only visited Bilbao "to be polite" but had absolutely no intention of building the museum in the Pittsburgh of Spain. But when the team stood atop Bilbao's mountains and looked down on the city, Gehry was struck by the contribution an architecturally significant museum could play in the reinvention of the city.

Bilbao's City Council lobbied hard for the museum and made the Guggenheim Foundation a deal they couldn't refuse. Bilbao City Council offered to give a prime piece of land on the riverfront (the plot suggested by Gehry) and offered to cover the entire cost of construction and landscaping (USD 108 million), funds to pay for a Bilbao collection (USD 46 million) and a contribution to the Guggenheim Foundation of (USD 15 million) to pay for access to the New York based collections<sup>46</sup>. The Guggenheim Foundation readily agreed.

A competition was run to secure an architect with Bilbao City Council and the Guggenheim Foundation making a joint decision. The undulating metal design submitted by Frank Gehry was the only design that addressed and incorporated all requirements and the decision to award him the commission was unanimous. Construction was undertaken by the Spanish company Ferrovial and for a structure as complicated and experimental as the Guggenheim is, it is worth noting that the building was completed on time and to budget.

However, many of Bilbao's residents were furious. How, when the city was going through such a difficult period, could the city justify spending over USD 169 million<sup>47</sup> in cash on an American museum, designed by a Canadian architect? Despite the public outrage all of the Board members of Bilbao Ria 2000 jumped on board, as did the members of Bilbao Metropoli-30. It was a complete gamble. If the museum worked, it would establish Bilbao's new identity as a city of culture and creativity. And if it failed? When you're already on your knees, you can't fall that far.

People protested, editorials were written and politicians faced growing opprobrium. Bafflement grew as Gehry's strange structure rose from the ground. And then on 19 October 1997, Bilbao's Guggenheim opened its doors. And overnight the world turned its eyes to Bilbao. That day the museum featured on the cover of the weekend edition of the New York Times (as well as countless other newspapers and magazines), Microsoft introduced the word 'Bilbao' into Microsoft Word spell-check and the world's press travelled to gasp at the extraordinary building.





## The Fightback

When a few weeks later two Chinese tourists were spotted in Bilbao taking pictures, word quickly got back to the Mayor. "We had literally never had a Chinese tourist before. We knew then that the plan was working." Overnight the public approval swung behind the museum.

Before the Guggenheim was built about 170,000 people visited Bilbao each year. The year after the Guggenheim opened 216,000 visited and by 2011 the number reached 726,000<sup>48</sup>. During its first year alone, the Guggenheim contributed a USD 212 million increase to the city's GDP<sup>49</sup>.

Around the world this uplift in economic contribution is referred to as the 'Guggenheim Effect'. It has become urban planning short-hand for the establishment of a new museum as a means of creating new city wealth. But this misrepresents the story of Bilbao. The Guggenheim is the decoration, the icon, the symbol of a much broader renewal programme. Without the clean river, the reclaiming and clearing out of the riverbank, the new Metro, the investment in the squares, pavements, tram system and new port, the Guggenheim never would have happened.

And even if it had happened, it would not have succeeded. Of all the funds Bilbao's various renewal bodies have invested, the USD 169 million spent on constructing the Guggenheim constituted just over one percent of the total spend<sup>50</sup>. And while it has produced a stunning return on investment for the city, that return would not be possible without the city's other supporting pieces in place.

In 1999 Bilbao elected a new mayor, Inaki Azkuna. Azkuna was not a lifelong politician but had worked as a manager of the Hospital de Cruces and Minister of Health for the Basque government. The new Mayor spearheaded a major programme of public building works, using the success of the Guggenheim to attract the world's leading architects. Under his tenure Bilbao built scores of innovative and architecturally significant buildings to support Bilbao's identity as a city of culture and creativity.



## Bilbao's beautiful buildings

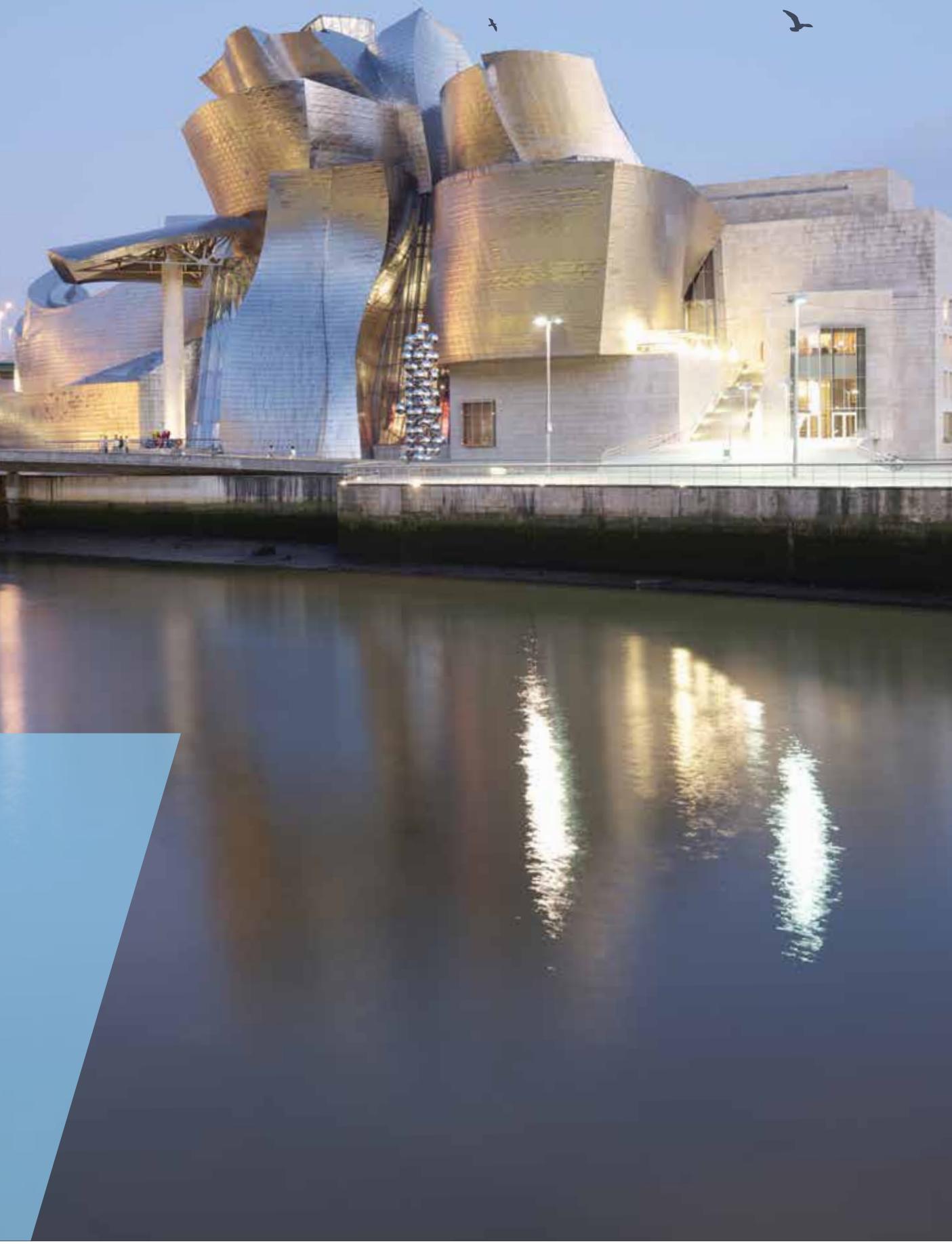
One of Bilbao's most striking buildings is the Euskalduna Music and Conference Hall which was designed by Federico Soriano and Dolores Palacios. Located next to the Guggenheim this conference centre now attracts global conferences.

A former wine warehouse in the centre of Bilbao was converted into the Alhóndiga Cultural and Leisure Centre designed by Philippe Starck. The vast city block sized building houses three floating buildings supported by 43 columns individually designed by Stark. A glass-bottomed swimming pool floats atop, a cinema sits below and a large library is suspended in the middle, all surrounded by restaurants, cafes and art installations. At 10pm on weeknights the library is full of Bilbao's students revising and Bilbao's older residents reading newspapers.

Directly outside an outdoor living room, lit by large plastic Stark designed lamps provides another outdoor space.

A new Exhibition Centre was built outside of the city to prevent car congestion to house large concerts. Once this opened international acts such as Rihanna, Bruce Springsteen, The Who, AC/DC and Iron Maiden started to include Bilbao in their international tour schedules to the delight of all citizens. Changes such as this made residents feel that Bilbao was now on the global map.

Even the new Basque health service building was commissioned to be architecturally significant. The building resembles a glass sculpture and was designed by the French architect Juan Coll-Barreu.





## The Fightback

As new buildings across Bilbao emerged, tourist numbers continued to grow, tax receipts rose and the city's GDP increased. The Mayor was eventually awarded the World Mayor of the Year title for overseeing the conversion of Bilbao into a globally important cultural centre. What makes this era so astonishing is the fact that whilst all of these public works were being paid for with cash, the Mayor was actively reducing the city's municipal debt. By 2011 not only had Bilbao City Council commissioned and built scores of astounding architecturally important buildings, but it had completely cleared all of its outstanding debt<sup>51</sup>.

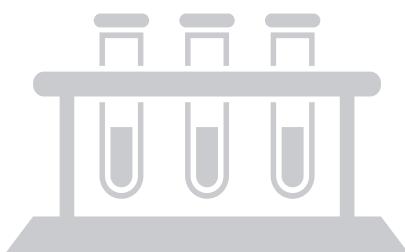
### Making room for research & development

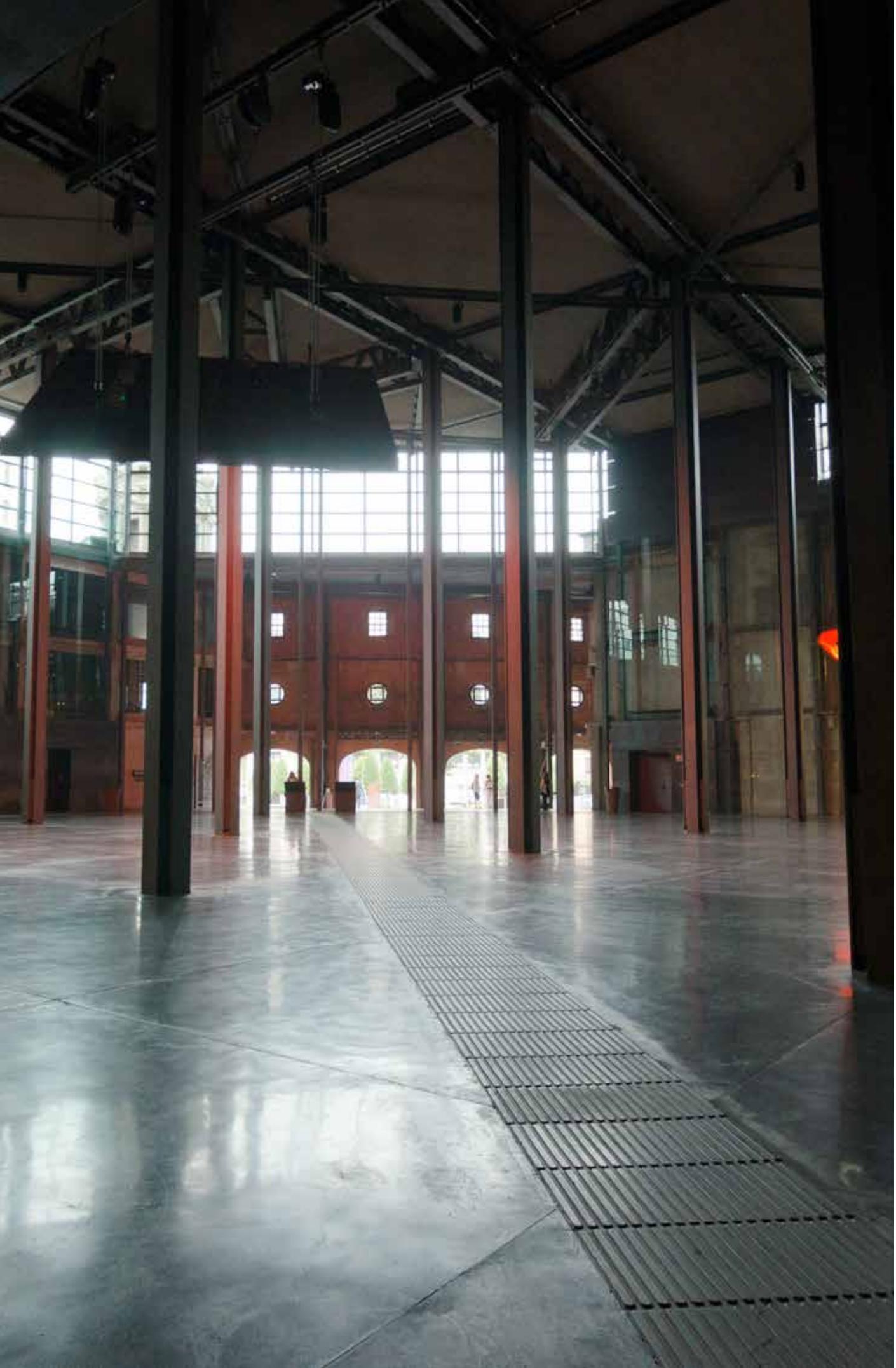
Following the comprehensive renewal of the city, it was clear the plan was working. Younger people were staying in the city and younger people were visiting and moving into the city. Since 2008, the city has turned its attention to find ways to support the creation of new businesses. While industry, now relocated to the outer port and new industrial parks outside of the city, remains the bedrock of the economy, the city is focusing on ways to support the new wealth creators of the future. The Basque Government has always supported research and development and allocates 2.08 percent of its budget to support the development of new technologies, industrial approaches and businesses<sup>52</sup>. As a result Bilbao has always supported new thinking and experimentation. But since the global recession began, more activity has been underway to actively support the creation of new ideas and businesses. In 2011 the city persuaded the cutting-edge DigiPen Institute for Technology, a private provider of bachelor's and master's degrees in video game creation, to open a campus in Bilbao. DigiPen was established in partnership with Nintendo and has its main campus in Redmond, Washington and a small campus in Singapore. One of the reasons DigiPen chose Bilbao as their first European campus was because of the city government's dedication to the development of new clusters.

The Bilbao and Biscay City Councils established the Bilbao-Biscay Design and Creativity Council (BiDC) to support and promote the establishment of companies involved in the audiovisual sector including fashion, video games, design and digital content. More than 200 private companies are involved in incubating and promoting Bilbao's new start-ups<sup>53</sup>. The Basque Government funded a not-for profit to create a city infrastructure for Bilbao's creative residents to try and prevent them from leaving Bilbao. A new fabrication laboratory, or 'FabLab' has been set up in conjunction with MIT.

Creativity Zentrum is another organisation in the city which brings together the city's architects, graphic designers, artists and creative business entrepreneurs. They provide a creative laboratory space for people to meet and run courses that are open to the entire city in a redesignated church called 'Bilbao Rocks'. Interestingly Creativity Zentrum was founded not by a struggling creative, but by an economist, Pedro Ruiz Aldasoro, who recognised the best way to build a new sector is by joining up independent economic units to form a critical mass.

All of these efforts are proving fruitful. A number of Bilbao's start-ups are gaining attention on the global start-up stage. In turn, this international attention is drawing people to Bilbao to set up new businesses. However, much of the city's attractiveness to young wealth creators is down to the city's new buildings and cultural centres, a vibrant playground for creative professionals.





# THE VICTORY

52

MAGNET CITIES | BILBAO

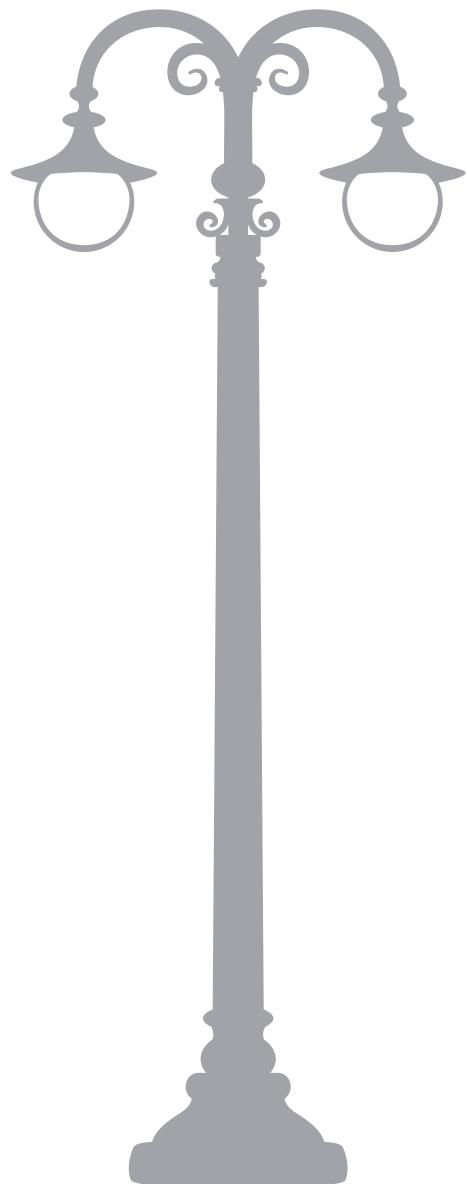


“One of the reasons Bilbao has done relatively well during this difficult period is because of the changes to its underlying economy.”

Bilbao's reinvention victory is most clearly evidenced by its economic numbers. In 2008 the Basque Country contributed 6.3 percent to national GDP, significantly more than other Spanish cities on a per capita basis<sup>54</sup>. GDP per capita is much higher than that of most other European cities; Bilbao's GDP was USD 33,500 per capita in 2010 compared with USD 31,800 in the United Kingdom and USD 30,000 in France<sup>55</sup>.

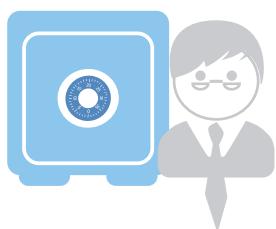
Numbers aside, when you walk around the city, you can feel the magnetic pull. People fill the streets, the restaurants are full and a determination to design the new, whether it is a new building or a new business, drives the culture.

Interestingly Bilbao has also ridden out the post-2008 Spanish recession relatively well. Unemployment in Bilbao stood at 10.64 percent in 2010, high by most standards, but significantly less than the 20 percent national unemployment rate<sup>56</sup>. One of the reasons Bilbao has done relatively well during this difficult period is because of the changes to its underlying economy. The city's economy is much more diversified. Industry remains important and drives 30 percent of Bilbao's GDP<sup>57</sup>. But this is significantly less than in previous years, proof that the new technology and start-up focused economy is already beginning to bear fruit.



# THE PRINCIPLES

## How Bilbao applied the Magnet City Principles



### Magnet cities attract young wealth creators

Early on in Bilbao's renewal programme city businesses and leaders understood that young, creative people would help the city recover. In later years, the city has focused on wealth creators, specifically the founders of new businesses.

### Magnet cities undergo constant physical renewal

Bilbao has undergone one of the most extensive physical renewals of any developed city. The city has changed the function of the urban core. What was once an industrial area is now a thriving tourism, residential and commercial area. The city's commitment to updating the physical fabric of the city is unabated. Architecturally significant buildings and bridges are commissioned regularly to ensure the city continues to evolve.



### Magnet cities have a definable city identity

For many years Bilbao was given a derogatory nickname 'El Booto' by many in Spain. The city has established a firm new identity for culture and creativity that is not just recognised in Spain, but recognised internationally. The city has worked extremely hard to make sure every element of its reinvention, from its new airport, to its new subway system builds on this identity.

### Magnet cities are connected to other cities

As part of its reinvention plan, the city lobbied for the construction of a new world-class airport and intra-city transport lines. Following the city's economic revival, the Spanish government is now building a high speed rail link between Bilbao and Madrid to help the rest of the country benefit from its resurgence.



**"As new buildings across Bilbao emerged, tourist numbers continued to grow, tax receipts rose and the city's GDP increased."**



### Magnet cities cultivate new ideas

Not only does the Basque government have a long history of funding research and development, but the city has used a number of assets to help businesses flourish and grow. The creative culture of the city makes it a natural place to develop new ideas.

### Magnet cities are fundraisers

While the Basque government is in a unique place as it has almost total financial autonomy, the regional and city government funded most of the major infrastructure improvements through a combination of tax receipts and private investment. The government was able to do this by using future tax receipts as collateral against debt. However, the city has also actively encouraged educational institutions and research institutes to locate in the city, without city financial support.



### Magnet cities have strong leaders

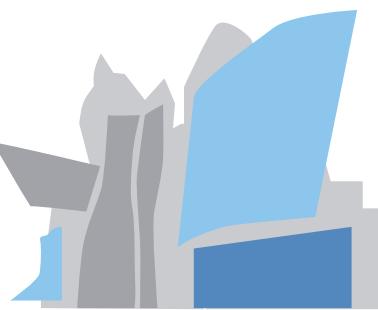
The city has benefited from a series of strong Mayors and business leaders, such as the Chief Executives of the Bilbao Port, major industrial companies and railway lines. It was the collaborative working between this group, a group that could see the long-term health of the city was critical, and so were willing to make short-term sacrifices. Without leadership of this nature, it is unlikely that Bilbao's river would have been cleaned up, let alone the rest of the city renewed.



# TIMELINE



Bilbao's award winning metro system was opened at a cost of USD 1.2 billion



The Guggenheim Museum opened and Bilbao's economy saw immediate growth

Euskalduna Music and Conference Hall opened  
Inaki Azkuna elected Mayor

1995

1997

1999

2000

2002

2004

2011

New airport terminal, control tower and runway extension opened



A tramline was built which linked a number of Bilbao's most popular facilities

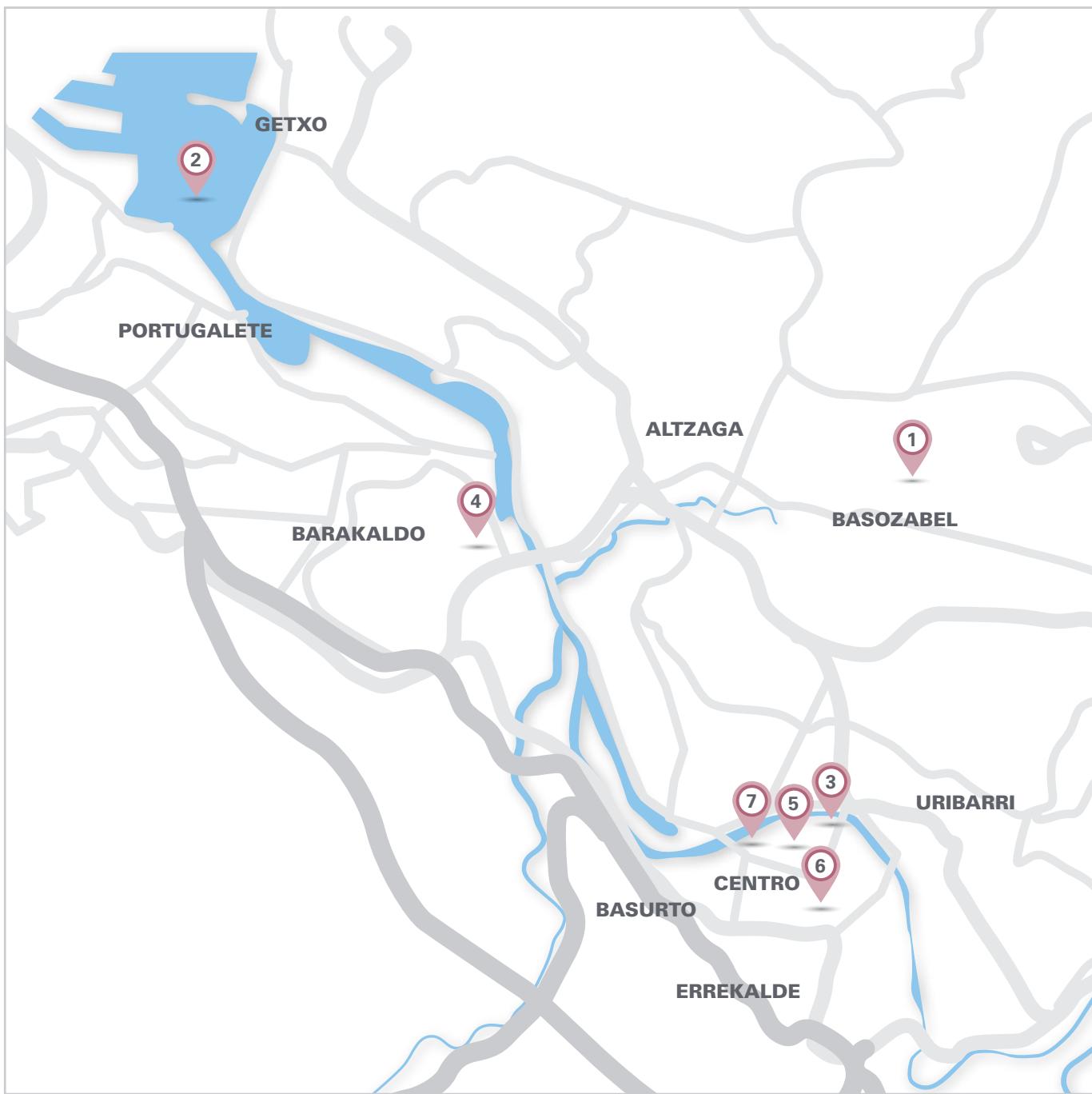


The construction of Iberdrola Tower was completed

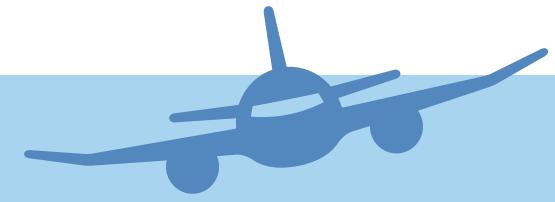


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# MAP







# Changwon

The city that created an artists' village





# INTRODUCTION

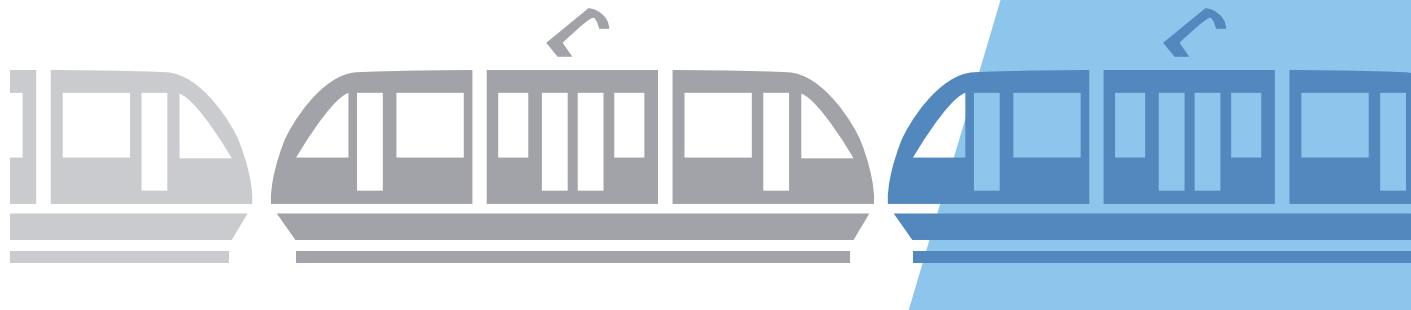
Changwon City is a paradox of a city<sup>59</sup>. At first glance Changwon appears a typical Asian city: the roads and pavements brim with people; residents walk, eat and speak with urgency; fine architecture does not feature; food plays a central role in daily life and entertaining; and the city works and plays around the steady beat of its industrial heart.

Yet behind the white heat of its booming industry lies a city that provides its residents with a high quality of life, green spaces, bicycle paths, recreation and employment opportunities. And this is why Changwon is a paradox. It is both a classic Tiger city and an experimental city.

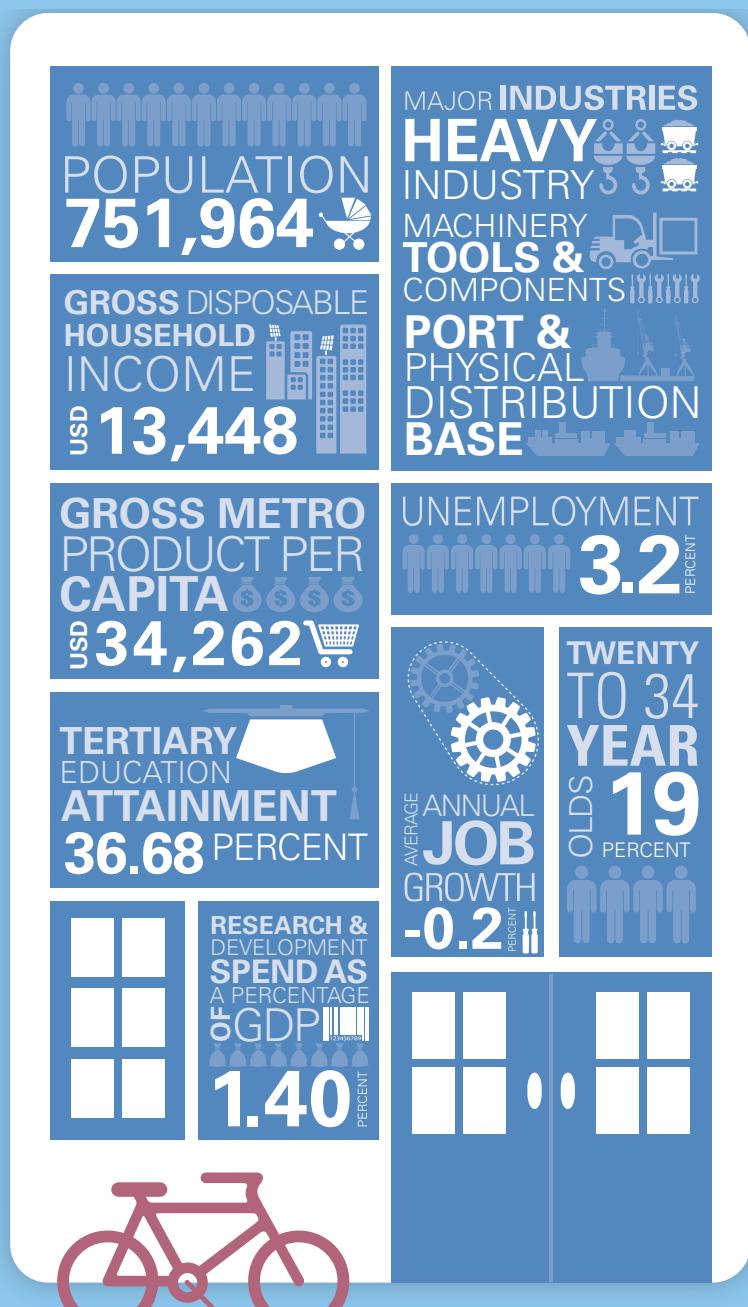
Ten years ago, Changwon was a very different place. It was in fact three separate cities all located in close proximity: Masan; Jinhae; and Changwon. The three cities competed against each other for residents, employees and funds. Masan was experiencing population decline, high unemployment, crime and urban decay. Meanwhile Changwon's rising population was outgrowing the city, putting stress on its infrastructure. Factories along the river belched air pollution and contaminated rivers and streams. Jinhae, a seafront city, was essentially a stand-alone military base that had little interaction with the region. The three cities functioned separately and economic growth in the region was viewed as a zero sum game; one city's gain, was another city's loss.

Yet today, Changwon is one cohesive city. The three legacy cities work in harmony and no longer compete. Each has its own unique rhythm, economic base and contribution to the new city's growing strength.

This is the story of how three cities reinvented themselves by becoming one. The story of Changwon differs from the other case studies as the economic outlooks of the three cities were different: two were negative magnets and one, the original Changwon, was positive. But by agglomerating the three cities into one all of the cities were given a new lease of life. The pressure on Changwon was relieved and the cities of Masan and Jinhae were turned into positive magnets.



## CHANGWON METRICS<sup>58</sup>





# THE DECLINE

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## “Over the coming years Masan fell into a spiral of decline.”

Changwon is located on the southern tip of the Korean peninsula. Of its three legacy cities, Masan was the port town in the picturesque Masan Bay. For centuries Masan was an important city and was still Korea’s seventh largest during the 1970s<sup>60</sup>. Not only was Masan the administrative capital of the South Gyeongsang Province, it was also a thriving manufacturing and assembly hub.

In 1971 the Korean government designated Masan a free export zone to attract more foreign companies. As Masan’s residents were not highly educated, it became a centre for labour-intensive industries like textiles, garments, footwear and later electronics. The assembly of these products requires small fingers, women’s fingers to be precise. As a result Masan became the city of the female worker. In 1987, seventy six factories in Masan employed 278,000 women but just 8,000 men<sup>61</sup>. For half an hour each morning and afternoon, Masan’s female workforce filled the narrow and cobbled streets on their way to and from the factories.

Over time, more and more people migrated from the agricultural areas surrounding the city to work in Masan’s factories. The city simply couldn’t keep up with the insatiable demand by foreign companies. The cost of real estate sky-rocketed; entire families squeezed themselves into tiny apartments or spare rooms. When Korea’s students began to protest for greater freedoms in the late 1980s, Masan’s factory workers aligned themselves with the protesting students and went on strike until they were allowed to unionise. Sadly this was Masan’s turning point.

Over the coming years Masan fell into a spiral of decline. Many factory owners decided to shut down their operations. Assembly factories were relocated to countries like Taiwan and China. Masan’s factories went from employing 278,000 workers in 1987, the year of the protests, to just 20,000 shortly after<sup>62</sup>. Masan’s female workforce was unemployed and found it difficult to make ends meet. Property prices crashed.

The city’s tax receipts plummeted and the city government could not afford to maintain the streets, streetlights or buildings. The old and historic city fell into a state of disrepair. If that wasn’t bad enough, Masan suddenly found itself in competition with a brand new Korean city, the newly built city of Changwon, located just six kilometres away.

During the 1970s the Korean government worried that the US’s commitment to South Korea’s future security was weakening. President Park, the President of Korea, decided to embark on a massive industrialisation programme to ensure Korea had the means and the skill to protect itself. This required the development of a domestic weapons production capability that, in turn, would require a sophisticated machining industry. But where to build an entirely new city dedicated to heavy industry?

Changwon was chosen for several reasons. There was a large area of available land (“a barren tract of rice paddies and muddy shores”)<sup>63</sup> situated between the southern coast of Korea and a series of circular ridges that provided protection; the site was the maximum possible distance from North Korea; the climate was mild and humid, ideal for machining; the Nakdong River provided a water source and firm soil made it ideal to build large factories. Many Korean politicians knew the area as they had attended Korea’s Naval Academy at Jinhae, a small city located in the area that housed Korea’s main naval base as well as America’s naval base, a legacy of the Korean War.

The Ministry of Trade and Industry was given the task of planning the new city and the team alighted quickly on the idea of using Canberra, Australia as their model. The team admired the way the city was planned and designed. Changwon’s master plan was designed by a mechanical engineer and the functional design reflects this. The city boundaries were drawn in the shape of an American football. A single road, Changwon Boulevard, dissects the two halves of the city length-wise.

## The Decline

The southern half of the city was given over to the new Changwon Industrial Complex, the home of Korea's new weapons business. And the north of the city was given over to residential housing, provincial government, schools and amenities.

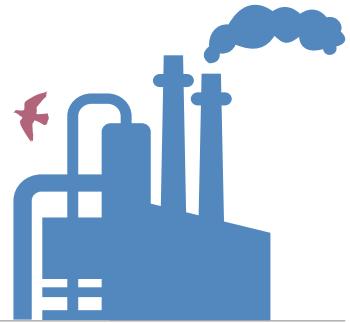
Interestingly both the northern residential and southern industrial halves of the city were built using a mixture of private and public funding. Housing designed for middle to high income families in Changwon was typically provided by the private sector, while the Korea Housing Corporation provided the more moderately priced housing for low income earners.



## Korea Land and Housing Corporation

The Korea Land and Housing Corporation (formally Korea Housing Corporation) is a state owned corporation that has been responsible for the construction of 2.18 million houses as well as the development of industrial complexes and free economic zones<sup>64</sup>.

This includes Changwon Industrial Complex which was built in 1974 and currently covers an area of 25,302 metres<sup>65</sup>. 2,400 corporations are based in the complex with nearly 92,000 employees<sup>66</sup>. The main production includes industrial machinery, electronics, transportation equipment, steel, petroleum and chemicals.

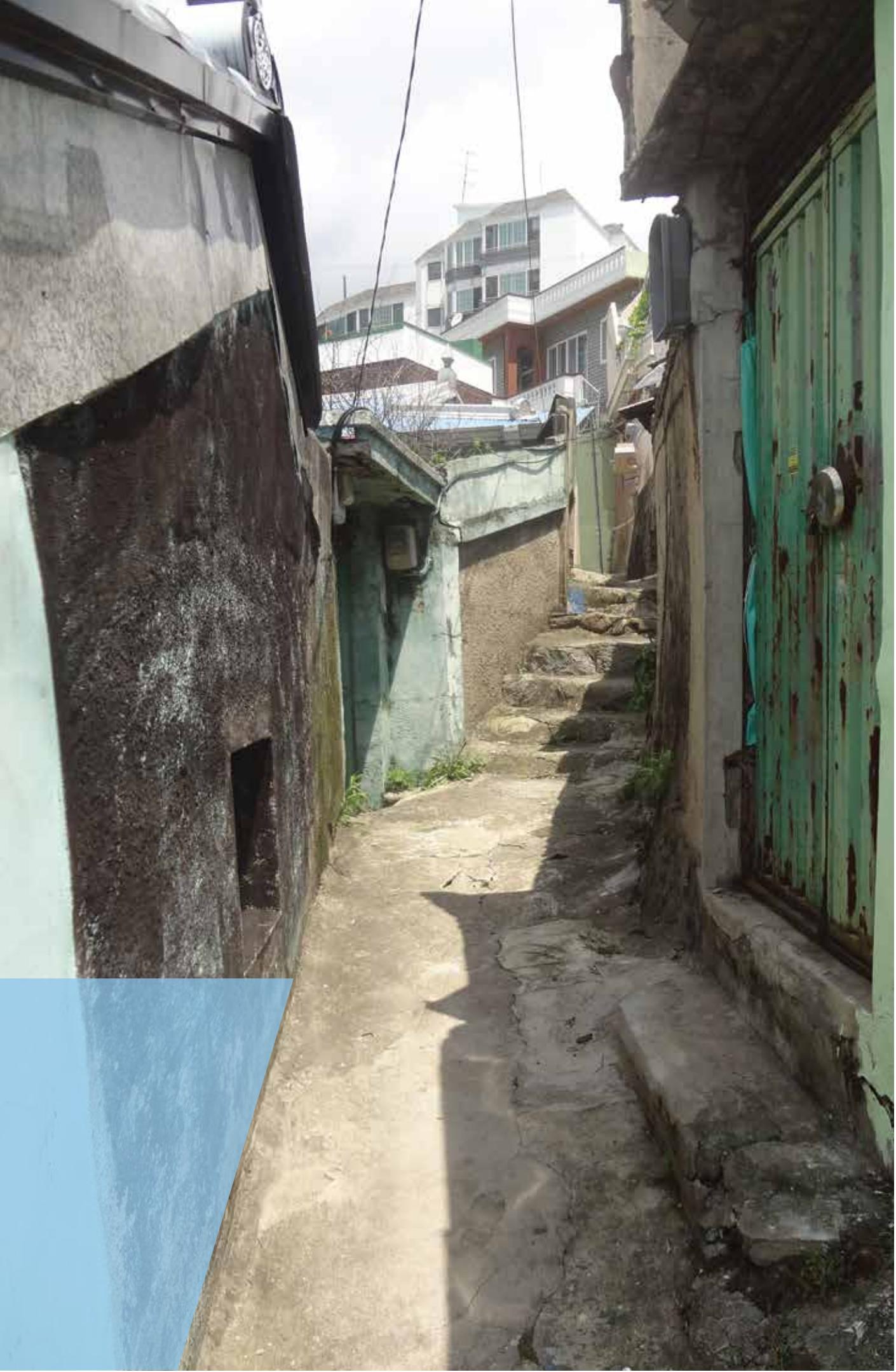


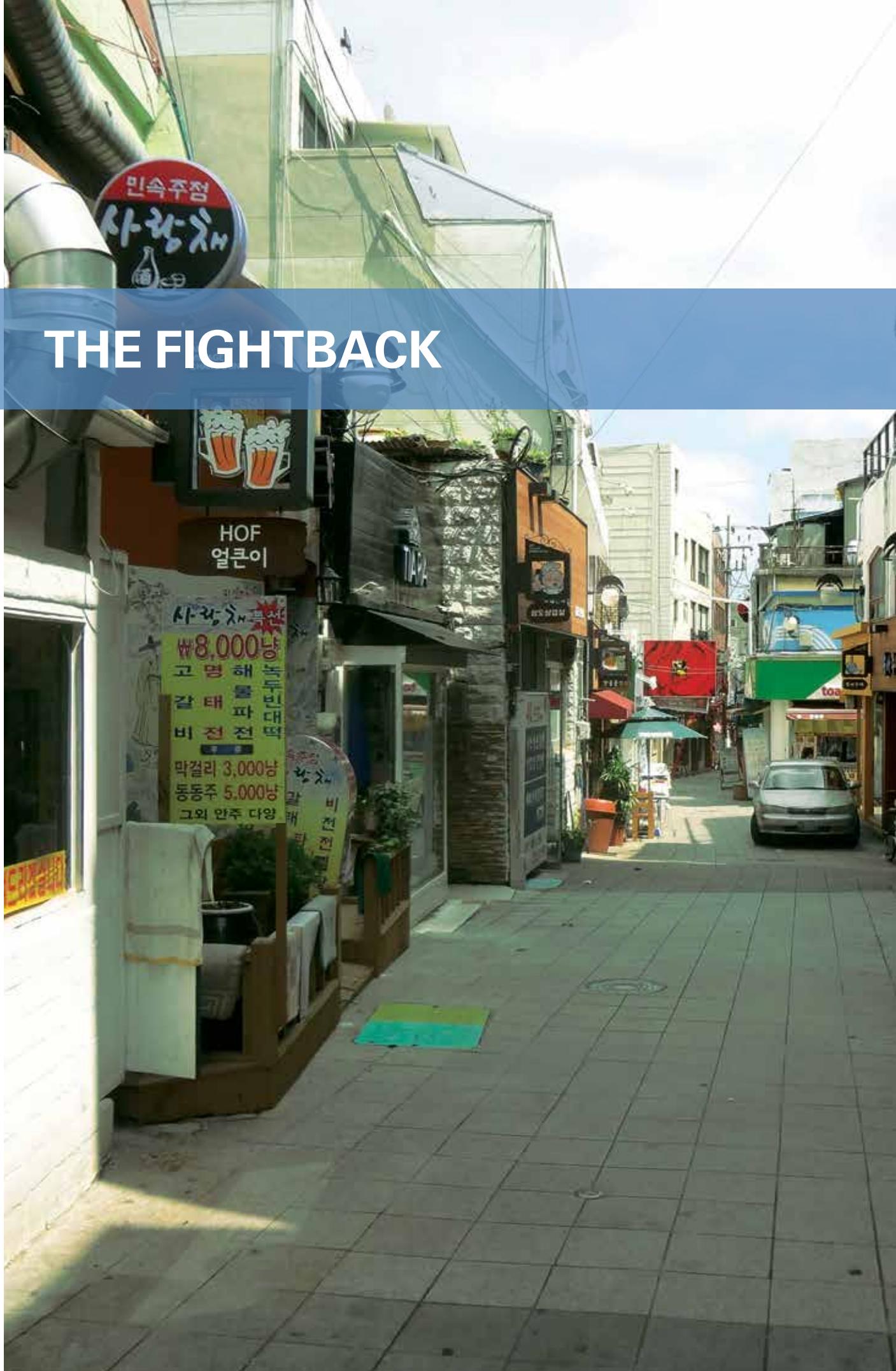
As Changwon's glistening new skyline rose, provincial government agencies based in Masan relocated to the shiny-new city. Once the provincial government moved to Changwon, many of the noodle shops and bars that fed and watered South Gyeongsang's government officials could no longer stay open. Masan had lost its factories and its status as the provincial capital in less than ten years. The population continued to fall and those that remained were older and deprived residents, a great number of whom had social problems. Masan had become a city for the left-behind.

While Masan suffered the effects of economic decline, the new city of Changwon began to suffer growing pains. The decision to concentrate resource hungry industry next to a river and then locate it smack-bam next to a residential area was causing problems. The air quality was terrible thanks to factories pumping out waste product all day. The river was highly polluted as it served as the industrial sewer. And if that wasn't bad enough, it was proving immensely difficult to move around the city. The city had been designed for 300,000 residents, yet by 2008 the city and surrounding metropolitan area contained 765,000 people and was still growing<sup>70</sup>. Most of the population was driving cars in the same direction at the same times. What had seemed sensible on a § was not working well in practice.

It accounts for 80 percent of all machine tools and 20 percent of all machinery components produced in South Korea<sup>67</sup> and produces USD 23.5 billion worth of goods annually<sup>68</sup>.

A development arm of the Ministry of Trade and Industry was responsible for the design, development and planning of the complex. The central government covered the operating expenses until it became self funding in 1986. This was achieved through receiving five percent of the proceeds of the sale of land to companies<sup>69</sup>.





**"In 2006 Mayor Park declared that Changwon would become the Environmental Capital of Korea, a huge ambition given the environmental state of the city."**

Both Masan and Changwon continued on the same path for most of the 1990s; Masan became more deprived as Changwon became more condensed and polluted. And it is likely that the course of the two cities would have remained the same had it not been for the 2004 bi-election in Changwon which was triggered when the incumbent Mayor was forced to resign for violating election laws.

In 2004 Park Wan-Su was elected Mayor of Changwon for an initial period of two years. Park Wan-Su was not the usual Mayoral candidate. Unlike many of his political contemporaries, Mayor Park was a completely self-made man. Born into a poor farming family, Mayor Park put himself through technical school and university at night by working in factories during the day. After passing the national civil service exams, Mayor Park spent twenty years working as a public administrator, gained a PhD and taught at university level. He was eventually made Dean of the School of Public Administration at Kaya University.

Park ran for Mayor because he could see Changwon's potential and understood that a strong leader was required to meet the challenges the city was facing. In turn, the people of Changwon voted for Park because of his can-do attitude. He thinks and behaves like a benevolent patriarch, not a political operative: "[a] true leader ... takes care of citizens' lives like a household manager and quietly implements his duties<sup>71</sup>".

### Changwon becomes an environmental city

When Mayor Park came into office the city of Changwon was booming. But it was a city in trouble and the Mayor was acutely aware it was heading towards a tipping point. Changwon was becoming difficult to live in. Pollution levels were extremely high and residents' health was being impacted. The main river that travels through the city was highly toxic and the roads were so congested it was difficult to move around the city. If Changwon didn't do something quickly it would start to lose major factories.

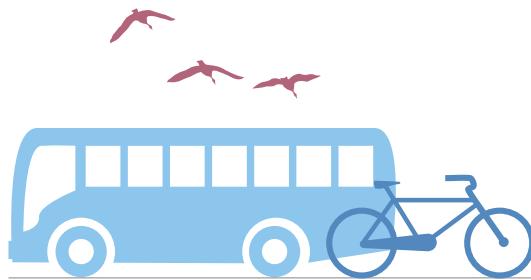
The Korean Government had become enamoured with the idea of Free Export Zones – in total eight had been created across the country<sup>72</sup>. Unless Changwon improved living conditions, Korea's chaebols<sup>73</sup> and multinationals would favour these zones and move their operations out of the city.

The Mayor decided to change the identity of the city. If Changwon was going to grow it would need to dramatically change what the city stood for. In 2006 Mayor Park declared that Changwon would become the Environmental Capital of Korea, a huge ambition given the environmental state of the city. One hundred separate projects to turn Changwon into a sustainable urban city were planned out over a period of 14 years<sup>74</sup>. The projects were all geared to improve air quality by reducing fine dust particles and nitrogen dioxide; improve water quality; increase green spaces and introduce green rooftops; reduce domestic waste and increase the use of renewable energy. It was a gamble. The Mayor required the city's factories to sign up to voluntary emissions reduction targets which they did.

Over the next few years, the river and its tributaries began to become cleaner as an underground water treatment facility was built; factories were required to reduce pollutants; a marine solar park was established and a combined heat and electricity micro-grid was introduced. In addition heat was generated through a major garbage incinerator plant and landfill methane was recycled.

The residents of Changwon were also expected to play their part. Cars were a big problem between the constant congestion and the lack of parking places; the planners in the Ministry for Industry and Trade had not foreseen Changwon's residents being so car-centric and had not created areas for parking.

The difficulty was that people were very unwilling to sacrifice their cars; cars were a sign of economic progress and wealth. To wean people off four-wheels the city implemented a real-time bus information system with ubiquitous LED destination boards and LCD video systems to create smart bus stops.



## The Fightback

During later years the city polled residents and introduced a range of experimental ideas to further lure people away from cars including express city buses, luxury city buses and new bus routes.

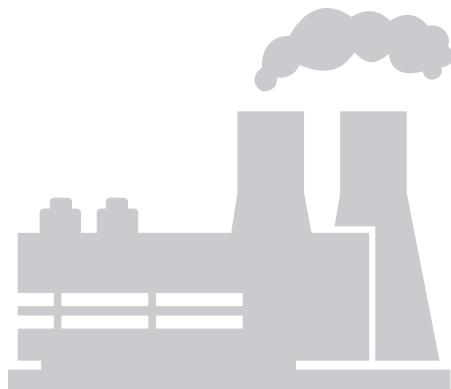
The Mayor and his team were determined to make Changwon a city where people regularly used bicycles like Amsterdam, Copenhagen and Paris. To begin he prohibited all civic staff from commuting by car if they lived within a three kilometre radius of city hall.

Opposition was initially tremendous. But once everyone saw the Mayor commute to work by bike more and more residents started to bicycle. Local cycling schools were set up, a bicycle policy department was established in Changwon Hall and a bicycle accident insurance scheme was launched. And to top it all the NUBIJA bicycle scheme was launched. Based on Paris' Velo bicycle rental scheme, the NUBIJA Bike System which stands for 'Nearby Useful Bikes, Interesting Joyful Attraction', was one of the first bike rental scheme in Asia. The bicycle scheme was seen as so quirky, so utterly un-Korean, it redefined the city and Changwon became known across Korea as the 'special bicycle city'. At Christmas the Mayor and residents ride bicycles in the Changwon Santa Bike Parade to raise money for the needy.

The benefits of this hard work came quickly. Not only did the air and water quality start to improve, but global organisations became aware of Changwon for the first time. In 2008 the United Nations held the UN Ramsar Convention in Changwon. The significance of this cannot be overstated. Just four years earlier, Changwon was a city that was known only in Korea, and not for particularly positive reasons, mainly pollution. Suddenly global organisations were talking about Changwon as an environmental role model in international circles. The city had its debut on the world stage, and the residents of Changwon were delighted.

To counter what could have been seen as anti-business sentiments, at the same time he launched the city's environmental campaign Mayor Park also launched a pro-industry campaign, "We love our Companies". Eighty-eight separate measures were put in place to make Changwon more business friendly<sup>75</sup>. All of Changwon government's internal systems and processes were reorganised to help businesses; company days were introduced; a business hall of fame was established; an executive of the year award was introduced; and a 'We Love Our Companies' team was established in Changwon City Hall.

The Mayor's team also found ways to cut red-tape, make tax rates competitive and invest in technical schools to encourage more factories to locate in Changwon. Ten years after the campaign was launched, it is not uncommon to walk down Changwon's streets and see a 'We love our Companies' banner. To remind Changwon's residents of the importance of industry and factories, in 2012 the city held the first annual 'Changwon Festival' which celebrates the city's industrial heritage.







## The Fightback

### Three cities become one

As Changwon turned a corner under Mayor Park's stewardship, the outlook for Masan continued to look bleak. The average age of the population rose as the overall population declined<sup>76</sup>. The young were leaving Masan for neighbouring cities like Changwon or Busan. The city simply couldn't compete with its more economically ambitious neighbours. As incomes fell, the residents of Masan were becoming more troubled.

Once bustling streets full of food stalls and shops now stood derelict. Petty crime had increased and people were unwilling to leave their houses at night. Disenfranchised youngsters loitered in Masan's empty narrow streets drinking and vandalising empty properties. The owners of once valuable retail and residential property despaired as values plummeted; there was no point in maintaining the properties as there was no hope of ever finding new tenants.

Masan faced a choice. It could continue to operate as a struggling independent city or it could merge with the more prosperous city of Changwon. The opportunity for a merger had arisen following the Ministry of Public Administration and Security's announcement that cities with a population of greater than one million would be eligible for additional central government funding<sup>77</sup>. The central government also offered further financial incentives to the first South Korean city to merge voluntarily.

The residents of three neighbouring cities, Changwon, Masan and Jinhae agreed to merge into one new city named Changwon. The newly formed city would be run and managed as one entity by one Mayor. In 2010 an election was held to vote for the first Mayor of the new combined city and Mayor Park Wan-Su won easily. The Mayor who had turned Changwon around now had the task of figuring out how to recover Masan as part of the new integrated city. During his inauguration speech, Mayor Park broadly declared "Just as I have made Changwon a leading city in Korea, I will also help Masan and Jinhae grow. If we put our efforts together, there will be no obstacles we can't overcome<sup>78</sup>".

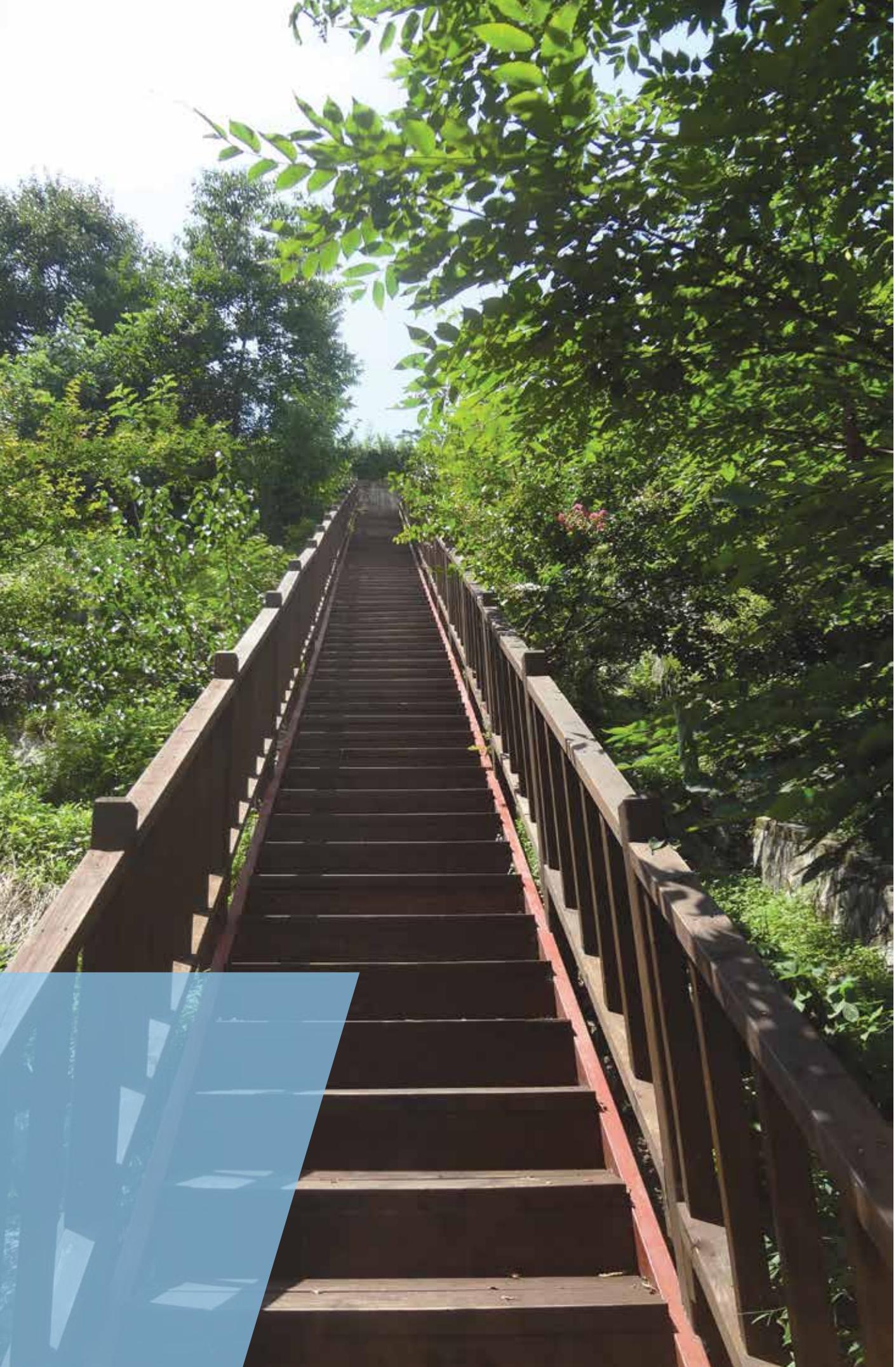
Mayor Park understood that to revive Masan's fortunes he would need to find a way to pull people back into the city, to re-magnetise it. He felt this would be easier if Masan stood for something new, something that would complement the neighbouring legacy cities of Changwon and Jinhae. He looked outside of Korea for inspiration. It was a given that industry would continue to be the mainstay of the new combined city's economy. However, he was eager that the new combined city would attract a different group of residents; residents that didn't work in industry and who could grow the combined city's economy in different ways.

Mayor Park and his team set out a vision which gave each of the three legacy cities unique and complementary roles in the new integrated city. Masan was to become the 'Sydney of Korea', the cultural and artistic quarter of the city; Jinhae, the coastal city that housed a Naval Base and Naval Academy was to become the city's outdoor recreational quarter; and the old Changwon was to become the home for smart industry – a place where companies based their research and development brains as well as their manufacturing brawn.



### Changwon launch

The starting point was to integrate the three cities at a basic level, a task that was achieved in 100 days. The three city governments were integrated, one area code was given to the whole city, taxi cabs were no longer allowed to charge premiums for driving between the three cities and 'unified' Changwon was launched formally. The integrated Changwon is a city with a population of more than one million residents and a combined budget of USD 2.3 billion<sup>79</sup>.





## The Fightback

### The Masan renaissance

The Mayor was clear that for Masan to recover, the city would need to attract a new generation of young people back into the city. But this was a big ask. Much of the city was derelict. Any youngster looking for a job would locate in Changwon where industry was booming and the city was cleaned up. Masan could never compete with Changwon on this basis. If Masan was to recover it would need to attract an entirely different group of young wealth creators.

It is the approach taken to reinvent Masan that makes Changwon such an interesting case study. The city set up a group consisting of university professors, local people and important figureheads called the Regional Development Promotion Committee. It was this group that first put forward the idea of linking modern-day Masan back to the artistic roots for which the city was known before it became a free export zone in 1970. Masan had produced a number of Korea's most well known artists, sculptors and poets including the world renowned Moon Shin. Moon Shin in particular had introduced the world to Korean sculpture and had worked and shown widely in Paris where his pieces were collected by many renowned institutions.

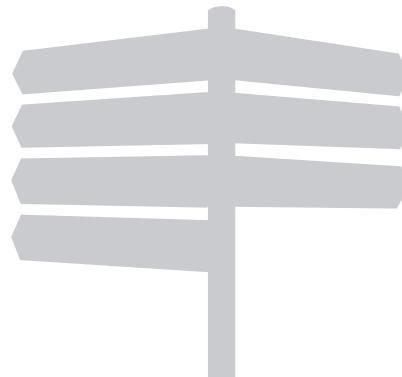
It was decided to return Masan back to its artistic routes. This meant accepting that industry would no longer play a vital role in Masan's economy. The Committee, in conjunction with Changwon government, held a nationwide contest to gather ideas for turning Masan into an artistic quarter. Moon Shin's son, Moon Jang Cheol, became personally involved and put forward a plan to turn Masan into a working artists' quarter. The empty shops provided the perfect place for struggling artists to work and the empty flats above them would enable artists to work and live in the same place. An influx of young working artists would attract galleries and restaurants into the area. This in turn would draw in visitors and art collectors. If the plan worked, the city would start to become magnetic again and draw in like-minded residents and businesses.

The city appointed Moon Jang Cheol as Chief Planner for what was to become 'Changdong Artist Village'. It was this link to Masan's heritage that made it easy for residents to accept.

To kick-start the reinvention, Changwon government negotiated with the owners of fifty vacant buildings located in the old historic centre of Masan. The city offered owners 60 percent market rent for a fixed period of two years<sup>80</sup>. All building owners signed up. It was far better to receive 60 percent rent for two years and benefit from an increase in property value than to receive no rent for the next two years and watch their properties lose more value<sup>81</sup>. Changwon government committed to pay the owners a total of USD 2 million over two years<sup>82</sup>. To prepare the area, the city cleaned up outside spaces, buried electrical cables, repaired the streets, hung street lights and built community exhibition spaces.

Meanwhile the Regional Development Promotional Committee and Moon Jang Cheol invited artists from across Korea to apply to live in Changdong Village. The offer was a good one. Artists were offered the opportunity to live and work for two years rent-free in a community of like minded people. The Committee held its breath and waited.

Not only was the committee inundated by applicants from Korean artists, but also from foreign artists. The Committee vetted the applications and 50 people were offered places. In May 2012, the Changdong Artists Village became a reality.







## The Fightback

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What is most striking about this story is the supportive, thoughtful role played by the city government. The city worked tirelessly with the residents, artists and members of the Promotion Committee to find ways to support the community's development. The city funds five "cultural and arts professionals" to support artists to think commercially and sell their work. Funds were provided to decorate the external facades of the buildings with paintings from children's books, portraits of Masan's famous artists and a bursary to buy interesting pieces of sculpture to hang on building walls and public spaces. A number of photographs showing the before and after of various streets hang throughout the quarter.

The effect is magical. As you walk down Masan's narrow, historic streets, potters, painters and sculptors work away in open ground floor spaces (Masan benefits from a warm and clement climate). Turning a corner you may be met by a pair of metal angel wings hung from a wall or a tongue-in-cheek graffiti painting. Tango music and Korean folk music echoes through the streets.

The city was determined to make sure that the new artists' community should benefit Masan's older residents and not leave them behind. So the city introduced a weekly Saturday market where Masan's older residents could sell goods alongside the city's new artists. Community-run businesses started to pop up and Masan's older residents set up co-operatives to produce tea, soap and candles to sell to the young artists.

So far, the experiment has been a great success. Changdong Artists Village is growing. International residency programmes are interested in the project; UNESCO has set up a residential artists' bursary and an international residency for foreign artists. Art dealers with experience gained in Seoul, Amsterdam and New York are opening up galleries in the quarter. And Changdong's artists are showing in Paris, London and New York. As international art buyers learn of these young artists, they also learn of the Changdong experiment.

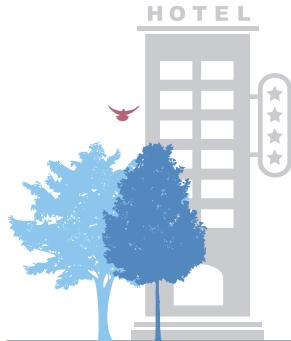
And most interesting of all, older residents in Masan have spoken and suggested the concept be extended further. They are pleased that the streets are cleaner, safer and livelier. They like the fact their city is being used well and its heritage remembered. And they like the fact this new community is drawing people into Masan, something everyone benefits from. Young wealth creators are turning the city around.

The city is working to introduce a second wave which will be based around the old city market, Boirim Market. The city has secured eighty eight buildings, but this time they are experimenting with offering artists eight year fixed term leases<sup>83</sup>. Changwon government would again cover the rent for the first two years, but then the artists themselves would pay a highly discounted rental rate for the remaining six<sup>84</sup>. The city is committed to turning the old Masan into an energetic creative quarter full of galleries, museums, festivals and markets for the benefit of all Changwon's residents.

ART  
VILLAGE  
CHANG DONG



조대감



## The Fightback

### Changwon gets a water park

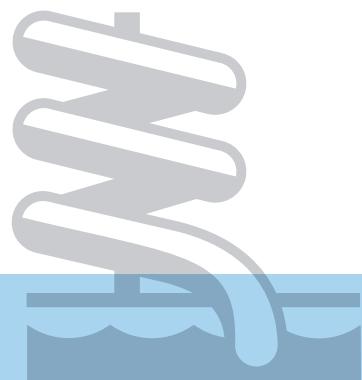
Alongside the regeneration of Masan, the city has also put investment into Jinhae, the third of the three cities to merge. Jinhae, the smallest of the three cities, was established as a naval base by the Imperial Japanese Navy during the Japanese occupation in the early 20th century. The city had always been a Navy corporate city, most residents were Korean Navy personnel and their families. For two weeks of the year millions of visitors would descend on Jinhae to see the world-famous cherry blossoms. However, the rest of the year the residents of Masan and Changwon rarely visited the area, nor made use of the 26 islands located off the Jinhae coastline.

Under regional plans, Jinhae was to become a world-class leisure and tourism complex called Ungdong using reclaimed ocean and several islands. It was to be Changwon's 'sunbelt for marine tourism'. The southern tip of Korea benefits from a much warmer and sunnier climate than the rest of the country and the waves around Jinhae bay are deemed to be some of the best in Asia for windsurfing and sailing. Yet little had ever been done to capitalise on these unique features. Plans are in place to build a Mediterranean-style mega-resort with golf courses, water parks, marina, resort village, casinos and five-star hotels. Construction is currently underway and the elements of the new park are due to be completed in 2015.

### Changwon makes room for the new

Now Masan was in the early stages of recovery, Mayor Park turned his attention to future growth. The heavy-industry base of the city would continue to play an important role. The city had to do more to support emerging ideas that industry would use tomorrow. Mayor Park's ambition was to reorient Changwon Industrial Complex away from being an urban factory to become Korea's Silicon Valley.

The Changwon government lobbied central government and secured funding to put a range of smart city building blocks in place. The Korea Electric Power Research Institute and the Korea Material Research Institute were located into Changwon along with 800 separate businesses with links to research<sup>87</sup>. Significant investment is being made into education and research; a Science and Research Compound Park is under construction which will include an R&D centre, a Green Growth Centre as well as Centre for Gifted Children in Science.



### Ungdong Tourism and Leisure Resort

The development of the Ungdong Tourism and Leisure Resort is funded jointly by the provincial government and a consortium of development, construction and leisure companies. The Gyeongnam Development Corporation (the provincial government's development arm) and the Changwon government invested in the reclaimed land, now known as Ungdong. The Youngwon-STX consortium will invest USD 260 million in the construction of the leisure complex in return for a thirty year lease, at which point the leasehold will revert back to Gyeongnam province at zero cost<sup>85</sup>. A similar agreement has been struck with a US-based consortium which has committed to invest USD 100 million in a water-park and aquarium<sup>86</sup>.



# THE VICTORY

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## “Since the three separate cities were pulled into one city, economic growth has been remarkable.”

It is still early days for Changwon's reinvention. What is remarkable is the amount of progress that has been made in such a short period of time. To begin, the numbers speak for themselves. Since the three separate cities were pulled into one city, economic growth has been remarkable. Between 2010 to 2013 Changwon's GDP increased by USD 7.9 billion<sup>88</sup>. And what suggests that this growth is linked to the newly merged city is the fact that much of this growth stems from new Foreign Direct Investment.

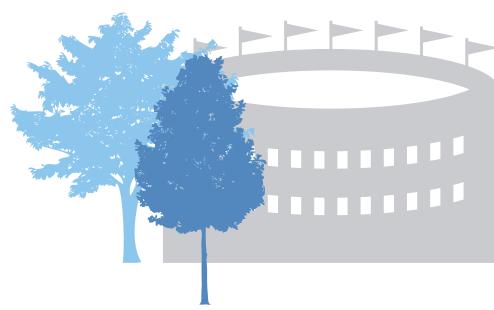
For example, Denso Group, a Japanese company that is the second largest automobile components manufacturer in the world, relocated its Korean headquarters from Daegu to Changwon and invested in a large-scale factory and auto parts research centre. General Motors has announced it is going to manufacture the Chevrolet Spark, a 5-door electric city car in Changwon. Doosan Heavy Industries, one of Korea's largest and most important companies recently won contracts to build the United Arab Emirates nuclear plants, in addition to the nuclear contracts they hold for the US and China. Following the improvement and investment in Changwon, Doosan has decided to base a new, huge manufacturing facility for its nuclear business in the city.

It will take some time, a few years at least, for the most deprived parts of Changwon to bounce back. The Changdong Arts Village, for example, is changing the character and outlook of Masan. But it will take several years for the cycle of renewal to be completed. What is most encouraging is the fact the people in these neighbourhoods have realistic expectations and understand it will take time. But with that said, coffee shops, restaurants and noodle bars are once again opening along the previously derelict and empty streets. When the larger Boirim Market opens, the changes in the area should gather pace.

And what of Changwon's first appearance on the world stage at the UN's Ramsar Convention in 2008? It turns out that appearance was the first of many. Since then Changwon was selected as the 'world's most desirable city to live in' in 2010 by the United Nations Environment Programme, a remarkable achievement given the fact the city's economy is based on heavy industry.

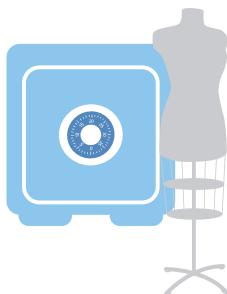
And further upping their game, Changwon submitted a successful bid to host the World Shooting Championship in 2018, one of the first international sporting events to be held in Changwon. Mayor Park has further excited Changwon's baseball-mad residents by helping to establish the city's first professional baseball team, the NC Dinos and basing them in the newly refurbished Masan stadium.

Considering many of the fruits of Changwon's reinvention labours are yet to blossom, these early achievements are quite impressive. Today Changwon is a city that can provide residents with a balanced life and a quality of life not available in many other Korean and Asian cities.



# THE PRINCIPLES

## How Changwon applied the Magnet City Principles



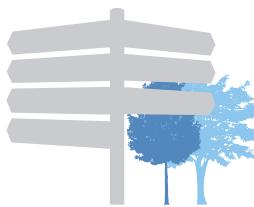
### Magnet cities attract young wealth creators

Changwon went about this in two ways. First, by cleaning up Changwon and making the city an environmental capital they attracted different businesses into the city. Second, the city targeted a very different group of wealth creators, young artists, into the old city of Masan to kick-starts its change of purpose, and with that its future economy.



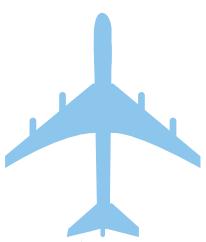
### Magnet cities undergo constant physical renewal

Changwon's leadership invests across all three legacy cities to improve the standards of the city and to create new features for residents, like Jinhae Islands. In the last few years the city has overseen a sympathetic refurbishment of downtown Masan to bring it back into life as an artist's quarter. Meanwhile in Changwon the Mayor's team have introduced more green areas, fishing areas and a range of new city-led amenities.



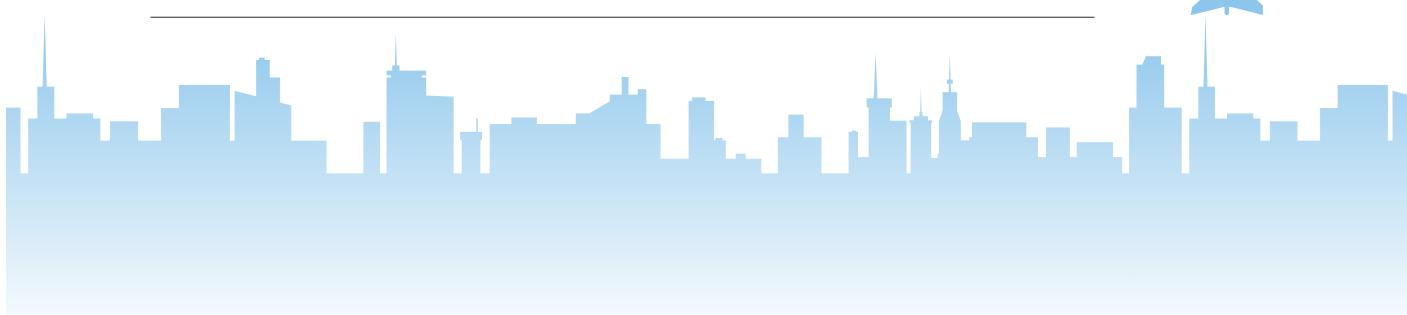
### Magnet cities have a definable city identity

The mayor of Changwon secured the city's future success by establishing a new strong identity for the city – the Environmental Capital of Korea. This sent a strong signal to businesses, residents and Korea that the city was undergoing significant changes.



### Magnet cities are connected to other cities

The city is connected to the rest of the world through Gimhae International Airport which is located 20 minutes away in neighbouring Busan. The airport is used for domestic and international flights and is used by the US and Korean military.



“... the city targeted a very different group of wealth creators, young artists, into the old city of Masan to kick-starts its change of purpose, and with that its future economy.”



### Magnet cities cultivate new ideas

The creation of the Changdong Artists Village is an interesting approach of bringing an unused part of a city back into use and providing physical space for creative young wealth creators to work on new ideas. The city has also provided significant space and funds to support emerging ‘smart technologies’ in the hope that today’s technological breakthroughs will lead to tomorrow’s manufacturing.

### Magnet cities are fundraisers

Changwon’s leaders have been very effective at securing funds from the Korean government for large technological investments. The city has also cleverly used small amounts of locally raised funds to seed further investment in the Masan areas and in the large redevelopment of Jinhae Island.

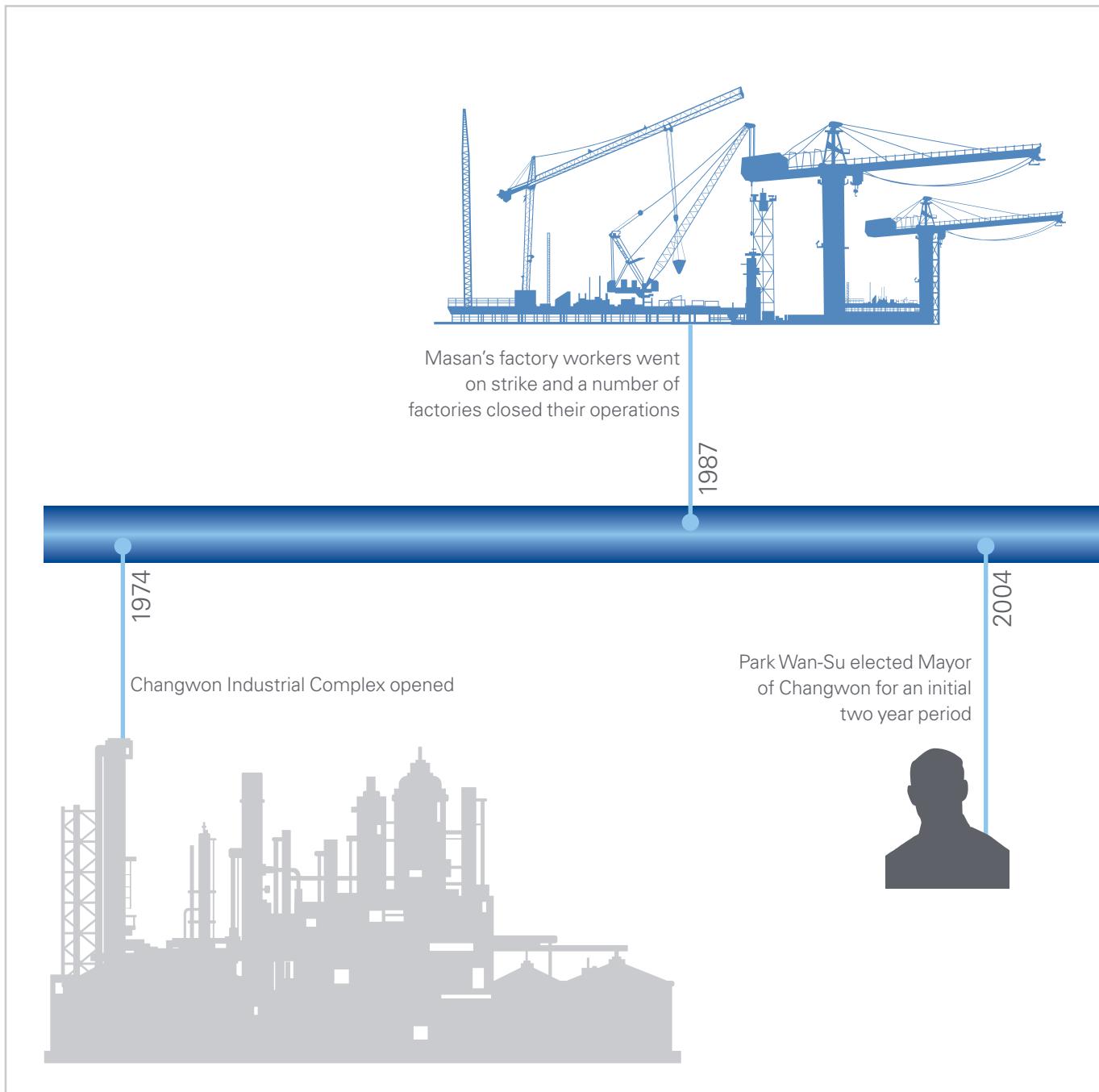


### Magnet cities have strong leaders

Much of Changwon’s revival is down to the vision and quiet determination of the current mayor, Mayor Park. Park has been instrumental in leading the development of the new vision for the city and introduced ideas developed outside of Korea. It is his personal mission to make life better for every resident in Changwon. It is this genuine desire to improve all residents’ quality of life that gets him re-elected into office.

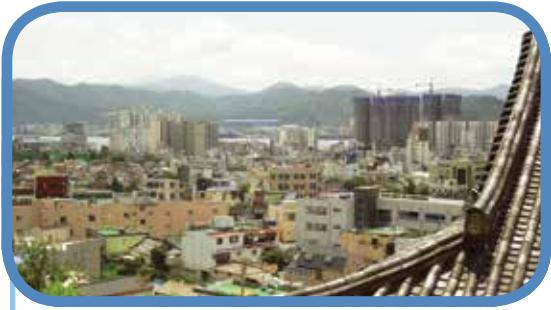


# TIMELINE





Mayor Park Wan-Su declared that Changwon would become the Environmental Capital of Korea



Changwon, Masan and Jinhoe merged to form the 'unified' Changwon  
Park Wan-Su elected Mayor of the newly combined city

2006

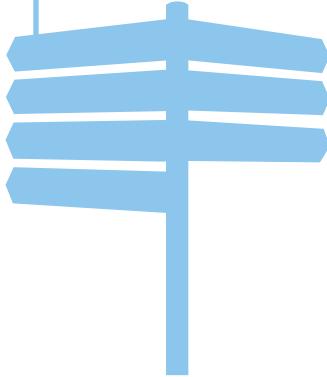
2010

2012

UN Ramsar Convention was held and Changwon was put on the international map



Changdong Artist Village was established to provide artists with the opportunity to live and work rent free for an initial two year period

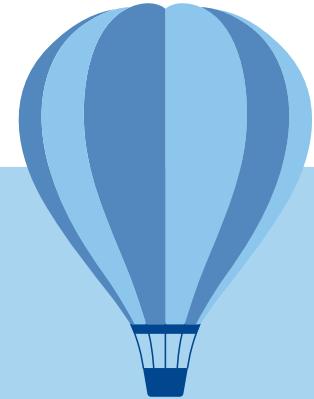


# MAP

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MAGNET CITIES | CHANGWON







# Christchurch

The city that used an earthquake to reinvent itself



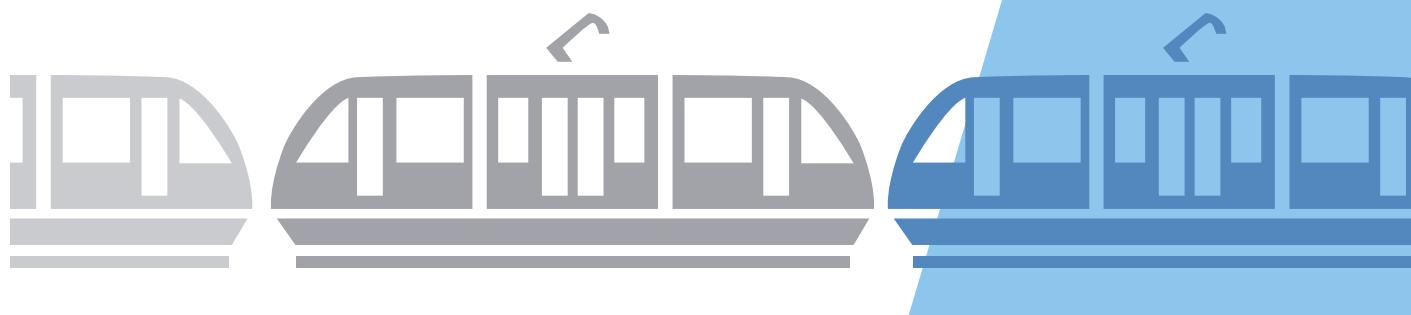


# INTRODUCTION

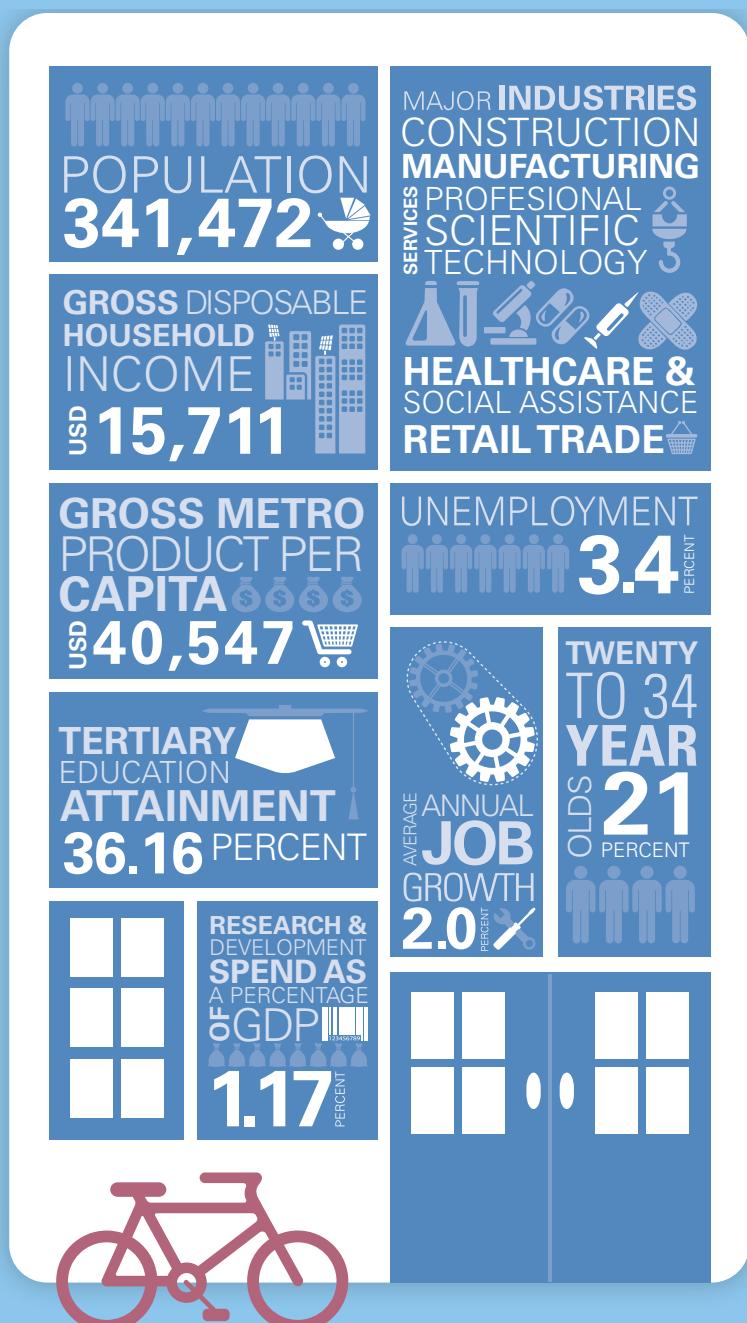
Christchurch is a coastal city on New Zealand's South Island nestled between the Pacific Ocean and a volcanic ridge to the west of the city called Port Hills. The unique geography means the city's residents spend their weekends skiing, windsurfing, golfing, whale watching and visiting vineyards. Those that stay downtown today visit a range of pop up shops, cafes, restaurants, bars and galleries and urban gardens scattered in what is a huge 387 acre construction site<sup>90</sup>. Christchurch is literally a city under construction. It is less than four years since two massive earthquakes shook the city, killed 185 people and ultimately led to the destruction of 1,000 buildings in the central downtown Commercial Business District (CBD) alone<sup>91</sup>. The city's business district was essentially wiped out; its history was erased as hundreds of historical Gothic Revival buildings including the city's Cathedral were destroyed; thousands lost their homes.

Yet today, the Canterbury region (of which Christchurch is the largest city) recorded six percent growth in the year to March 2013 against a national average of two percent<sup>92</sup>. In the same period, the region produced USD 22.6 billion of goods and services; a staggering increase of 33 percent since 2006<sup>93</sup>. The increases were largely driven by expansion in agriculture, manufacturing and accelerated growth in professional, scientific and technical services, a post-recession phenomenon. The construction boom created by Christchurch's USD 33 billion rebuild programme is also playing a significant role<sup>94</sup>.

The story of Christchurch differs from the other Magnet City case studies. It is the story of how a city has used an unprecedented natural disaster as a platform for reinvention. In times of crisis many cities hang onto the past; they immediately dive in to painstakingly recreate what was once there, whether it is lost infrastructure or a lost industry. Instead Christchurch's leaders have paused and thought long and hard about how the city should compete in the future. Based on that vision, the city is now rebuilding itself around a very different picture of what the city will need to offer to both businesses and residents if it is going to win economically in the future.



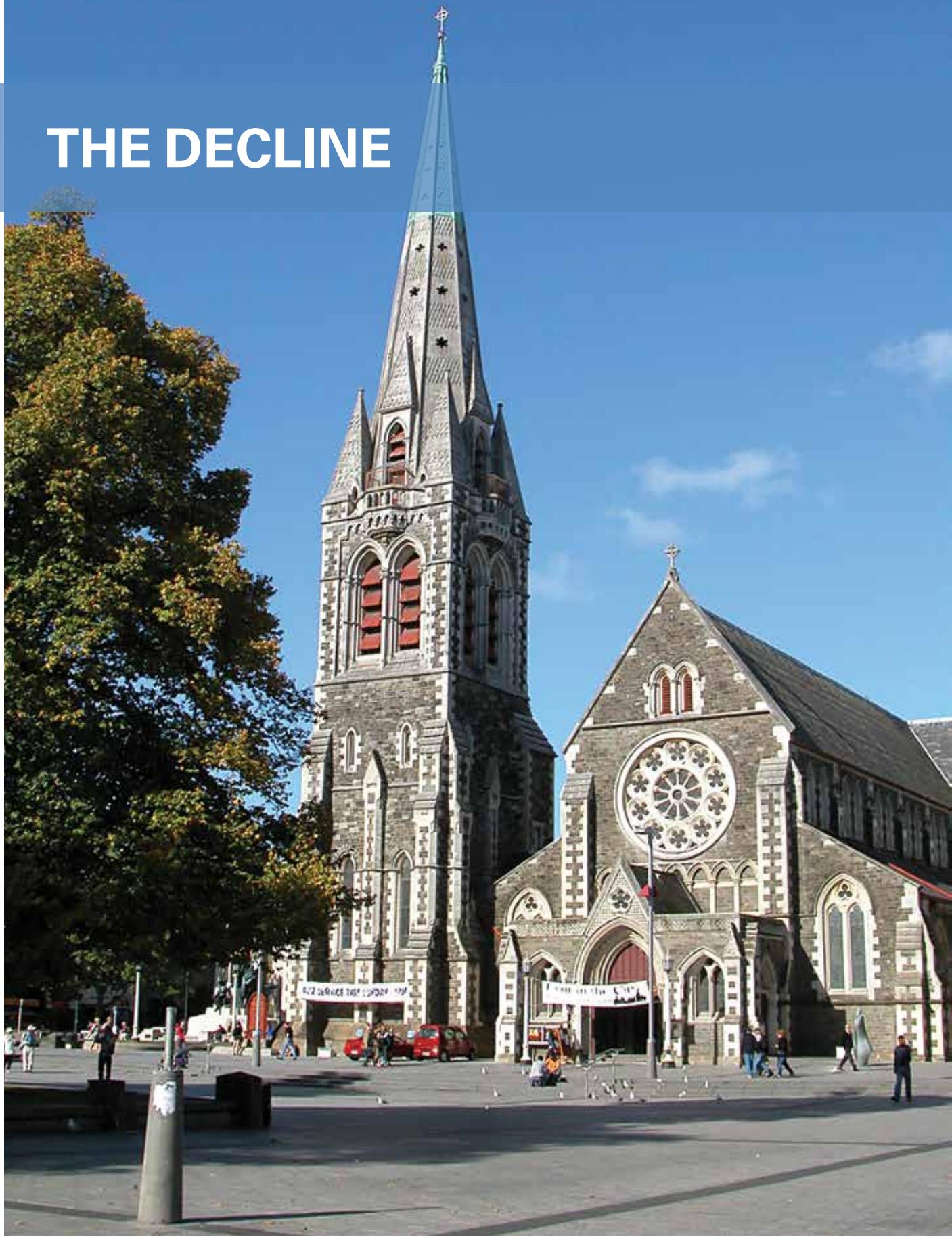
## CHRISTCHURCH METRICS<sup>89</sup>



# THE DECLINE

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MAGNET CITIES | CHRISTCHURCH



**“At the same time there was growing concern over the lack of proactive planning and leadership to manage future growth in the greater Christchurch area.”**

Christchurch was known throughout Australasia as a beautiful garden city. Residents walked throughout the city's many flower-filled parks and gardens and punted along the Avon River. In many ways it was a peculiarly English city, albeit an English city from the turn of the 20th century. The city was originally founded by the Māoris in about 1250AD on what was essentially swampland<sup>95</sup>. In the early 1850s four ships filled with English expatriates arrived to colonise the island and named the new city Christchurch after the Cambridge University college<sup>96</sup>. The new settlers started work to build a replica English cathedral city. The city was arranged around a central square which housed an Anglican Cathedral called Christ Church. The square was abutted by four more squares and a series of Avenues that formed the structure of the downtown city. Many of the buildings followed the fashion for Gothic Revival. The presence of the city's English founders could be felt throughout Christchurch's layout, gardens, colleges and buildings. Quickly Christchurch became known as the garden city and gateway to the South Island. Explorers soon started to visit Christchurch as it became the launch pad for expeditions to Antarctica. Robert Falcon Scott and Ernest Shackleton amongst others spend time in the city and helped to establish it as a geological research centre.

As the city became more populated its primary economic purpose was established. The founders of Christchurch had somewhat lucked out as the city was based in the middle of what became known as the Canterbury Plain. Originally covered by scrub and beech forests, the land was cleared for agriculture. Quickly large crop farms were established where wheat and barley was grown as well as sheep farming.

As a result Christchurch became the city centre to what was a vast farming region. And the city developed to serve this purpose. It provided a central point for farmers to buy seeds, energy and supplies, banks provided financing and safeguarded farming money, steel was smelted to provide for the growing rail infrastructure and clothes were manufactured. It was a city that served those that lived around it.

Over the following decades Christchurch's evolution mirrored that of New Zealand. Not only was Christchurch dependent on the export of primary goods, but so was the entire country. Exports of wool, meat and dairy enabled the country to import fuel, cars and other goods not manufactured in-country. For a long period of time, particularly during the 1950s there was high demand for New Zealand products, particularly wool. However in the 1970s as the UK joined the EU, New Zealand lost its status as a preferential trading partner and the price of New Zealand goods started to fall.

Over the last twenty years, like so many other countries around the world, domestic textiles and clothing manufacturers have struggled to compete against the low costs of Asian produced goods which has led to a further increase in import consumption.

Like most other cities in New Zealand by the time the 1990s arrived, Christchurch was still heavily reliant on agriculture and agribusiness, but the city had also pitched itself as centre for tourism with over one million visitors annually<sup>97</sup>. Christchurch's international airport and neighbouring Lyttleton's major port both played large roles in the region's tourism and distribution networks. The city had also established a number of strong educational institutions including the University of Canterbury which specialised in engineering and Lincoln University which became very strong at agribusiness as well as seven Crown Research Institutes.

## The Decline

However, by the 1990s it was also fair to say Christchurch was beginning to lose its magnetism. The city centre offered limited residential options. After all it was a historic city centre built for a much smaller population. Consequently a large percentage of Christchurch's workers lived in the surrounding suburbs and commuted in. New developments like Pegasus offered residents a completely different quality of life to that in the city centre; access to a beach, lake, wetlands and golf course with just a 30 minute commute to Christchurch. By the 1990s, so many people had moved to the suburbs that 30,000 vehicles commuted into Christchurch on a daily basis<sup>98</sup>. Not only was Christchurch City Council facing a population exodus, but it was also facing a fiscal calamity. Christchurch's local taxes were paid as property tax. Commuters into the city centre paid tax to their suburban local authorities yet used the services and infrastructure provided by Christchurch City Council at no cost.

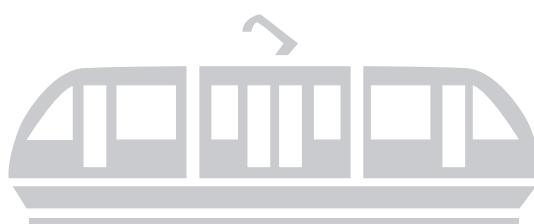
As Christchurch's residents moved to the suburbs, the city's retailers followed in pursuit. Retailers left the downtown and followed their customers into brand new suburban shopping malls. And so a downward spiral began. As more retailers left the city centre, they were replaced with low rent tenants. And as rents fell, landlords no longer invested in their buildings and the city centre became increasingly run down. Remaining businesses struggled as the volume of passing trade fell the few retailers left, soon followed into new suburban premises. As the city centre fell into decline, crime started to become an issue for the first time in the city's history, further pushing people out. Christchurch was becoming a negative magnet.



At the same time there was growing concern over the lack of proactive planning and leadership to manage future growth in the greater Christchurch area<sup>99</sup>. Although the city centre was gradually falling into disrepair, by 2021 the population of Christchurch was expected to grow by 30,000 and the adjoining districts of Banks Peninsula, Selwyn and Waimakariri by 22,000<sup>100</sup>. For the adjoining districts this represented a 40 percent increase from the current population<sup>101</sup>. Consequently, 37,000 additional dwellings were required as well as significant investment in new infrastructure<sup>102</sup>. While the population was expected to increase, it was also predicted to age with 20 percent of residents forecast to be aged 65 and over by 2021<sup>103</sup>.

To tackle these issues, the Greater Christchurch Urban Development Strategy Forum (UDS) was established in 2004 and chaired by the Mayor of Banks Peninsula, Bob Parker. UDS was a collaboration between the Christchurch City Council, the surrounding District Councils of Banks Peninsula, Selwyn and Waimakariri, Environmental Canterbury, Transit New Zealand and numerous other private and public sector organisations.

UDS undertook a three year public consultation process to obtain community views on growth management options for the Greater Christchurch region. Over 3,000 submissions were received with the majority in favour of providing more residential options in Christchurch's central city<sup>104</sup>. If more people lived in the downtown, restaurants, bars and shops would open in the empty retail space and the city centre would come back to life.







## The Decline

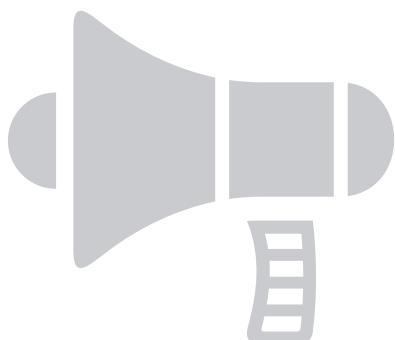
However, if UDS was to encourage developers to invest in the downtown, the use of greenfield land outside of the city centre had to be limited first. To do this UDS would need to put new zoning laws in place. Historically developers would purchase greenfield land in the city's outskirts and then apply for the site to be rezoned as residential. Given the need for additional housing, councils often granted the requests. In return, the developers were responsible for providing the necessary infrastructure, however, upon completion of the development the responsibilities and costs of maintaining the new areas were transferred to the local authority. Consequently city councils exercised limited control over where and when new developments would be created but were still expected to bear significant costs; it was a developers dream. To regain control, UDS created a master plan of the greater Christchurch region and changed the zoning rules to clearly stipulate where future developments could occur. Developers were furious and demanded rezoning. Despite this UDS held out and the master plan was put in place.

The next challenge was to tackle the city centre. In 2007 Bob Parker was elected Mayor of Christchurch City Council. His election pledge was to transform Christchurch into a 21st century city. It was now generally acknowledged the city needed a revamp. As a non-political independent Mayor, his election signalled it was time for a change. For years the city had been governed by members of the left wing Labour party. Mayor Parker announced plans to purchase five downtown properties for USD 12.5 million from a developer who faced financial difficulties<sup>105</sup>. The sites were of a sufficient size to allow for extensive redevelopment and it was hoped they could bring some life back into Christchurch's declining core.

This was a unique opportunity as one of the most difficult elements in rejuvenating the city was the disaggregated ownership of property across the city; small sites were owned by different landlords which made it difficult to purchase large areas for redevelopment. Developers were furious the city had made the purchases. For years developers sat in the driver's seat of city development; they found it difficult to accept the City Council was taking back control.

Progress on the redevelopment of the city centre continued in this slow and contentious manner. Such was the resistance to the City Council's actions that by 2010 Mayor Parker was facing a re-election nightmare with predictions of defeat. His methods for rejuvenating Christchurch were proving unpopular. However, as newspaper columns derided the Mayor's plans, no one could have anticipated the events of 4 September 2010.

At 4.35am residents were shaken by a mammoth 7.1 magnitude earthquake. Shocked Cantabrians were alarmed by the damage to their homes, businesses and the city's infrastructure. However, the overwhelming feeling was relief; relief that there had been no fatalities. A state of emergency was declared and over the next weeks and months support was provided from throughout New Zealand. While thousands of aftershocks continued, the city began adjusting and repairing USD 541 million worth of damage<sup>106</sup>.





## The Decline

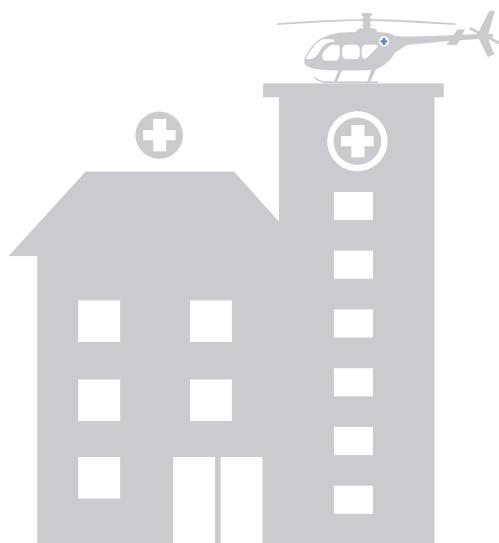


Ironically it was this earthquake that saved Mayor Parker from almost certain electoral defeat. Before entering politics Mayor Parker had been a television presenter. During the aftermath of the earthquake and thousands of aftershocks, Mayor Parker, was praised for his calm handling of the emergency. A natural communicator, he kept Christchurch's residents aware of vital information and confident that he would steward the city through the bleak time. As a result, against the odds, Mayor Parker was re-elected for a second term.

Just a few months later on 22 February 2011 it was a typical Christchurch day: shoppers ventured out; business people rushed between meetings; students scribbled notes; and tourists soaked up the atmosphere. But at 12:51pm the city changed forever. A 6.3 magnitude earthquake ripped through its core. The city was destroyed. Citizens and emergency services rushed to provide assistance to the hundreds of trapped, injured and dying people.

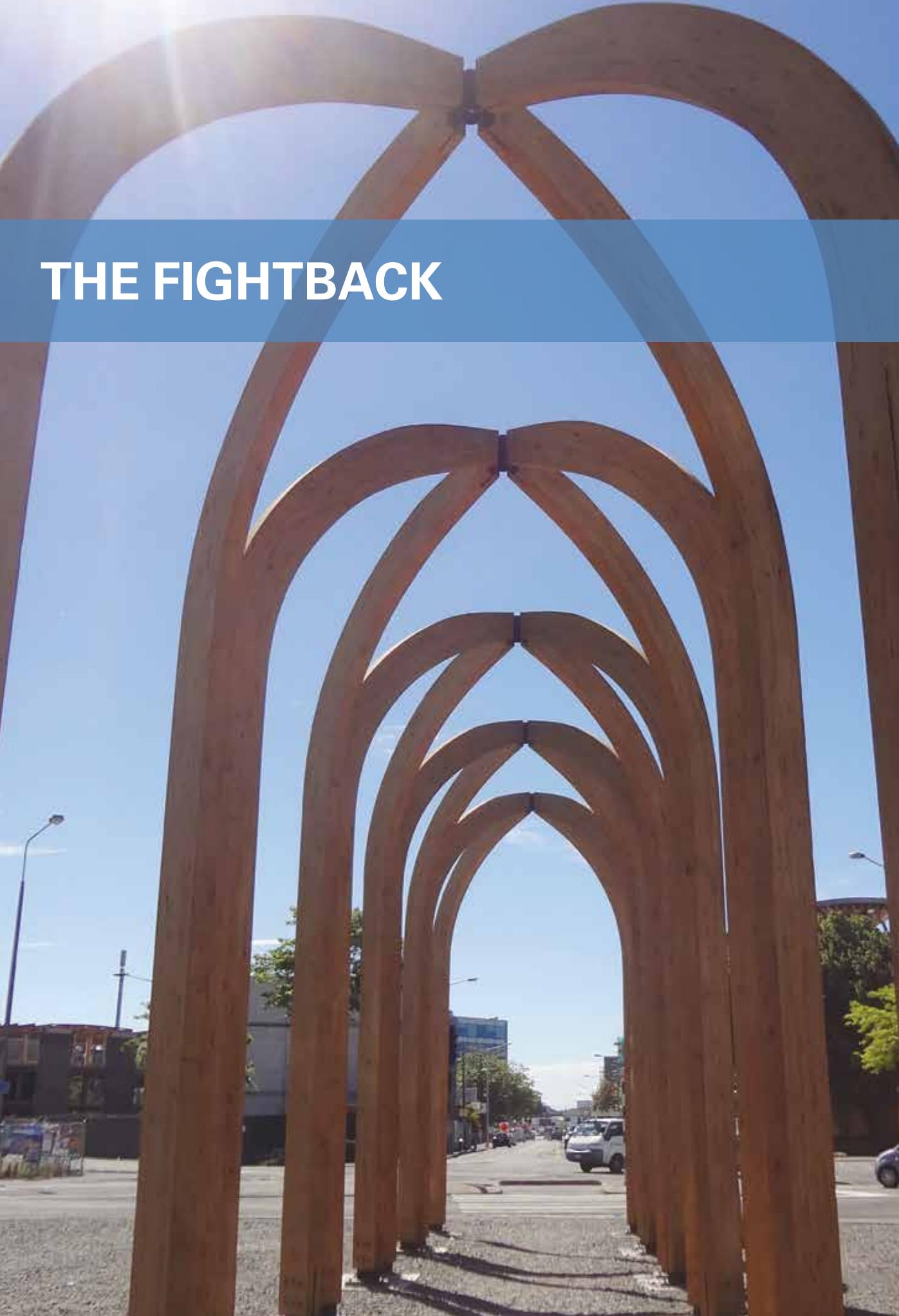
Within two hours the National Crisis Management Centre located in Wellington's Parliament complex was fully operational, while the Christchurch Art Gallery housed the regional emergency response. New Zealand's first ever civil defence emergency was declared. Air Vice Marshal John Hamilton, the National Controller from Civil Defence took charge of the emergency management and coordinated New Zealand's police, urban search and rescue, fire service, defence force and numerous other agencies. International response teams from Australia, Japan, Singapore, Taiwan, the UK and USA started to land within hours. The swift action and well coordinated response has been credited with saving hundreds of lives and providing comfort and support to thousands more. Tragically 185 people died as a result of the earthquake, with 115 in one building alone<sup>107</sup>. Christchurch and New Zealand mourned along with families from 19 other countries<sup>108</sup>.

The task ahead of the city was huge. In addition to the grief and emotional anguish, over 7,800 homes and 70 percent of buildings in the CBD had been permanently destroyed; the city's infrastructure had been severely damaged<sup>109</sup>. Sewage pipes, electricity grids and roads had been smashed. A 387 hectare cordon of the central city, the Red Zone, was put in place while hundreds of damaged buildings were demolished and others secured<sup>110</sup>. Due to the high safety risk, thousands of employers were unable to ever return to their premises to collect stock or records. Shops and cafes abandoned mid-meal were photographed throughout the city. More than three hundred restaurants and bars closed and more than half of the city's hotels<sup>111</sup>. Businesses were forced to relocate to Christchurch's periphery. Prime Minister John Key stated "this is not the Christchurch we knew, it is closer to a warzone<sup>112</sup>".





# THE FIGHTBACK



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MAGNET CITIES | CHRISTCHURCH

“There was a united view that Christchurch would overcome the devastation to emerge as an amazing modern city.”

Over the months immediately following the 2011 earthquake, the city focused on sheltering and supporting displaced residents and businesses. Many who had lost all simply left Christchurch for other cities and the population started to fall.

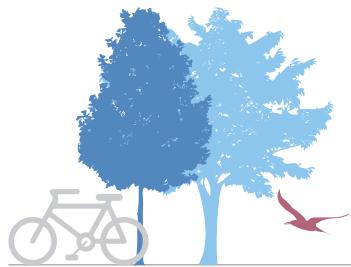
From the outset Mayor Parker was determined to not just recover the city, but to set it on a course for strong future economic growth. He had long been aware of the city's demographic time bomb. The average age of Christchurch's residents was increasing. Younger population groups were under-represented. The city's economy had remained the handmaiden of the agricultural sector. If the city was going to flourish, its economy would need to stand on its own. The agricultural sector would always remain important, but the city's economy needed to become more diversified and ideally move into high GDP per capita areas such as research, technical and professional services. And if the city was going to build its future economy on this basis, the city would first need to be redesigned to attract and retain a whole new cadre of young professional people. As Mayor Parker noted, “sadly it has taken a disaster to get the rejuvenation programme under way<sup>113</sup>”. Christchurch's rebuilding programme was just not about short-term recovery; it was about long-term economic survival.

## Transforming the city centre

When an entire city centre is destroyed, a new master plan is required. Christchurch City Council was asked to create a new master plan for the city centre and launched the 'Share an Idea' initiative in May 2011 at a community expo for residents to contribute their vision. The response was overwhelming. Residents were given six weeks to contribute and within that time 58,000 people posted ideas, 10,000 attended the community expo events<sup>114</sup>. Public involvement was encouraged through 160,000 letter box drops, YouTube and media participation<sup>115</sup>. 'Share an Idea' was an overwhelming success with 106,000 ideas provided (equivalent to about one quarter of the population) and the initiative won the 2011 Co-Creation Award; the first time the award was presented outside of Europe<sup>116</sup>.

In a further collaboration, a 48 hour design challenge was held jointly between the City Council and Lincoln University. The objective was for the City Council to gain inspiration and test the draft city plan with leading designers and architects. Experts were also flown from cities that had recovered from disasters: Manchester's IRA bombing; San Francisco's earthquake; and Victoria's bush fires.

Through this work, the City Council formed a clear view of the public's collective vision: “in a nutshell, they want the central city to be one that is green, safe, compact, accessible and fun to live in<sup>117</sup>”. However, as a result of the extraordinary impact of the earthquake, the City Council would have to work closely with the central government in order to implement their vision.



## The Fightback

Prime Minister John Key believed the rebuild “require[d] a significantly more centralised response – but one that work[ed] alongside the Christchurch City Council, other councils and local government agencies, and also provide[d] ways for the community to have input”<sup>118</sup>. Consequently, following the September 2010 earthquake, politician Gerry Brownlee was appointed as Minister for the newly created Canterbury Earthquake Recovery Ministry and a special Act was passed in Parliament which provided the Ministry with unprecedented powers in terms of Christchurch’s rebuild.

To assist Gerry Brownlee, a new government department was created, the Canterbury Earthquake Recovery Authority (CERA), and tasked with leading and coordinating the recovery. Roger Sutton was made Chief Executive. Sutton, a real can-do pragmatist, was poached from his role as CEO of Orion, Christchurch’s power company, after he led the company’s quick response to restore power following the earthquakes.

The master plan was unveiled during a glitzy launch event with speakers including Prime Minister John Key, Gerry Brownlee, Mayor Parker and the local Maori leader Mark Solomon. The response was overwhelmingly positive with residents, business owners and developers voicing their support.

The city centre was to be condensed to 40 hectares<sup>119</sup>. No longer would it be a sprawling dilapidated area, it was to be transformed into a vibrant, physically compact space. The city plan set out a city design that was painstakingly focused on attracting new residents and businesses. The central point of the new compact downtown city plan was the redesigned central square, home to the historic Anglican Cathedral. The city put in place a bold plan to redesign the square as the city’s outdoor living room, full of cafes and seating areas. The central downtown was to be literally framed by a rectangular area of parkland that served as a boundary between the city centre and the outdoors.

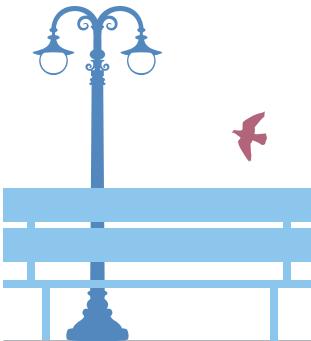
Within the city centre new precincts and specific projects were designed. The precincts and projects, known as ‘anchor projects’, were designed to enhance resident’s quality of life, draw people back into the city centre and encourage further private development. Each precinct had a specific purpose, look and feel. For instance, some precincts were aimed at creating vibrant buzzing hubs for the performing arts, conventions and retail. Other precincts were designed to support greater collaboration across specific disciplines such as health, justice and emergency services.

A number of the anchor projects were to build replacement sports and leisure facilities. After all, if the city was going to attract new young residents (and prevent existing residents from leaving) the city would need to quickly re-establish itself as a fun place to live. A new sports stadium was commissioned, a new central library was to be built and improvements were to be made to the Hagley Park cricket oval. And finally the Avon River which transects the city, was to be transformed into a continuous green promenade for walking and cycling.

In order to construct the 17 anchor projects, both land and funding was required<sup>120</sup>. CCDU was given overall responsibility for the delivery of the new city master plan and anchor projects. Individual projects will be led by different bodies including CERA, the City Council, Te Rōnanga o Ngāi Tahu (Maori Tribal Council), the private sector and other public sector bodies. CCDU is working with land owners to purchase over 300 properties in the CBD and has obtained powers to execute compulsory acquisitions where necessary<sup>121</sup>. Meanwhile, the central government and City Council have signed a cost-sharing agreement for USD 2.4 billion and USD 1.6 billion respectively<sup>122</sup>.

It is estimated that the total cost of rebuilding Christchurch will come to close to USD 33 billion<sup>123</sup>. In addition to the City Council and Central Government the remaining cost will be met by the private, philanthropic and insurance sectors.





## The Fightback

### City Council funding<sup>124</sup>

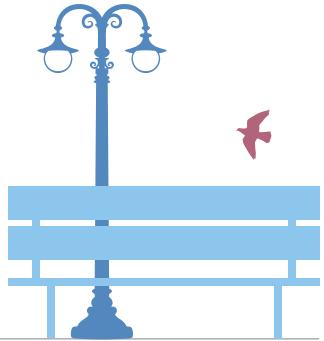
Prior to the earthquakes, the City Council's primary funding source for its operational and capital expenditure was rates, a local property tax. Rates were paid to the City Council by residents based on their property's capital value. The City Council also obtained funds through fees, charges, subsidies, interest and dividends from its shares in a number of Canterbury based companies (for example, Christchurch International Airport, Lyttelton Port Company and Orion). Central government funding accounted for a minimal amount of the City Council's USD 533 million annual budget<sup>125</sup>. Due to the extraordinary impact of the earthquakes, the City Council's 2013/14 annual budget increased to USD 1.2 billion<sup>126</sup>. In addition to the traditional funding sources, the City Council will receive USD 341 million from insurance, central government reimbursements and NZ Transport Agency subsidies. It will also obtain loans of USD 237 million<sup>127</sup>.

Christchurch City Council funding sources 2013/14	%	USD 000
Rates	23	272,917
Fees, charges and operational subsidies	10	117,091
Transfers from reserves	6	73,079
Borrowing for earthquake recovery	13	153,172
Borrowing for non-earthquake recovery	9	83,877
Dividends and interest received	4	53,123
Asset sales	5	62,119
Development contributions	1	10,655
Capital grants and subsidies	1	17,659
Insurance, central government reimbursements and NZ Transport Agency subsidies	28*	341,113
	<b>100</b>	<b>1,184,852</b>

\*Historically these funding sources only accounted for approximately 2% of the City Council's annual budget.







## The Fightback

### Cost sharing agreement<sup>128</sup>

The USD 4 billion cost sharing agreement between the central government and City Council was signed in June 2013 with Gerry Brownlee noting “today’s milestone gives both the Crown and the Council the ability to plan both the management and development of anchor projects with more certainty”<sup>129</sup>. In addition to the anchor projects, the agreement covered the repair and replacement of roads and underground pipes (known as ‘horizontal infrastructure’).

	Christchurch City Council contribution (USD millions)	Central Government contribution (USD millions)
The Frame	0	394
Convention Centre Precinct	0	233
Stadium	207	30
Metro Sport Facilities	120	57
Buss Interchange	33	42
Avon River Precinct	5	73
The Square	4	4
Performing Arts	129	7
Central Library	49	16
Car Parking	57	0
Transport Plan	22	36
Horizontal Infrastructure	934	1475
<b>Total</b>	<b>1,562</b>	<b>2,367</b>







## The Fightback

### Support for an interim economy

As the City Council and Central Government designed the new city, Christchurch's residents stepped in to fill the physical and economic vacuums. Grass-roots organisations including Gap Fillers, Life in Vacant Spaces and Greening the Rubble Trust brought life back into the city. Many initiatives did not require heavy capital investments but required a great deal of collaboration and volunteer hours.

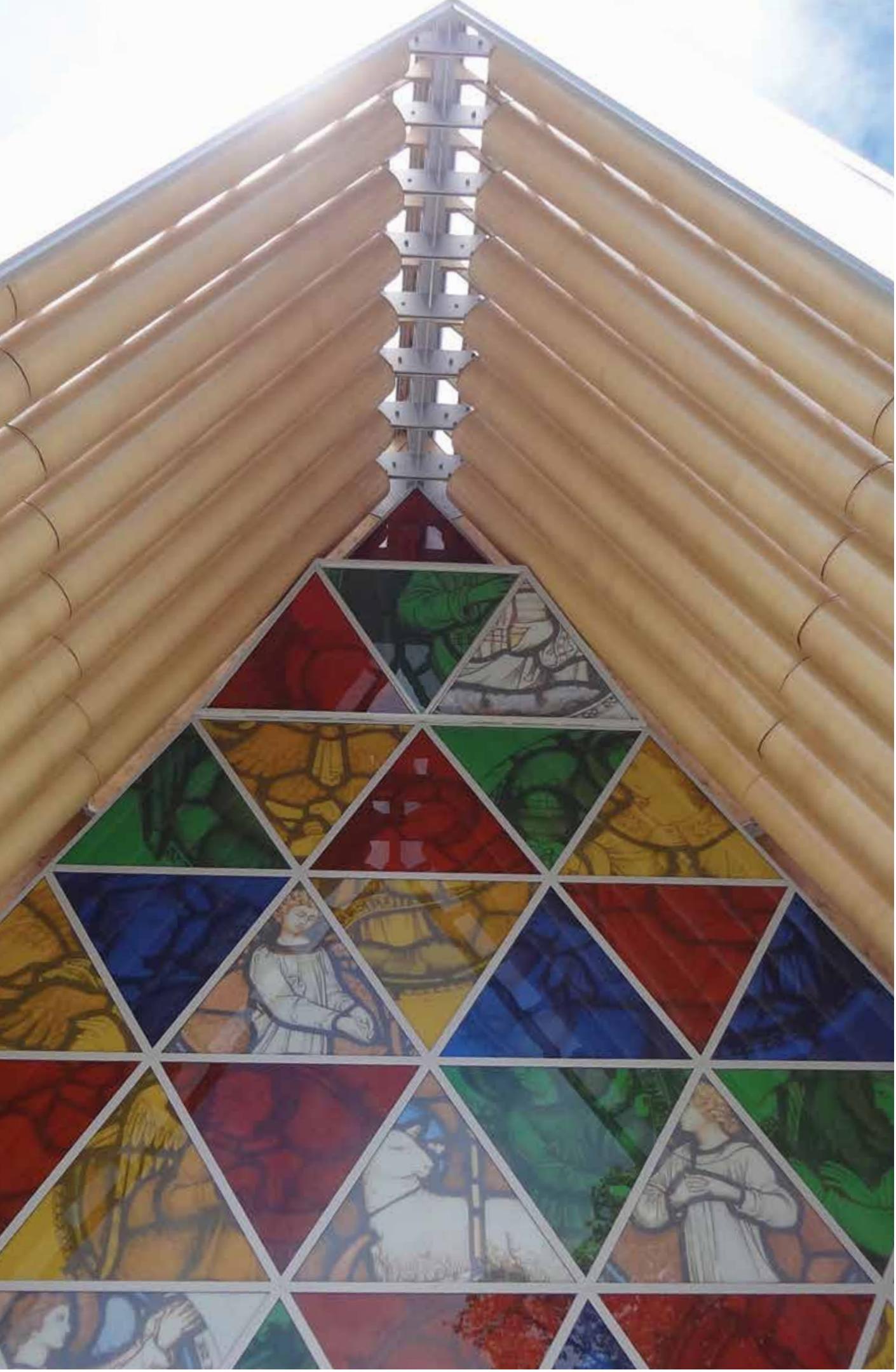
Gap Filler started as a voluntary organisation following the September 2010 earthquake. As the name suggests, members set about transforming vacant sites throughout the city into creative areas the whole community could enjoy. The organisation works with landowners, designers, community groups and manages the legal contracts and insurance liabilities. For instance Gap Filler has transformed a vacant site into an outdoor pavilion called the Summer Pallet where more than 200 Cantabrians can enjoy refreshments during the day and live music in the evenings. The landowners, the Christchurch City Council and leaseholders supported the project along with 250 volunteers and over 50 businesses<sup>130</sup>.

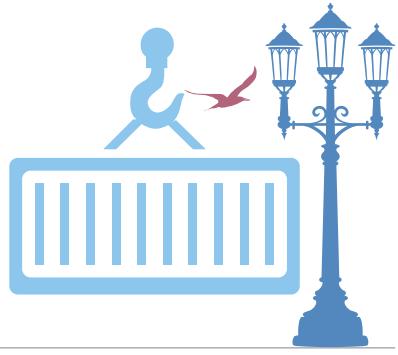
Hundreds of paintings and murals have also popped up throughout the city adding colour and humour. The art work is created by members of the community including school children, graffiti and professional artists. While the Christchurch Art Gallery is temporarily closed, copies of some of their famous works can be spotted all over Christchurch. Damaged buildings have been painted with band-aids and comments such as "I'll kiss it better", "ouch" and "you poor thing." A huge mural was created with hammers and tools and entitled "I seem to have temporarily misplaced my sense of humour," while a sign in the CBD jokingly awarded the best demolition of 2012. Alongside the art work, temporary blooming gardens have been cultivated across the city with Greening the Rubble Trust playing a huge role in creating temporary parks and gardens on vacant sites.

Perhaps the most touching of the transitional projects is Christchurch's cardboard cathedral. With debate raging over the future of Christchurch's symbol, the Anglican Cathedral, the temporary cathedral provides an oasis of calm away from the destruction of the city. Japanese architect Shigeru Ban designed the cathedral using his signature cardboard tubing, a technique which had been used to provide shelter in Japan following the 1995 Kobe earthquake. The cathedral has capacity for 700 people and while temporary in nature, it is designed to last for 50 years<sup>131</sup>.

The cardboard cathedral brought a renewed sense of optimism to Christchurch, as did the opening of the temporary stadium. Christchurch was as well known in New Zealand as the garden city as it was for the local rugby team, the Canterbury Crusaders. Nothing united the city and the Canterbury region more than watching the Crusaders battle for the number one spot on New Zealand's rugby table. The severe damage to the AMI Stadium had been a massive blow to the community, especially as it was due to host a number of Rugby World Cup matches. To help reenergise Christchurch and provide a positive boost to residents, a temporary stadium was constructed over a 100 day period<sup>132</sup>.







## The Fightback

One of the most recognisable temporary measures is the Re:START area which is home to a great mix of top New Zealand designers and quirky independent retailers. The shops are housed in shipping containers each painted in a vibrant colour. The great shopping is combined with two outdoor food courts. Wide footpaths, wooden tables and benches, and beautiful flower pots help to create a buzzing atmosphere enjoyed by locals and tourists alike. Thoughtful initiatives such as lunchtime concerts provided by primary school children are helping to bring additional light to the city.

The city has also invented ways to draw residents back into the downtown as it is being reconstructed. Numerous events and festivals have been held in the city including the Festival of Transitional Architecture. The event's evening opening saw 350 architecture and design students use light to create spaces for pop up cafes, bars, a night market, youth venues and live music areas. Over 20,000 people from Christchurch and throughout New Zealand attended and enjoyed this first major event since the devastating earthquake<sup>133</sup>.

What has been so clever about these measures is the way they have tapped into the creative energy and enthusiasm of Christchurch's young residents. By turning the downtown into an urban canvas for the experimental, the city has signalled its intent to embrace the new and different. By entrusting public spaces to young people, the city has vested an entire generation in the city's future.



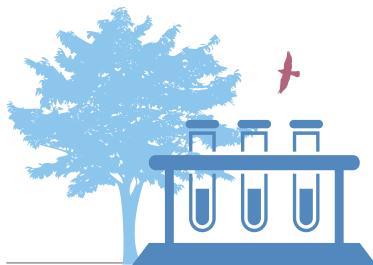
## Creating space for innovation

The city supported these initiatives, because Mayor Parker understood that it was the architecture and design students, the young technologists and researchers that Christchurch had to draw back into the city if the economy was to evolve. The Mayor had witnessed the central city's vibrancy and energy diminish when the University of Canterbury's campus had shifted from Christchurch city centre to Ilam, a suburb five kilometres away during the 1970s. It was his strong belief that "we need innovation and creativity in the city. It is the young people who drive cities"<sup>134</sup>.

When completed, the city centre will offer young Cantabrians an opportunity to live in a dynamic and buzzy city core. It was also viewed as crucial that the city would support a number of clusters. This is why the concept of the city's new precincts is so important. One of the main purposes of creating precincts is to encourage greater collaboration and innovation across various disciplines. For example, the Health Innovation Hub will include an academic facility aimed at fostering discussions between the University of Canterbury, Canterbury District Health Board and private research institutions. The main purpose is to support the development and commercialisation of medical-related R&D by drawing on the research skills of the university. It is hoped that this will grow into a world class hub and not only retain Christchurch's brightest talents but attract biomedical researchers from around New Zealand and globally.

Meanwhile, the innovation precinct will be home to a mixture of start-ups, SMEs and more established companies. It will also include the Enterprise Precinct and Innovation Campus (EPIC), a centre for innovation based companies. Stage one of EPIC opened in September 2012 as a single building housing 20 companies and 300 staff<sup>135</sup>. It was established by local technology business owners Colin Andersen and Wil McLellan who saw this as "an unprecedented opportunity for New Zealand to embrace innovation and true collaboration as we work with leaders in this space from around the globe<sup>136</sup>."





## The Fightback

Stage two of EPIC will involve the creation of a world class campus for innovation-based Canterbury companies. The campus is supported by a number of private and public sector organisations including the Bank of New Zealand, Christchurch City Council, Canterbury Business Recovery and the central government. However, perhaps most significantly Google has put its weight behind the initiative with Christopher Coleman (Google's Director of Global Real Estate) and New Zealander / Canterbury University alumni Craig Nevill-Manning (founder of Google's first remote engineering centre) heavily involved in its development.

What is interesting is that since the earthquakes, Christchurch has seen a marked increase in the number of start-up companies. The city's previous conservatism is being replaced with a growing entrepreneurial spirit and higher risk appetite, particularly from the new breed of students travelling to Canterbury to attend university. The importance of attracting young risk takers and keeping them in the city was identified by the Canterbury Development Corporation (CDC) as one of their top priorities.

The CDC plays an important role in creating Christchurch's economic development strategy. The organisation was established in 1983 by the City Council and is funded primarily by the City Council and other public sector entities. Since the earthquakes the CDC has focused on five initiatives to help transform Christchurch's economy, 'the Big 5 GDP Game Changers'. The CDC is putting financial support in place to capitalise on the innovations born out of the city's rebuilding. For instance the city's companies are now becoming experts at power management and construction methods. As they state "innovation and research are vital contributors to the Christchurch recovery. Science is literally underpinning the rebuild, with around 150 scientists and engineers attached to the Natural Hazards Research Platform providing research and knowledge related to the Canterbury earthquakes. Information about seismicity and liquefaction is being used to understand economic impacts and develop engineering solutions"<sup>137</sup>.

For instance, as part of the rebuilding programme, significant effort is being placed into the embedding of sensors in new sewers, roads and traffic lights to enable real-time measurement and management of public services and spaces. Ultra-fast broadband is being laid throughout the city.

The city is also looking to its universities to help pave the way for a different type of economic growth. In addition to the universities involvement with the Health Innovation hub, a new Agrihub has been established between Lincoln University and the Crown Based Research Institutes to spearhead research in Agricultural Technology (AgriTech), what could be a global research strength for the city.

However, as new research industries are established, the city is well aware that in the meantime agribusiness and tourism remain the bedrock of the economy. After all, without a healthy export base not only will Christchurch's economy suffer, but so will the entire New Zealand economy. And so the city is now targeting China as a new export growth market and the home of millions of potential tourists.

What was once a conservative city that protected the vision of its 19th century colonialist founders is today an ambitious city priming itself for global competition.





# THE VICTORY

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MAGNET CITIES | CHRISTCHURCH



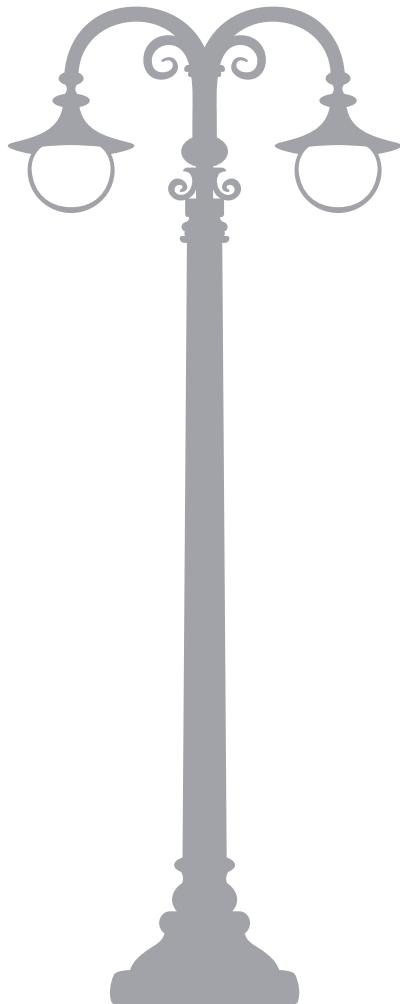
## "Christchurch has moved from a city filled with demolition teams to one where builders reign supreme."

What the city of Christchurch has achieved in the last four years is remarkable. It is perhaps because of the quiet, can-do attitude of New Zealanders, that the world hasn't heard more. However as would be expected with an undertaking on this scale, there have also been a number of challenges. Private insurance companies and the Earthquake Commission have been slow to settle claims. Additionally, the current procurement process has been challenging for the private sector to deal with, with numerous requests for proposals being released at similar times and within tight deadlines. This has placed a large burden on the construction sector.

But even as a city-wide construction site, Christchurch was named by Lonely Planet as one of the top ten travel destinations for 2013 largely due to the range of pop-ups, murals and infectious recovery spirit; the New York Times just declared the city as one of the top places to visit during 2014<sup>138</sup>.

The numbers also reflect Canterbury's recovery: GDP figures are currently four percent above the national average<sup>139</sup>; the unemployment rate has declined from 4.9 percent in 2012 to 3.4 percent in 2013<sup>140</sup>; and the region has gained 5,100 migrants in the year to February 2014, with a significant number being skilled workers from the UK<sup>141</sup>. But more importantly, Mayor Parker put it best when he noted that Christchurch is set to deliver a "better quality of life, more personal opportunities and a secure and safe future for our children"<sup>142</sup>.

While it is not yet certain that the city's economy will transform from the old to the new, what is certain is that Christchurch's bravery – to say goodbye to the old and hello to the new in the face of such devastation – should inspire cities around the world for years to come.



# THE PRINCIPLES

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MAGNET CITIES | CHRISTCHURCH



## How Christchurch applied the Magnet City Principles

### Magnet cities attract young wealth creators

Christchurch understood that to bring life, vibrancy and prosperity back into the city, young wealth creators were essential. They have designed a city centre that will appeal to this target market and have provided opportunities for innovation and creativity to flourish particularly through the creation of the innovation precinct.

### Magnet cities undergo constant physical renewal

A huge focus has been placed on Christchurch's physical renewal. The city centre has been redesigned as a compact, green, dynamic space which will be home to commercial, retail and residential uses. Urban design development standards have been introduced to ensure that the construction is of a high standard.

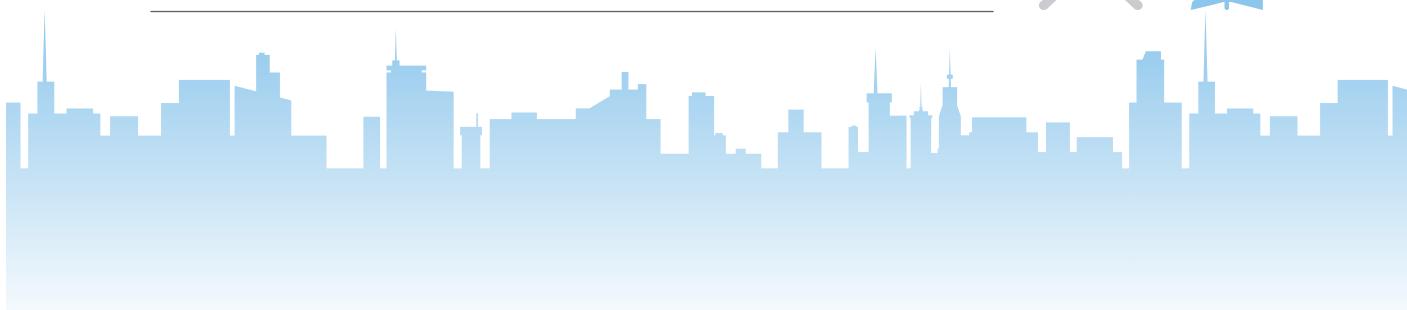


### Magnet cities have a definable city identity

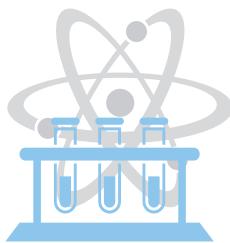
Efforts to reinforce Christchurch's identity as New Zealand's garden city and gateway to the South Island were placed high on the city's agenda. A clear marketable city brand was viewed as crucial to the tourism sector's recovery.

### Magnet cities are connected to other cities

Christchurch Airport and Lyttleton Port are viewed as critical economic assets and strategies have been put in place to ensure their continued growth. In particular, the repairs and redevelopment of Lyttleton Port feature within CERA's economic recovery programme.



“The city centre has been redesigned as a compact, green, dynamic space which will be home to commercial, retail and residential uses.”



### Magnet cities cultivate new ideas

The ability to encourage greater collaboration and innovation across Canterbury's private and public institutions was viewed as essential in the city's transformation. The health, innovation, and justice and emergency services precincts are being developed with this specifically in mind.

### Magnet cities are fundraisers

Christchurch has marketed the rebuild as an outstanding opportunity for private investors to become involved in the city's transformation and is actively seeking their investment.



### Magnet cities have strong leaders

Christchurch benefited greatly from the strong leadership of Mayor Parker particularly in the immediate aftermath of the earthquake. Central government power houses of Prime Minister John Key and Gerry Brownlee have also played a significant part as has local Maori leader Mark Solomon.

# TIMELINE



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7.1 magnitude earthquake rocked the city;  
fortunately there was no loss of life



2007

Bob Parker elected Mayor with a pledge to  
transform Christchurch to a 21st century city

2010

2004

The Greater Christchurch Urban Development Strategy Forum established





Christchurch named by Lonely Planet as one of the top ten travel destinations for 2013

2013

2011

2012

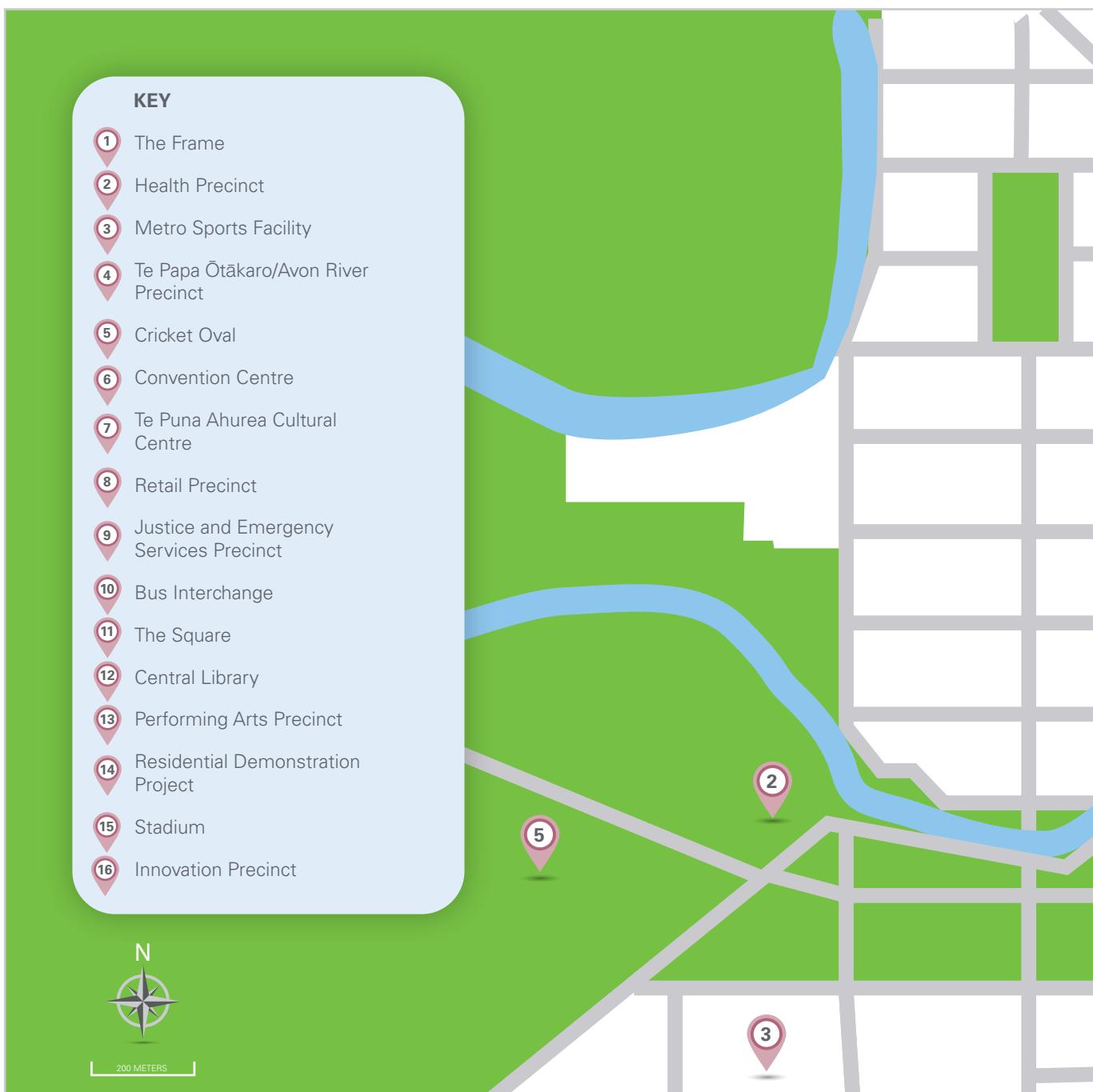
2014

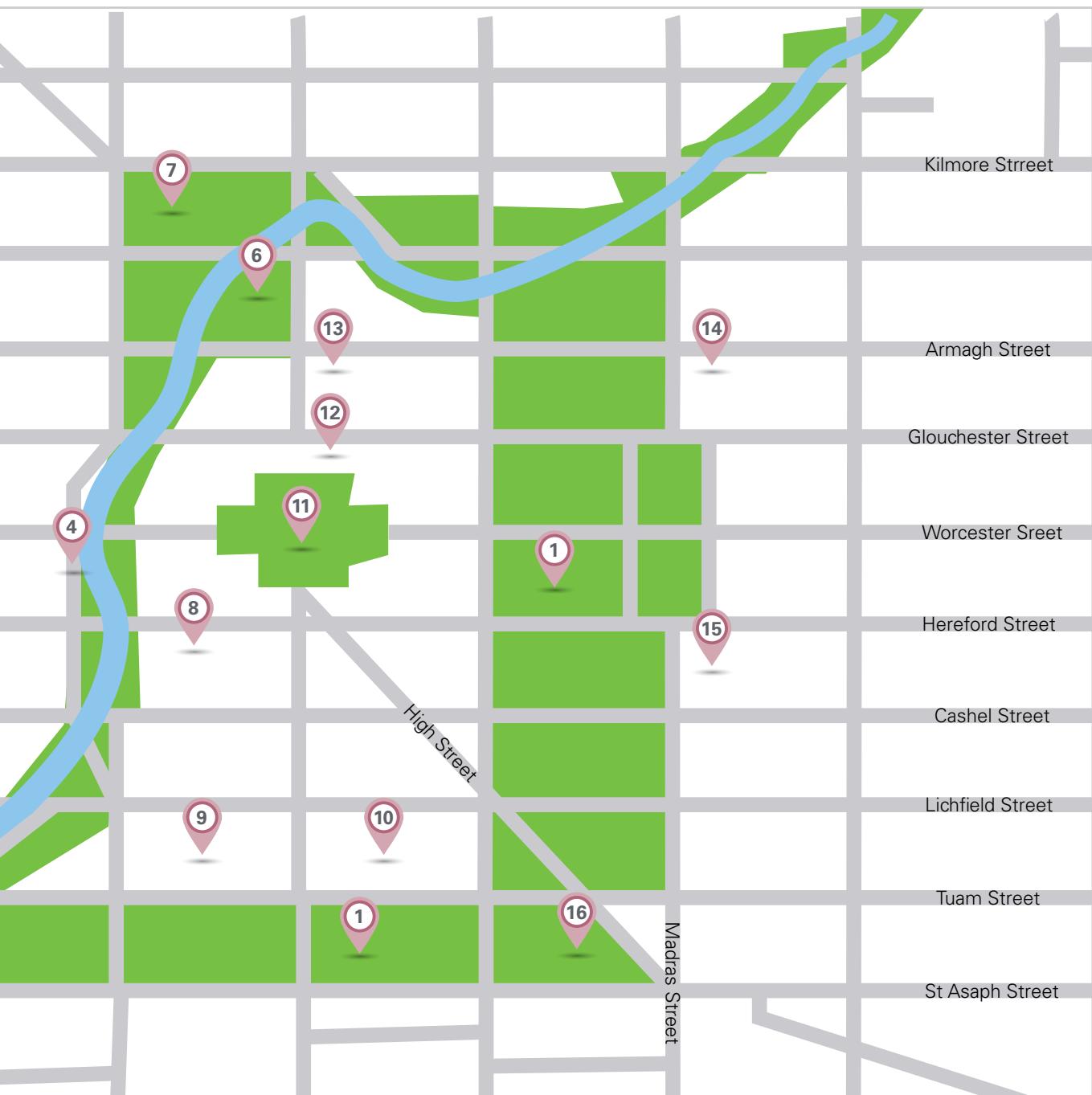
Christchurch Central Recovery Plan unveiled



Christchurch declared by the New York Times as one of the top places to visit for 2014

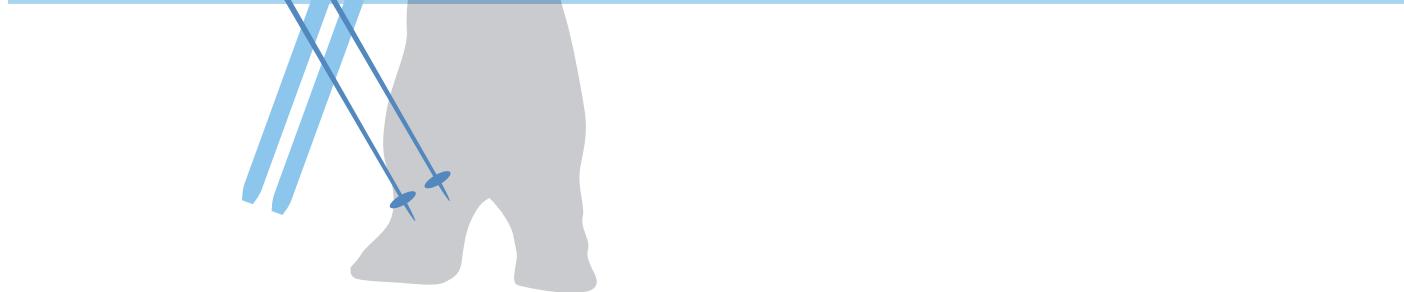
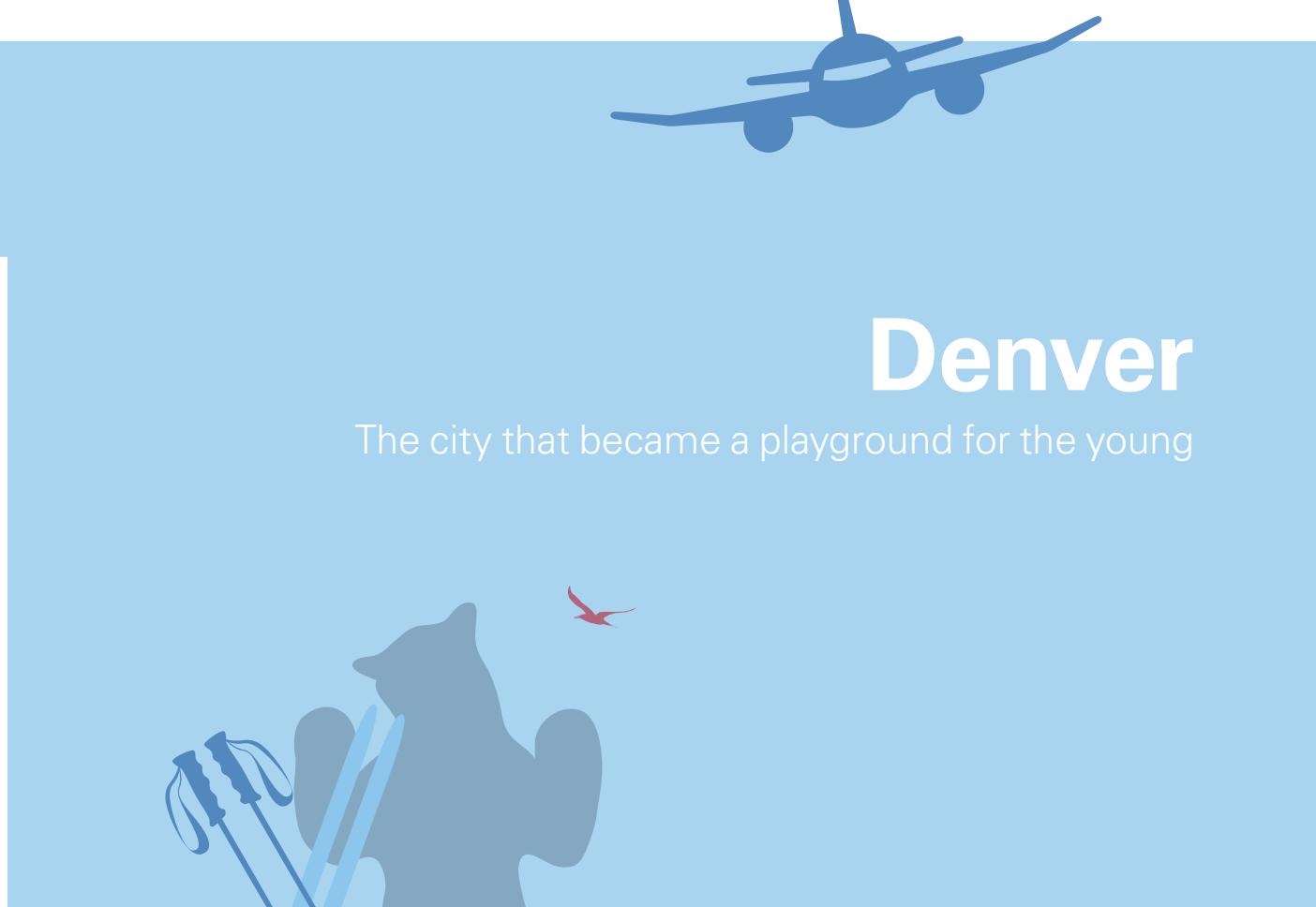
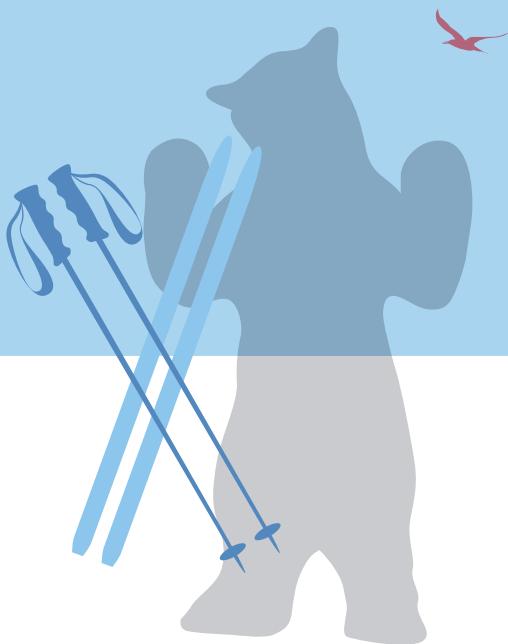
# MAP





# Denver

The city that became a playground for the young





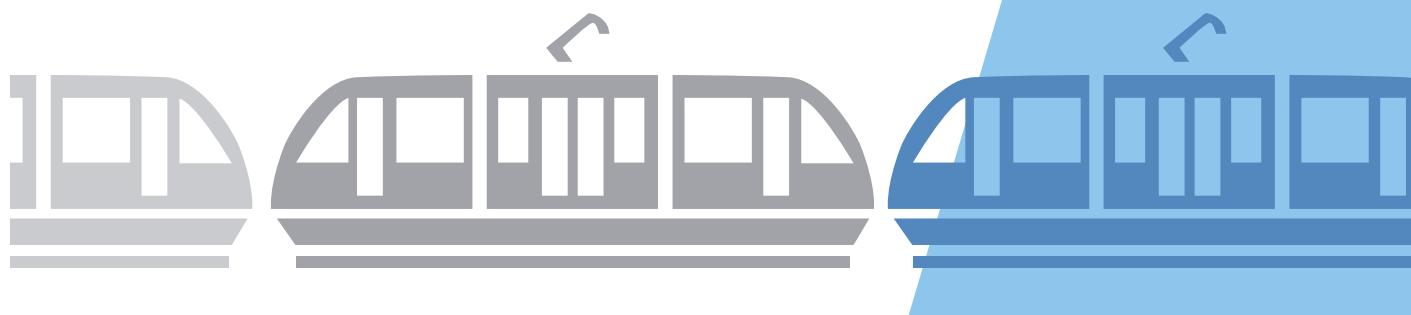
# INTRODUCTION

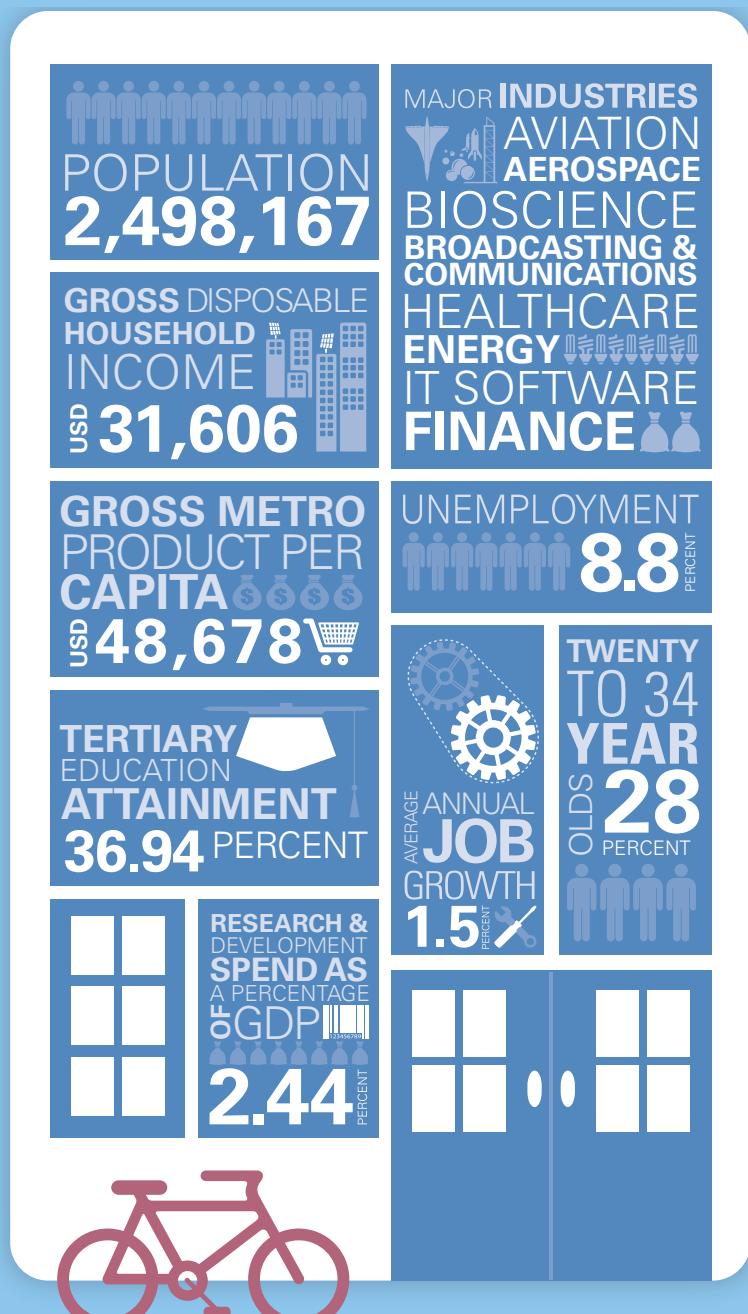
Denver is a windswept American city that sits in a valley surrounded by the famous Rocky Mountains. The city is bursting with twenty somethings who spend their weekdays working in Denver's high-rise offices and weekends skiing or hiking in the great outdoors. In downtown Denver, the hum of traffic can barely be heard through the cacophony of drills and sledgehammers; this is a city going through a serious renovation. Among its current projects, the city is building a major public transit system and redeveloping an entire district of downtown.

Denver has become an urban pin-up for other American cities. The city is a magnet for the millennial generation – the tech-savvy twenty to thirty year olds, many with college degrees who favour Denver over all other US cities<sup>144</sup>. They move to Denver in droves as other cities watch longingly. Millennials are ideal residents as they have disposal income and are economic mavericks – they start new businesses, take care of the environment and tend to be active residents. A city that has millennial wealth creators as residents today is a city that will grow tomorrow<sup>145</sup>.

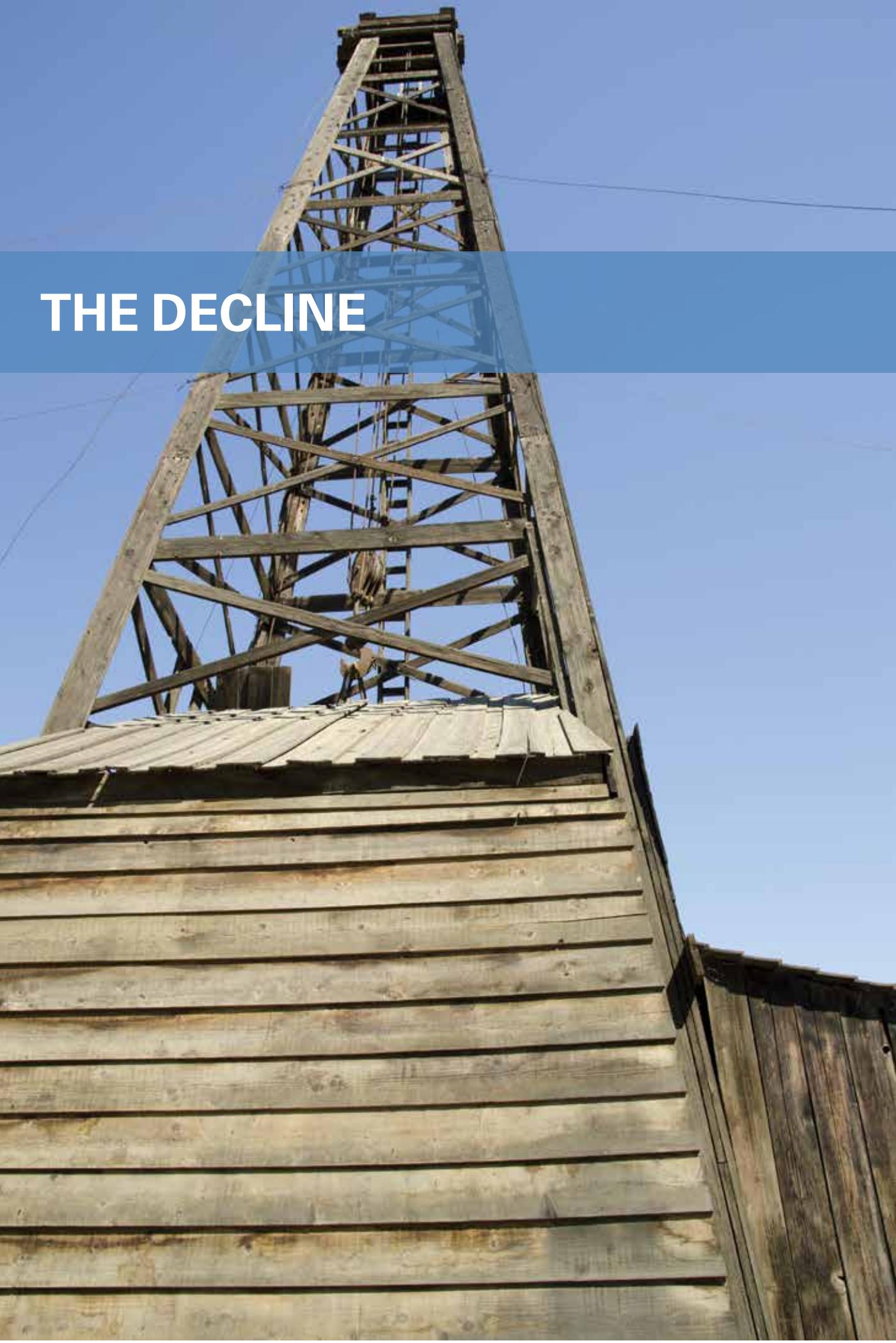
Yet in the 1980s Denver was stuck in a spiral of decline. The city had always had very active population flows. It has always been a city that people move into and out of. At any given time a large proportion of Denver's population have always been non-Denver natives. But in 1986 for the first time in decades more people moved out of Colorado than moved in and unemployment rates skyrocketed<sup>146</sup>. For a period of time Denver became one of the most well-known negative magnets in America.

This is the story of how one city re-magnetised itself by charming the young. By turning the city into a playground for the millennial generation, the city is now one of the fastest growing in America.



DENVER METRICS<sup>143</sup>

# THE DECLINE



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MAGNET CITIES | DENVER

## "Within months almost 15,000 oil industry employees in Denver lost their jobs."

Denver is an old American city originally founded in the 1850s by a land prospector who named the town after the area's Territorial Governor, James W. Denver. Quickly the city became a frontier town full of saloons, livestock markets and gambling dens. Gold prospectors and miners would descend on the city following long periods of isolation in the Rocky Mountains to spend the golden fruits of their labours. But even in its infancy, the city faced a perilous moment. In 1870 America's first transnational railway was carved across the US's empty plains. To the extreme consternation of Denver's residents, it was decided the railway should pass through Cheyenne, a city almost 100 miles away, instead of bustling Denver. Many say this was the moment Denver's city character was shaped. A group of Denver's political and business leaders went out and privately raised enough cash to build a private railway line that linked Denver to Cheyenne. This spirited pragmatism prevented the new city from withering on the vine. And Denver's leaders demonstrated to the rest of America the city wouldn't take no for an answer. With a connection to the new transnational railway in place, the city was well-positioned to prosper.

Denver's economic ascent continued steadily for decades as mines across the Rocky Mountains were full of gold and coal. And then a spectacular discovery was made that put Denver's growth on hyper-speed. In 1901 a huge oil field was discovered to the south of Denver in the Denver-Julesburg Basin. From that moment on Denver became an oil city. Over the course of the century a number of new oil fields have been discovered, including the Wattenberg Gas Field in 1970 which contained concentrated natural gas and became the site of extensive (and early) fracking. Denver's rich residents spent money on the city. Successful speculators funded theatres and attractions in the middle of the city, which in turn attracted the region's newest oil and gas millionaires.

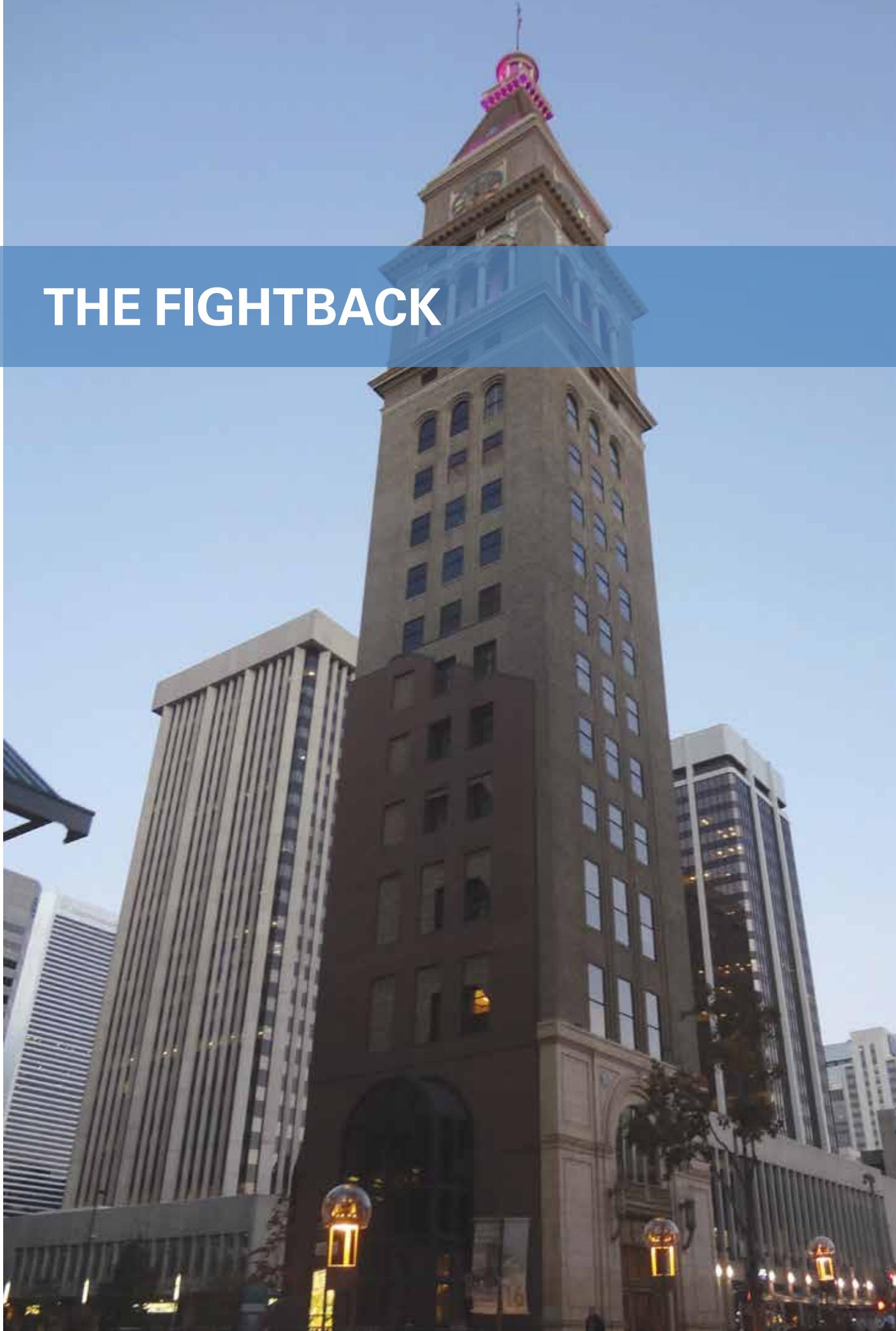
The frontier culture of big oil money and bigger oil spending was captured in the popular US television show, *Dynasty*, which ran during the 1980s. The patriarch of the rich, feuding family was an oil magnate called Blake Carrington who lived in Denver with his socialite, philanthropist wife, Krystal and their arch nemesis played by Joan Collins. The characters' big hair and shoulder pads came to represent the oil boom 1980s.

But difficult times for Denver were just around the corner. In 1981, oil prices had peaked at USD 34 a barrel. As the great global oil glut kicked in, prices fell and in 1986 they collapsed to around USD 9 a barrel<sup>147</sup>. Within months almost 15,000 oil industry employees in Denver lost their jobs<sup>148</sup>. The oil party was over. Over the next couple of years, Denver's economy shrunk. Gas and oil speculation companies packed up and many oil companies went bankrupt. There was a 30 percent vacancy rate in the downtown commercial area<sup>149</sup>. The companies that kept office space struggled to keep afloat. If that wasn't bad enough, downtown Denver's neighbouring suburbs refused to help out. The city had enacted the Poundstone Amendment in 1974 to prevent the downtown city from annexing surrounding municipalities; this was a legislative attempt to prevent urban sprawl. But when Denver's economy flat-lined, it meant the city was completely undiversified. Denver was on its own. A journalist from *Forbes* magazine wrote the city's economy couldn't get any worse as "you can't fall off the floor<sup>150</sup>."

# THE FIGHTBACK

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MAGNET CITIES | DENVER



**"He believed firmly that the city of Denver should use the difficult period of time to reinvent itself."**

As Denver slipped into recession in 1983, the city voted for a new Mayor. Frederico Peña was a Denver-based legal aid attorney who originally hailed from Texas. He had dipped his toe in politics in 1979 when he became a member of the Colorado House of Representatives. As he watched Denver slide into economic difficulties he decided to stand for Mayor. He believed firmly that the city of Denver should use the difficult period of time to reinvent itself.

To inspire the city, he launched a campaign, 'Imagine a Great City'. His challenge to all of Denver's residents was to let go of the past and imagine what the city could become. According to many who served around him, the leadership and energy he exuded during this period has only been matched by one other politician, Barack Obama. Residents and businesses across the city put up silk-screened diamond emblems, created by voluntary firemen, to signal the change.

### Denver gets a new airport

To begin, Peña set his sights on Denver's airport. The city's airport, Stapleton International Airport, was the hub for four major US airlines, United Airlines, Continental Airlines, Frontier Airlines and Western Airlines, thanks to its location in the middle of the country and the region's cheap oil. But the airport was causing difficulty. It had been designed for a much lower volume of traffic and was constantly congested. In addition, the airport did not have the technology to cope with the frequent low visibility and snow.

Because the airport was a hub, the congestion and backlog was having a detrimental impact on many domestic flights, and as a result, other airports across the country. Peña believed that it made sense to build a new airport during a recession; the traffic volume was lower and the city would have new infrastructure to leverage when the economy began to recover. Within a couple of years Peña secured USD 500 million in funding from the Federal Government towards the cost of a new airport<sup>151</sup>. But where to place the new airport?

Thanks to the Poundstone Amendment, the city of Denver could not annex any surrounding land into the city. As it was impossible to build a new airport in downtown Denver, Peña had to find an area close to Denver where people would first vote in agreement to be annexed to downtown. The community of Adams County was 25 miles northeast of downtown Denver and had a large plot of land available. In 1989 the residents of Adams County agreed to the annexation of about 54 square miles of land, to downtown Denver for the development of Denver International Airport.

It was Peña's vision to create not just a standard regional airport, but instead a huge airport with domestic and direct international flights. Today the airport remains the largest airport in North America. The airport sits in a designated enterprise fund. This means the funds to operate the airport are gathered through revenues, not tax dollars. The old Stapleton Airport was handed over to a non-profit community development organisation to build a new garden city.



## The Fightback

### Denver International Airport

Denver International Airport (DIA) cost USD 4.8 billion in total<sup>152</sup>. A total of USD 3 billion was spent on construction with the rest spent on planning, land acquisitions costs and interest payments.<sup>153</sup> The majority of the funding was raised through bonds which were secured against the future revenue streams of the DIA Enterprise Fund.

Since the original build, a series of additional bonds have been launched to fund extensions to the airport. The airport was originally designed to accommodate 50 million travellers a year, a number which has already been exceeded<sup>154</sup>.

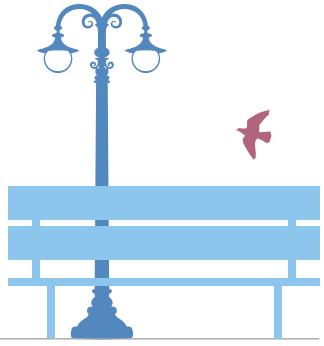


In 1995, Denver's new airport opened. The city was still suffering economically, but the new airport made an immediate impact. And one of the reasons the airport had such an impact when it opened was because of the changes Mayor Peña was making to downtown Denver. In 1988 the Mayor had the foresight to pass an ordinance which protected the lower downtown historical district of the city. The area was full of empty warehouses, railway yards and historical infrastructure from the early years of the city. The Mayor understood instinctively that if the city's heritage was bulldozed, the heart of the city would disappear along with it. Instead he was determined to get new blood into the centre of the city to start its revival.

Through the Lower Downtown Historic District ordinance, design standards were put in place for new construction and rules around the regeneration of old buildings. The zoning ordinance limited the height of new buildings, and encouraged the conversion of old commercial buildings into residential units. The city issued tax incentives and grants to encourage developers and individual investors to buy and rehabilitate old buildings. The old railway tracks and viaducts were removed to turn the area into one cohesive whole. Very quickly the plan started to work. The population increased in the Lower Downtown, or 'LoDo' area as it became known at a much faster rate than the rest of the city. Even though the city was still suffering economically, there was untapped demand for old buildings linked to Denver's historical past. What was an empty, derelict area, began to gentrify. Today it remains a very desirable, high property value area full of boutique shops, restaurants and cafes.



## The Fightback



### Urban renewal areas

The state of Colorado uses Tax Increment Financing (TIF) as a tool for redevelopment. The city of Denver, in conjunction with the state, designated many areas of downtown as urban renewal areas to enable the use of TIF.



### Denver builds a new Convention Centre

Now Mayor Peña had a new airport and the downtown renaissance was beginning to blossom. Next the Mayor turned his attention to increasing the flow of traffic into the city. Denver had long been a city that was used to a large temporary population of visitors thanks to its proximity to the Rocky Mountains, home of skiing and snow-sports.

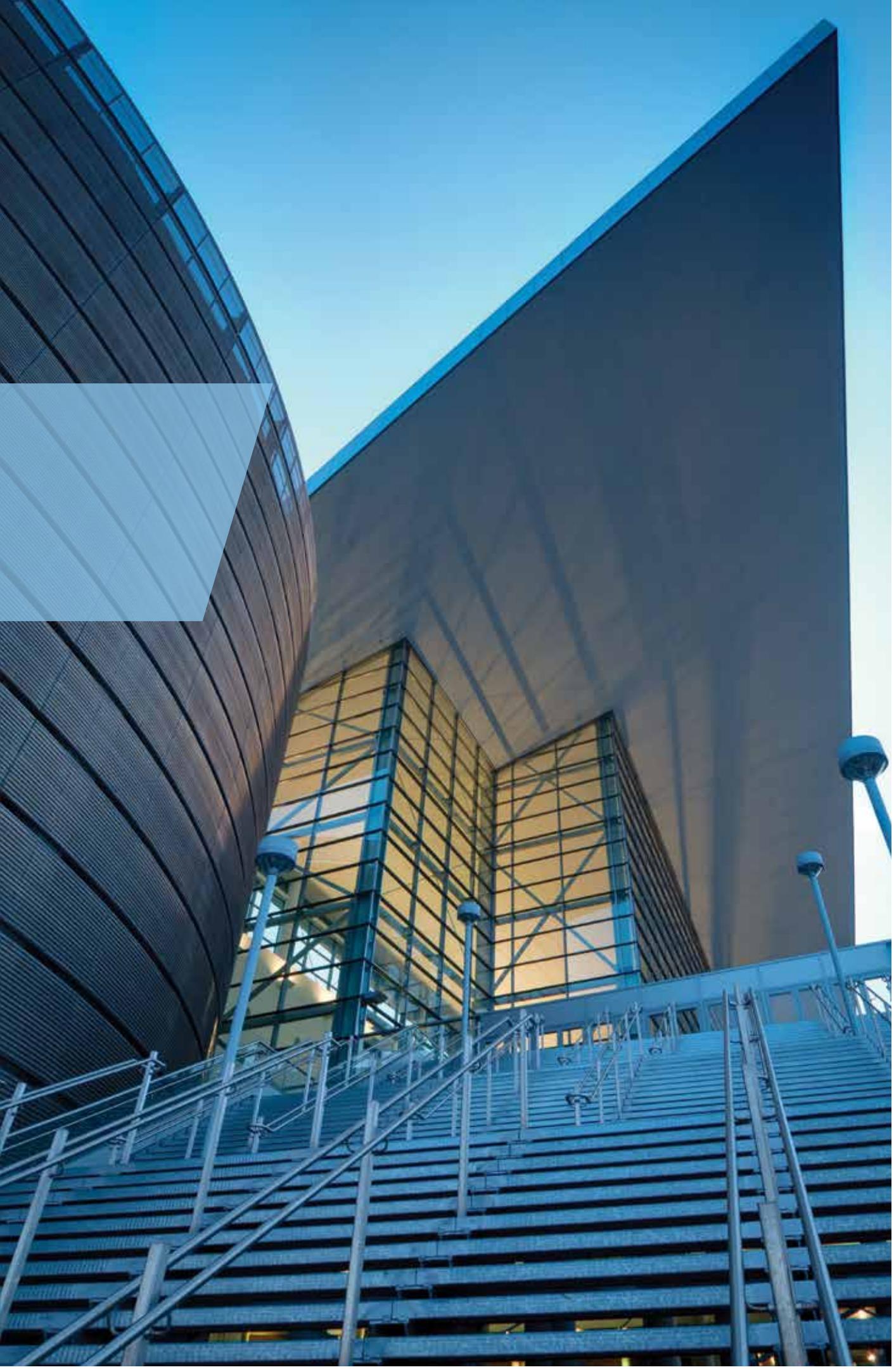
In 1982, just as the oil crisis was beginning to pinch, the city had invested in the creation of a long pedestrianised walkway along 16th Street. The idea was to design a central corridor to create a centre for the city's business hub. Flush with cash, the city appointed the renowned architect I.M. Pei and his architecture practice to design what was to become the 16th Street Mall. Shops and restaurants filled the ground floor of the wide street and businesses were located in the stories above. The Mall succeeded in drawing people, businesses and visitors into the street, but to the detriment of neighbouring 14th and 15th streets.

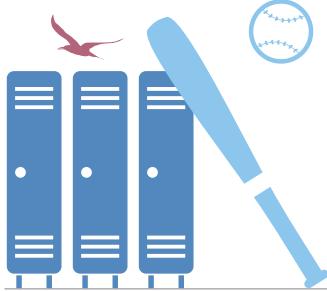
Mayor Peña suggested the city of Denver should build a new conference centre. Delegates could easily access the city thanks to its new, modern airport; the neighbouring mountains and skiing resorts would draw people in; and the downtown of the city was going through a period of redevelopment.

In Denver's TIF areas, the city base-lined property taxes and sales taxes in the designated areas. As the area recovers the additional property and sales tax collected is used to pay back capital and interest on loans taken to make major improvements to the area.

The Urban Land Institute, the US's leading think tank on land use, suggested the city locate the new conference centre on an area of now empty warehouses and surface parking lots on 14th Street. Delegates would walk between the conference centre and the hotels and attractions on the 16th Street Mall and bring the whole area back to life. The Colorado Conference Centre was designed by a Denver-based architecture firm, Curt Fentress, and has since won over 18 major design awards. From the day it opened its doors in 1990, it has been extremely successful and hosts hundreds of conferences a year. Before it opened, the city had 4,000 hotel rooms; today that number is 8,400 and major hotel chains like the Four Seasons and Hyatt Regency have built new hotels in downtown Denver<sup>155</sup>.

Mayor Peña understood that buildings alone can't change the culture of a city. In 1988 he signed an Executive Order that required one percent of any capital improvement project over USD 1 million to be set aside for the inclusion of public art in the project<sup>156</sup>. As a result of this order, the conference centre is known across America for its iconic 'Blue Bear', a 40 foot high sculpture of a blue bear that peaks into the lobby of the centre. The investment was a smart one. The Conference Centre was later to play host to one of the most important moments in Denver's reinvention story. The Democrats chose Denver to host the 2008 Democratic National Convention, the Convention that selected Barack Obama as the Party's Presidential nominee. As Barack Obama entered the world's stage, it was the iconic Blue Bear of Denver's conference centre that served as the backdrop.





## The Fightback

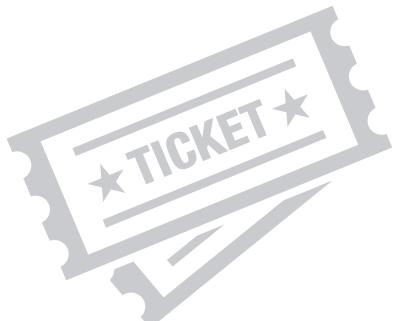
### Denver gets a baseball team

Like all cities in America, Denver's residents are sports mad. The final plank in Mayor Peña's reinvention campaign was to secure a new major sports franchise for Denver. His ambition was to get Denver a Major League Baseball team. One day Denver would host the New York Yankees and Boston Red Sox. From the outset the Mayor was determined to use sports as a tool for further economic development. Whereas most US cities locate their baseball stadiums outside of the downtown area, Mayor Peña's plan was to construct a new baseball stadium in the middle of downtown Denver. The stadium would only be accessible by foot. The main train station, Union Station, was close by, as were two subway exits. The new foot-flow would drive the regeneration in a part of the city that remained deprived. Peña asked the state to allocate the area surrounding the plot of land the 'Denver Metropolitan Major League Baseball Stadium District', which would make it an area where Tax Incremental Financing (TIF) could be raised. In 1990, Mayor Peña persuaded the voters across six counties to approve a one cent sales tax increase to fund the construction of a new baseball stadium<sup>157</sup>.

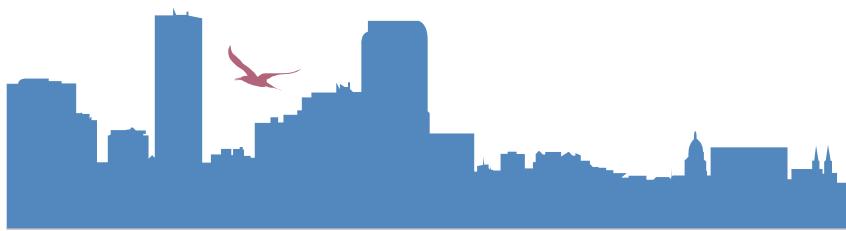
Before Coors Field was even built, the Major League Baseball (MLB) Association awarded Denver a new franchise, alongside Miami. The competition had been steep; five other cities had put themselves forward. But the MLB argued that any city where the people were willing to literally pay for a new stadium themselves, was a city that deserved a major baseball franchise. When the Colorado Rockies played their first season in an old stadium, 4.5 million people attended the games<sup>158</sup>. The plans for Coors Field were quickly revised to accommodate extra seats in the upper deck<sup>159</sup>. Even that has proven to be too few, with games often sold out.

After eight years in office, Mayor Peña was headhunted by the Governor of Arkansas, Bill Clinton to advise during his Presidential campaign. He went on to serve as Clinton's Secretary for Transportation and later Secretary for Energy. But during his time in office, Peña started Denver on the road to complete city reinvention. Under his helm, the city gained a new international airport, conference centre, revitalised downtown and a baseball team. It is no wonder so many of Denver's residents refer to the 'Peña Renaissance'.

Denver's reinvention continued to progress under its next Mayor, Wellington Webb. Following the success of Coors Field, the redevelopment of many other of the city's amenities and attractions began. Mayor Webb focused his efforts on an old disused railway yard, sited in a flood plain along the South Platte River Corridor. Mayor Webb thought the land could be used to build a new multi-use entertainment complex. The city bought the derelict 52-acre site from Pacific Railway. As would be expected it was contaminated and lacked infrastructure; in short, it would be impossible to persuade any developer to take it on. Mayor Webb worked with the Environmental Protection Agency (EPA) to have the site declared a SuperFund Site, which secured federal funds for the cleanup. The cleaned up land was declared an Urban Renewal Area and handed over to an entertainment company, the Ascent Entertainment Group, to develop and operate the site for 30 years<sup>160</sup>. In 1997 the groundbreaking for the Pepsi Centre commenced. The arena is home to the Denver Nuggets, the city's NBA basketball team; the Colorado Avalanche, the city's NHL ice hockey team; and the Colorado Mammoth, the city's lacrosse team. When the arena is not used by sports team it serves as the city's main concert venue.







## The Fightback

### Denver targets young people

In 2003, the city voted in their next Mayor, John Hickenlooper. Hickenlooper, like many of Denver's residents, moved to the city in the early 1980s. Trained as a geologist, he relocated to the city to work in the booming oil industry just as it was at the point of decline. When the price of oil crashed, Hickenlooper, like thousands of others, lost his job. But instead of leaving the city, he chose to stay and opened up a series of restaurants and a micro-brewing company in the LoDo district of the city as Mayor Pöna kick-started its regeneration.

In the years since the oil crisis, the city had recovered somewhat economically. The oil and gas industry had rebounded, but it was not sustaining or creating the previous number of jobs. In the late 1990s, the city had attempted to become a call centre hub, capitalising on its central location between the east and west coasts. But call centre work attracts peripatetic workers, many of whom take jobs and then leave a few months later. Call centres had not provided downtown Denver with a solid new economic base.

One of the difficulties downtown Denver faced was the perpetual competition between the downtown and the suburbs. When businesses considered locating in Denver, an almighty squabble broke out between the different municipalities, including the downtown. Thanks to the Poundstone Amendment, the city was a completely independent entity and had no say or influence over what its neighbours did and vice versa. Before he even took office, Mayor Hickenlooper called all of the Mayors of the surrounding areas to his apartment in LoDo.

He explained to all present the importance of establishing an ever-more vibrant downtown area. A healthy and economically strong urban core would only benefit their neighbourhoods. After almost 30 years of inter-city competition, the Mayors all agreed and a Denver-wide alliance was formed. At around the same time the Denver Chamber of Commerce pulled all big Denver businesses together for the same purpose. It was agreed that all businesses, regardless of where they were located in the city would sell Denver as one municipal area, not a series of competitive neighbourhoods. The 'Metro Denver Code of Ethics' is an agreement to promote downtown Denver and was signed by all major businesses.

Hickenlooper was a young at heart 51 year old when he took office. While he ran his businesses in LoDo he witnessed a new group of young people come into the city. They were young, university educated, ambitious and creative. And they preferred to live downtown in the newly regenerated buildings. Hickenlooper understood their importance and decided Denver would target young wealth creators.

While the city had already undergone a huge transformation, Hickenlooper was determined to make the city a magnet for young wealth creators. In 2006 the Mayor appointed a 115 person Infrastructure Priority Task Force to identify the city's capital and infrastructure needs<sup>161</sup>. The focus was on improving the city for its current residents, as well as building the facilities the city's future residents would require. Public safety facilities, cultural facilities, libraries, parks, health and human service projects were all put forward. The Mayor then went out to the voting public and asked eight separate ballot questions (the "Better Denver Ballot Questions") to agree the projects and authorise city borrowings of USD 550 million<sup>162</sup>. And so the Better Denver Bond issue was launched and 319 separate projects were funded<sup>163</sup>.





## The Fightback

### Better Denver Bonds

Better Denver Bonds are municipal bonds, a type of debt obligation issued by a state, city, county or other public entity. They are used to finance public projects such as construction of new schools, hospitals or libraries.

Municipal bonds are used widely in the US as the interest earned from the investment is exempt from federal tax, and where applicable state and city taxes. As a result, investors are more willing to accept a lower rate of interest, which in turn gives cities access to funds.



Hickenlooper was also determined to give Denver a modern public transportation system. The city's pollution levels had improved greatly since the great smog-era of the 1980s, but car congestions remained a big problem. Many in the city were still unwilling to part with their cars. As one resident stated at the time, "This is how we do it in the West, we all have our horses or our cars or whatever and we ride them to work"<sup>164</sup>. But Hickenlooper had an ace up his sleeve. The population of the city was changing. Thanks to the changes under the Pena era, young people were moving into the city. And younger people use public transport. Only half of those who had lived in Denver for 30 or more years backed the idea of public transport system; whereas two out of three of the new population were in favour<sup>165</sup>.

The Mayor proposed a new light rail and bus system that would link outer north, south, east and west Denver to the downtown. The system would also provide a direct transport link to international airport 25 miles away. The programme would cost USD 4.7 billion<sup>166</sup>.

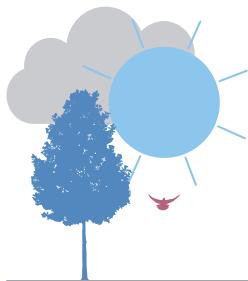
The Better Denver Bonds were issued as two types:

- **General Obligation Bonds:** These are considered to be the safest instrument. General Obligation Bonds represent a promise by the issuing municipality or city to levy enough taxes to make timely and complete payments of both interest and capital to investors in the future.
- **Revenue Bonds:** These are issued by municipalities and cities as well, but the future interest and capital repayments are covered by the revenues generated by the projects. Generally speaking, revenue bonds are not backed by an issuer's taxing authority and as such are viewed as higher risk than General Obligation Bonds. Therefore, they tend to be offered with a higher interest rate.

Despite residents' polar views, the Mayor went out and asked Denver's residents to pay towards the new transport system with a dedicated one cent increase in sales tax. Against the odds, 58 percent voted in favour of FasTracks<sup>167</sup>. Denver's newer, younger residents swung the vote. Many argue FasTracks would not have been possible had Hickenlooper not met with all of the municipal Mayors in his LoDo living room the previous year. Individual municipalities would have argued there was no benefit to them being linked to Denver's downtown, let alone other neighbourhoods.

One of the important elements of the wider FasTracks construction is the refurbishment of the city's historic Union Street railway station and surrounding area, on the far edge of the revitalised LoDo district. Union Street is a highly symbolic building. When Denver's pioneering leaders funded and built their own railway line to connect to Cheyenne, Union Station was the gateway. During the 1920s, 80 trains a day came into Union Station<sup>168</sup>. Dignitaries including Presidents Theodore Roosevelt, William Taft and Franklin Delano Roosevelt all came through the station's arches.





## The Fightback

Under the FasTracks plan, Union Station will become the central station for the commuter rails and light rails that connect the city to the airport. An estimated USD 200 million is being spent to bring the FasTracks corridors into Union Station and refurbish the station, which in turn has drawn in significant funding by developers to build an array of new mixed-use residential, retail and office space over the surrounding blocks<sup>169</sup>. The new station is a stone's throw from Coors Field and constitutes one of the last major development areas in Denver's downtown.

As the changes to Denver rolled on, yet more and more young people moved into the city to settle. Some joke this was a result of a campaign aimed at big corporates that back-fired. The city launched a campaign that featured Denver's 300 days of sunshine<sup>170</sup>. Businesses did not respond, why would big business choose to base operations in a city that essentially encouraged its workforce to slack off? But there was one generation the message resonated with; the new generation of young millennials who sought a better work and play balance than their parents had before them. Young people literally started to flock to Denver. Those who went to the University of Colorado Denver, stayed.

### Denver goes after the new

One of the reasons Hickenlooper was so focused on targeting young people, was because he understood they created the jobs of the future. The city already had a number of significant economic assets. Lockheed Martin and Boeing had long run operations in the area. During the early years of the second world war, the city of Denver had bought a parcel of land and donated it to the army; the plot became Buckley Airforce Base, and has remained an important base to this day. The base in turn pulled major defence contractors into the area.

The Fitzsimons Army Medical Centre, in neighbouring Aurora, was decommissioned and converted into a biotechnology campus which contains the new University of Colorado Hospital, a children's hospital and extensive research and development facilities.

To help develop the city into an important biotech research centre, the University of Colorado headhunted Thomas Cech, a Nobel prize winning chemist, from MIT to oversee the research.

Denver's new residents were also turning the city into a hub of entrepreneurial activity. Entrepreneurs are moving from San Francisco and Silicon Valley; the cost of living is significantly lower and the quality of life is higher. Where else in the world can you ski or hike every weekend and live in an urban environment? Already the city has an impressive roster of start-ups to its name that are in turn luring yet more aspiring entrepreneurs into the city. Companies like Mapquest, Photobucket, TechStars and Ping all came out of Denver. To help fuel the start-up ecosystem, the city has developed an incubator called Galvanize which provides work space, capital through a dedicated venture capital fund and mentoring support by other start-ups.

While Denver is today a city very far removed from its Dynasty and oil history roots, oil and gas still plays an important role in the city's economy. New technologies in fracking and horizontal drilling have opened up enormous oil and gas reserves under Colorado once again. Companies from around the world are flooding back into Denver to set up offices. But Denver can issue a sigh of relief<sup>171</sup>. Even if the events of the 1980s were to be repeated, the city would not suffer as greatly. Today the economy is diversified. The city competes on the basis of quality of life and its attraction to young people. Today Denver is a magnet city, oil industry or no oil industry.

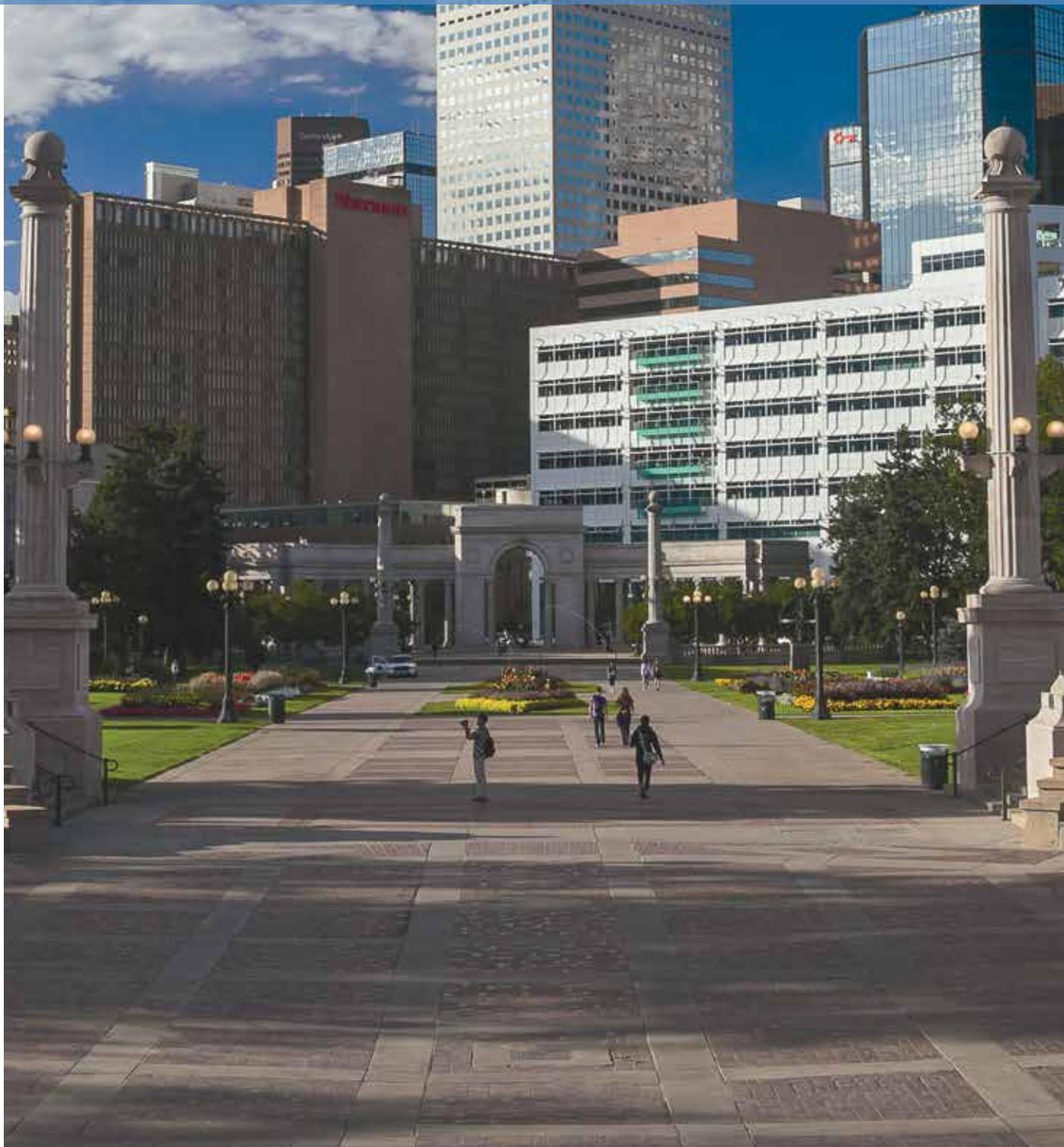




# THE VICTORY

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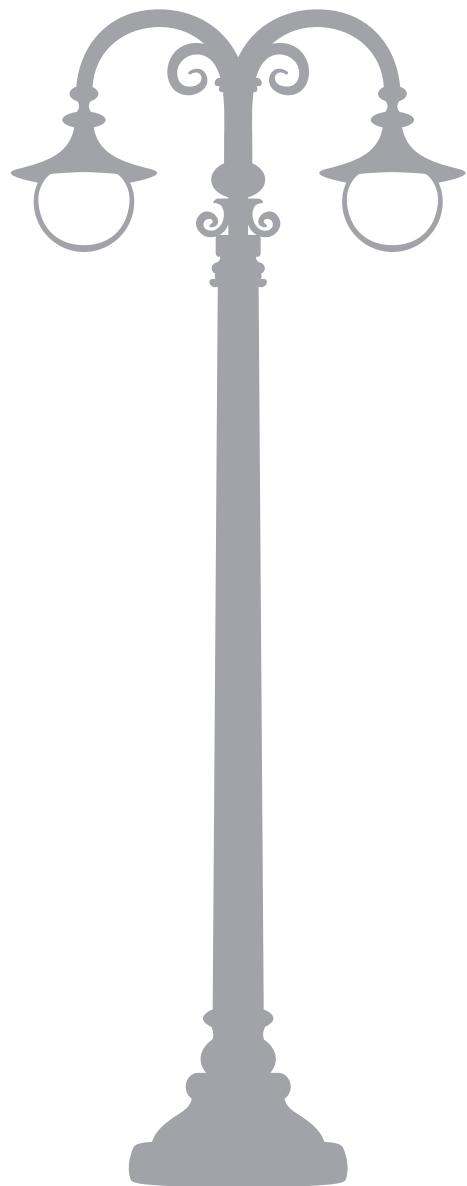
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"Today most Americans know Denver is the number one city for millenials."

Those who have lived in Denver throughout the oil boom years, decline years and have witnessed what is happening today, find it difficult to believe their city has recovered; so bad was the outlook in those early years. Today most Americans know Denver is the number one city for millenials. What they may not know is it is the best city for small business employees and the third best city for recent college graduates. More than half of Denver's population have university degrees. As long as Denver continues to be a haven for young people who love to ski, hike and work hard, it will succeed.

But, as is often the case with successful cities, Denver is experiencing some growing pains. The young and liberal attitude of the city attracts a disproportionate number of homeless people which the city has been slow to address. There is a growing disparity between the rich and the poor, a fact that sits uncomfortably in a city with deep Democratic Party roots. With that said, over the coming years, as the rewards of the investment in FasTracks, the Union Station area and the large number of research and development clusters pay off, there is no doubt the world will hear more of the mile high magnet city.



# THE PRINCIPLES

## How Denver applied the Magnet City Principles

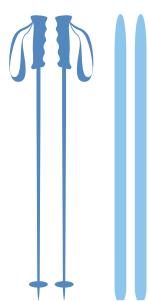


### Magnet cities attract young wealth creators

In recent years, the city has targeted young millennials into the city. This group seek work-life balance, short commutes and compact communities, prefer to live in urban environments, like to use public transport and set up their own businesses. The city has openly targeted this group by reshaping the urban environment to their requirements whilst also featuring the amenities of the nearby Rocky Mountains.

### Magnet cities undergo constant physical renewal

Since the oil crash of the 1980s, the city has worked relentlessly to rebuild the downtown area. This has happened under the stewardship of a succession of Mayors, each of whom has taken the lead to revitalise a significant area of downtown Denver.

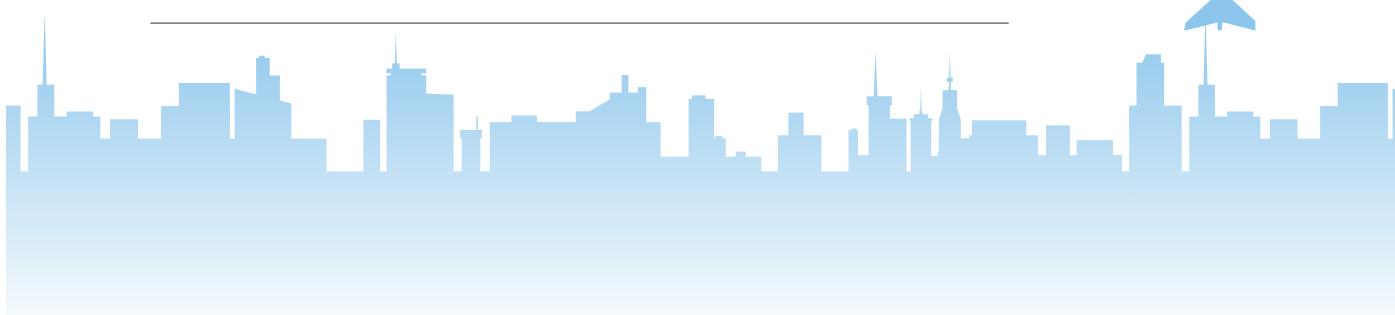


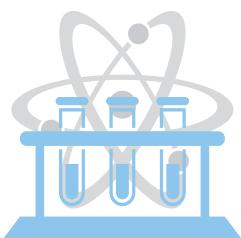
### Magnet cities have a definable city identity

Unlike some of the other case studies, the focus on city identity did not feature as significantly. However, this is because the city has always had a strong identity in America, thanks to its proximity to the Rocky Mountains and an array of ski resorts. Americans have always known of Denver.

### Magnet cities are connected to other cities

A significant part of Denver's economic recovery was the establishment of a large new international airport which has since become one of the largest in the US. The airport services domestic and international flights and to further leverage the airport, the city is currently investing in a large public transport infrastructure.





**“The city has targeted young millenials into the city.”**

### Magnet cities cultivate new ideas

Denver (and Colorado) has always been a geography that has supported research and development. The state is home to over 30 federally funded R&D institutes. This includes the recent redevelopment of a military base into a cutting edge biosciences facility. In addition, the city invests in ways to support the start-up and technology cluster that has found a natural home in the city.

### Magnet cities are fundraisers

The Mayors of Denver have gone after federal funds, private funds as well as debt in their pursuit of different projects. In some cases they have used one cent increases in direct taxes to provide seed capital for larger investments. The Denver Bond programme, a significant municipal bond programme which provided funds for a number of revenue and capital projects is an interesting example of innovative municipal financing.

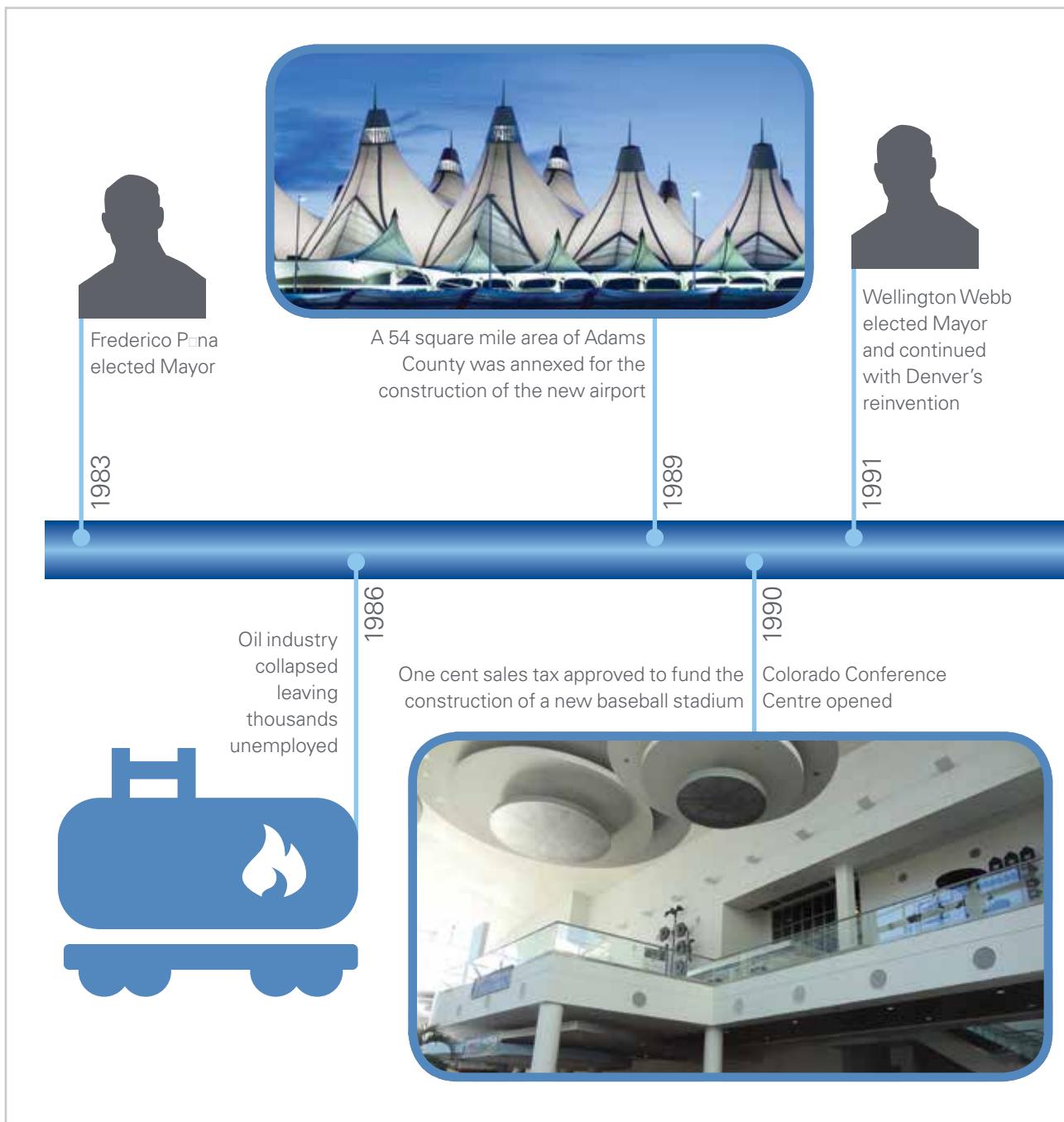


### Magnet cities have strong leaders

The city's renewal was overseen by a series of strong Mayors, two of whom (Pena and Hickenlooper) came from non-political backgrounds. In addition to these figures, the Mayors of the surrounding municipalities all played an instrumental role by agreeing to stop inter-city competition.



# TIMELINE

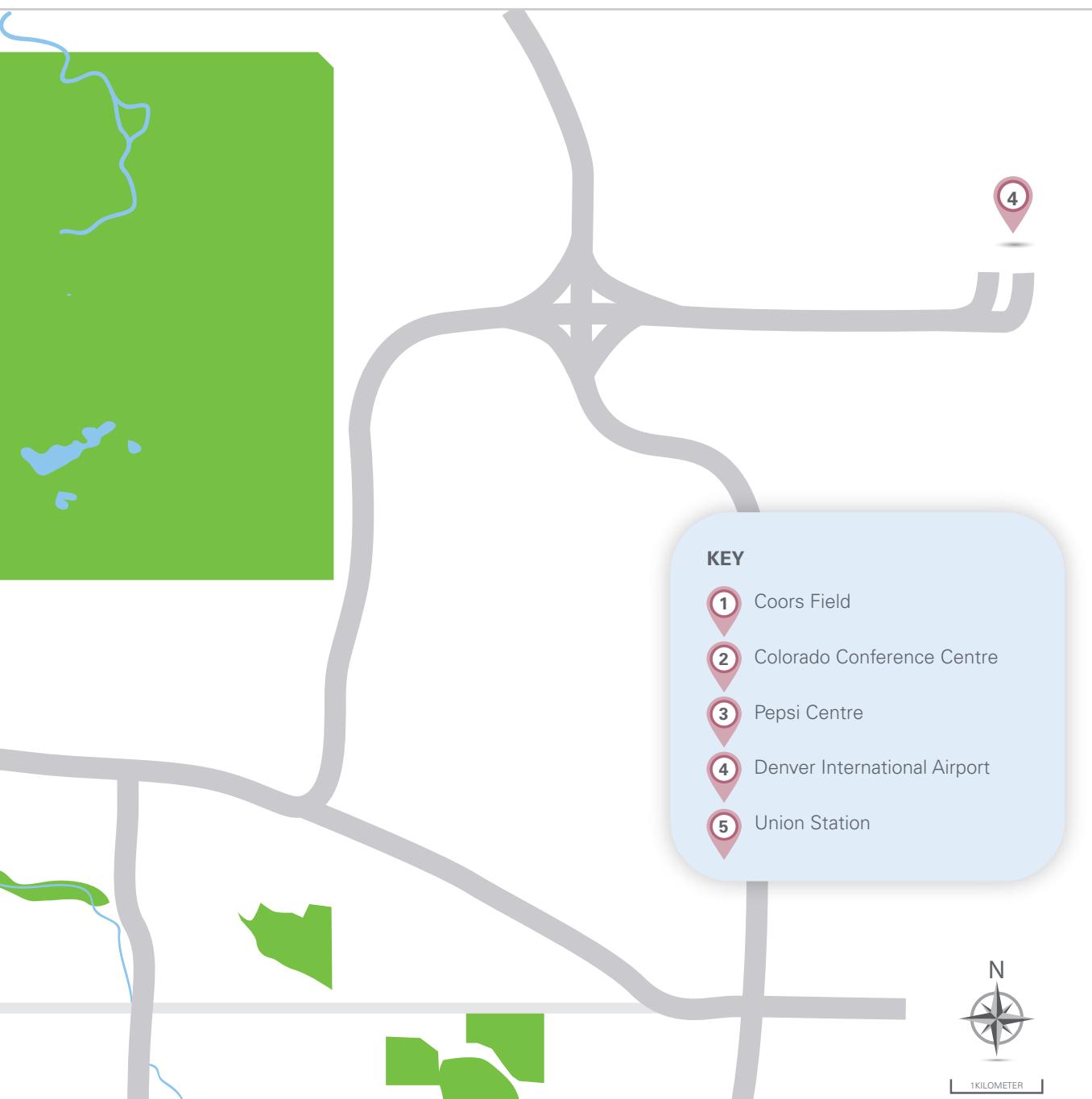




# MAP

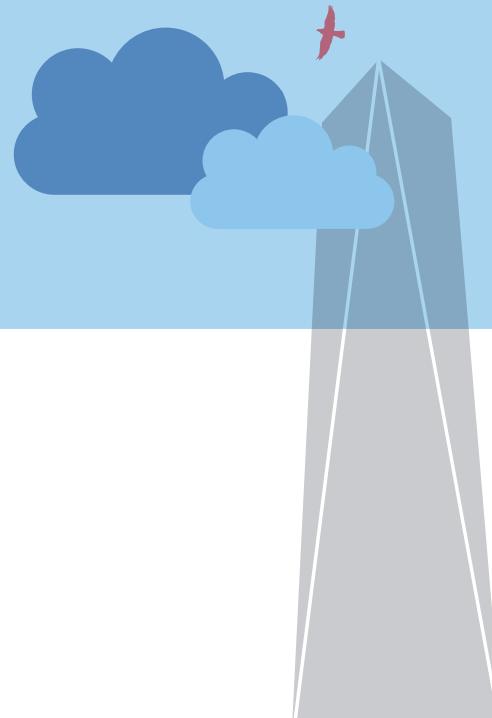
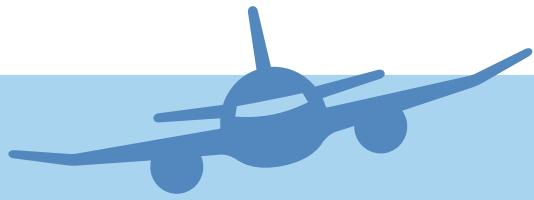
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# Incheon Songdo

The city that created a new global core





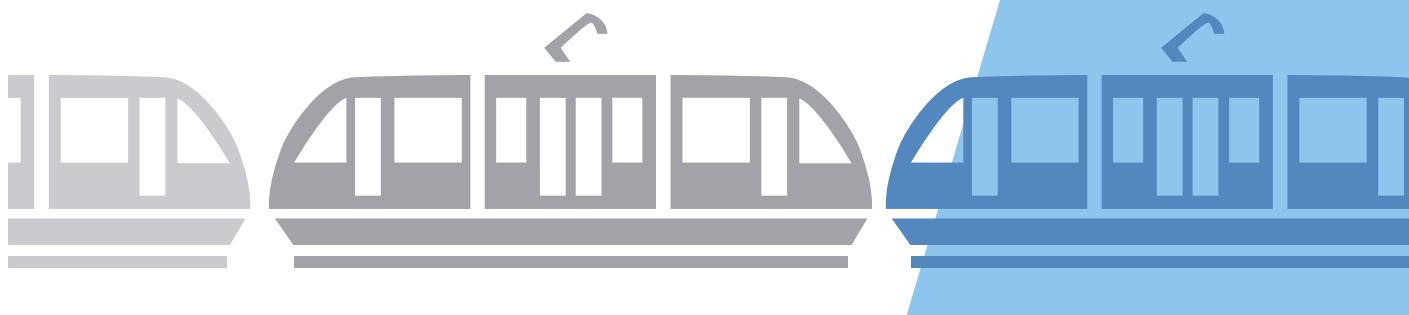
# INTRODUCTION

Rising out of the Yellow Sea forty miles west of Seoul, is a futuristic city made up of brand-new, thirty-story-high, gleaming skyscrapers and green parks. Many of the buildings are so new, they still have tape on the windows; landscapers lay sod and plant flowers in the parks and gardens. It is a modern metropolis and its most striking feature is how un-Korean it is in style and culture. This new mini-city is called Songdo and it forms a new district three and half times the size of New York's Central Park in the older well-established city of Incheon.

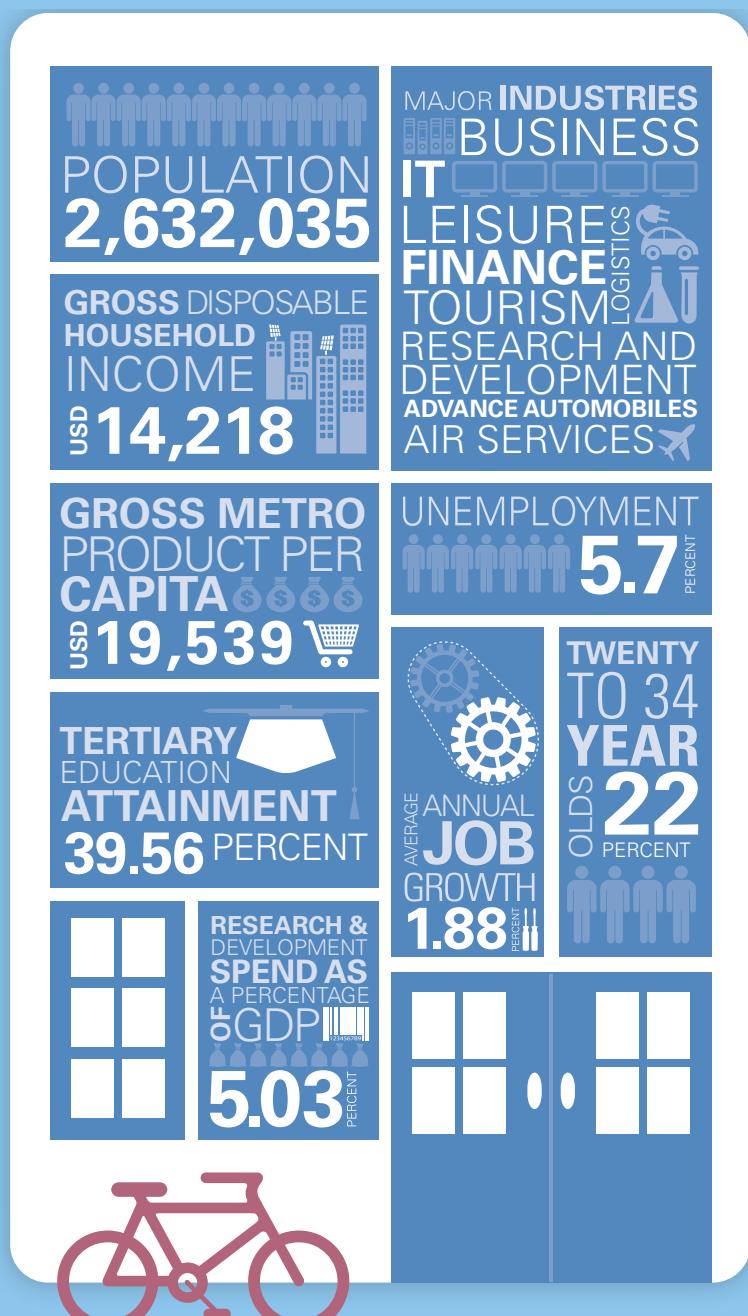
By building Songdo, the city of Incheon has shifted its economic centre of gravity. What was once a city that relied on an old-school economy that revolved around its port and the transportation of goods to and from Seoul is now a global bio-industry hotspot that global companies are investing in.

Yet seventeen years ago, like many other South Korean cities, Incheon looked like it was not going to recover from the 1997 Asian crisis. It was a city that had lost much of its industrial base to other cheaper Asian locations. However, against the odds, the city is putting in place one of the world's boldest reinvention plans. The plan is to turn Incheon from a regional manufacturing and logistics hub for Seoul, into a new global city to rival Hong Kong, Singapore and Seoul itself.

This is the story of how an unremarkable city did the remarkable. By building an entire new city area called Songdo, Incheon has positioned itself to be a globally significant city for research and development and new economy manufacturing. The vision for the new metropolis centres on making the city highly magnetic and attractive to global scientists, researchers and global business executives. This case study also demonstrates the incredible speed at which second cities around the world are transforming themselves and how competitive the city-based battle for talent has become.



## INCHEON SONGDO METRICS<sup>172</sup>



# THE DECLINE

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“...the impact on Incheon’s economy was brutal and the economy started to contract.”

Incheon is one of the oldest cities of South Korea. It is the third largest after Seoul and Busan in the south. The city was originally developed as a port. Goods travelling between China, Japan and Northern Russia changed hands in Incheon and the city acted as a city-port for goods into and out of Seoul. During the Korean War many of the quaysides were destroyed and the city reoriented its activities around heavy industry, particularly the production of steel, iron, light metals, textiles and chemicals. These labour intensive industries gave Incheon products to export. Like many other South Korean cities, huge numbers of people moved from the countryside into the city in response to the demand for labour. In 1960, 80 percent of the South Korean population lived in the countryside; by 2000 the number had flipped to 80 percent living in cities<sup>173</sup>.

When the Asian financial crisis hit in 1997, the impact on Incheon was severe. Korea suffered greatly during the crisis because of the poor performance and large debts held by Korean *chaebols*<sup>174</sup>. Many of these chaebols had significant operations based in Incheon, for instance Daewoo’s car manufacturing plant. Daewoo was eventually broken up by the Korean government and sold, while other chaebols cut back operations as their debt limits were reduced; the impact on Incheon’s economy was brutal and the economy started to contract. Incheon had become a negative magnet.

Incheon was not the only city that suffered during this period. Seoul was experiencing growing pains as well as a post-crisis economic hangover. As mass urbanisation took place in the 1980s and 1990s, a huge number of people had moved to Seoul. However, Seoul was not well-placed to absorb the new population. The city is physically constrained by mountains that rise all around it. These sharp mountains would not accommodate new apartment buildings or office parks. As a result, the city became denser and more polluted as more and more buildings were packed into tighter spaces. Pollution from cars and industry hung in the air, trapped by the mountains. Seoul’s Gimpo International Airport had become congested. By the time the 1997 economic crisis struck, the Korean government was clear it needed a new plan not just for the Korean economy, but for the future of its major cities, if it was to survive.

# THE FIGHTBACK

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## “President Kim’s aspiration was to turn Korea into the international business capital of the North East Asia.”

The national government spent much of the late nineties considering options. Various plans were considered, including blasting through Seoul’s surrounding mountains to extend the city. Eventually President Kim settled on an idea that had not yet been tried in Korea. He was going to move the economy away from the physical production of goods for export towards research and development and business services. His aspiration was to turn Korea into the international business capital of North East Asia.

To achieve this President Kim planned to create Korea’s first free economic zone. And he set his sights on Incheon as the optimal location. Locating a free economic zone in Incheon would take pressure off Seoul, but still complement Seoul as the cities were closely located. In addition there was sufficient land to build a new airport, bridges and express trains between the two cities.

However, the idea of turning Incheon – a hard-working, ‘blue-collar’ city built around its port and heavy industry – into a home for international business executives must have seemed laughable. The next question the national and Incheon government had to address was where were they going to build all these new facilities?

The Incheon government first considered whether they could essentially rebuild the existing city – create new skyscrapers and houses in place of the existing higgledy-piggledy streets and old apartment blocks.

It became clear quickly that this was not going to be viable. People may complain about their homes, but a home is a home. If Incheon was going to become the international business hub of North East Asia, the new parts of Incheon would have to be built around the existing city. Incheon is on the coast of Korea and as mentioned earlier was a significant port. After the quaysides were destroyed during the Korean War, the mud flats surrounding the city were primarily used by fishermen. In fact one of the reasons the city had not been rebuilt as a major port was because the water was too shallow around the city. Shipping containers had to anchor three kilometres outside of the main port and transport goods in smaller vessels.

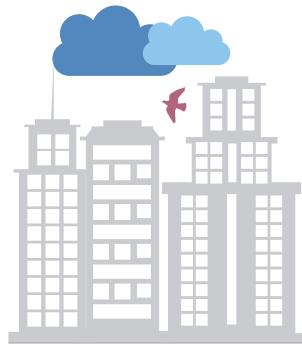
The national and city government created a master plan to reinvent the city. Three new districts would be created: Yeongjong; Cheongna; and Songdo. Yeongjong, a 13,000 acre man-made island off the coast of Incheon was to be the home of a new international airport – Incheon International Airport<sup>175</sup>. The airport would turn Incheon into the new gateway for Korea; one third of the world’s population would be accessible within three and a half hours flying time<sup>176</sup>. Under the terms of the free economic zone, logistics companies and businesses dependent on the airport would be incentivised to locate on the island.



### Incheon International Airport

Incheon International Airport was established through a public private partnership. The cost of reclaiming the land was met by the Incheon International Airport Corporation (IIAC) a private company set up jointly between the Korean Government and a range of private investors. To reduce the government’s contribution a number of airport operations were established on an owned and operator led basis.

This included a number of Korean airlines and transport businesses and foreign business operation (e.g. DHL and FedEx). The total cost of building the airport which opened in 2001 was USD 5 billion<sup>177</sup>. It has won numerous accolades including the world’s best airport for service for the past eight years<sup>178</sup>. A second phase to further increase passenger and cargo capacity was completed in 2008 to coincide with the Beijing Olympics.



## The Fightback

The second new area was Cheongna. Located to the north of the old Incheon city, the vision was to create a new leafy suburb with leisure facilities like sailing clubs and golf clubs ready for the new international executives and their families. And the third new area was to be called Songdo; this was to be the beating heart of the reinvented city. All three areas made up the free economic zone.

Songdo, was conceived to be the new international business capital of North East Asia, close in spirit to London's Canary Wharf. When the project began, the land on which Songdo is built did not exist; the city is built on land reclaimed from mud flats. However, if Songdo was going to be a free market capital for Asia, then it followed that its construction should be guided by those same principles. The national government would cover the land reclamation costs, the city would cover infrastructure investment costs and private sector funds would cover development and building costs.

### Incheon gets a new city

It had been presumed that the private sector development costs would be covered by a Korean company. However, the Asian financial crisis put an end to that idea. The new area of Songdo was divided into a number of development areas, the largest of which were 1,500 acres. The Incheon and Korean government decided to seek a foreign development company to partner with POSCO Engineering and Construction, a large Korean construction firm to oversee the design, development and construction of a development plot in the middle of Songdo. It was to be called the 'International Business District', or IBD for short.

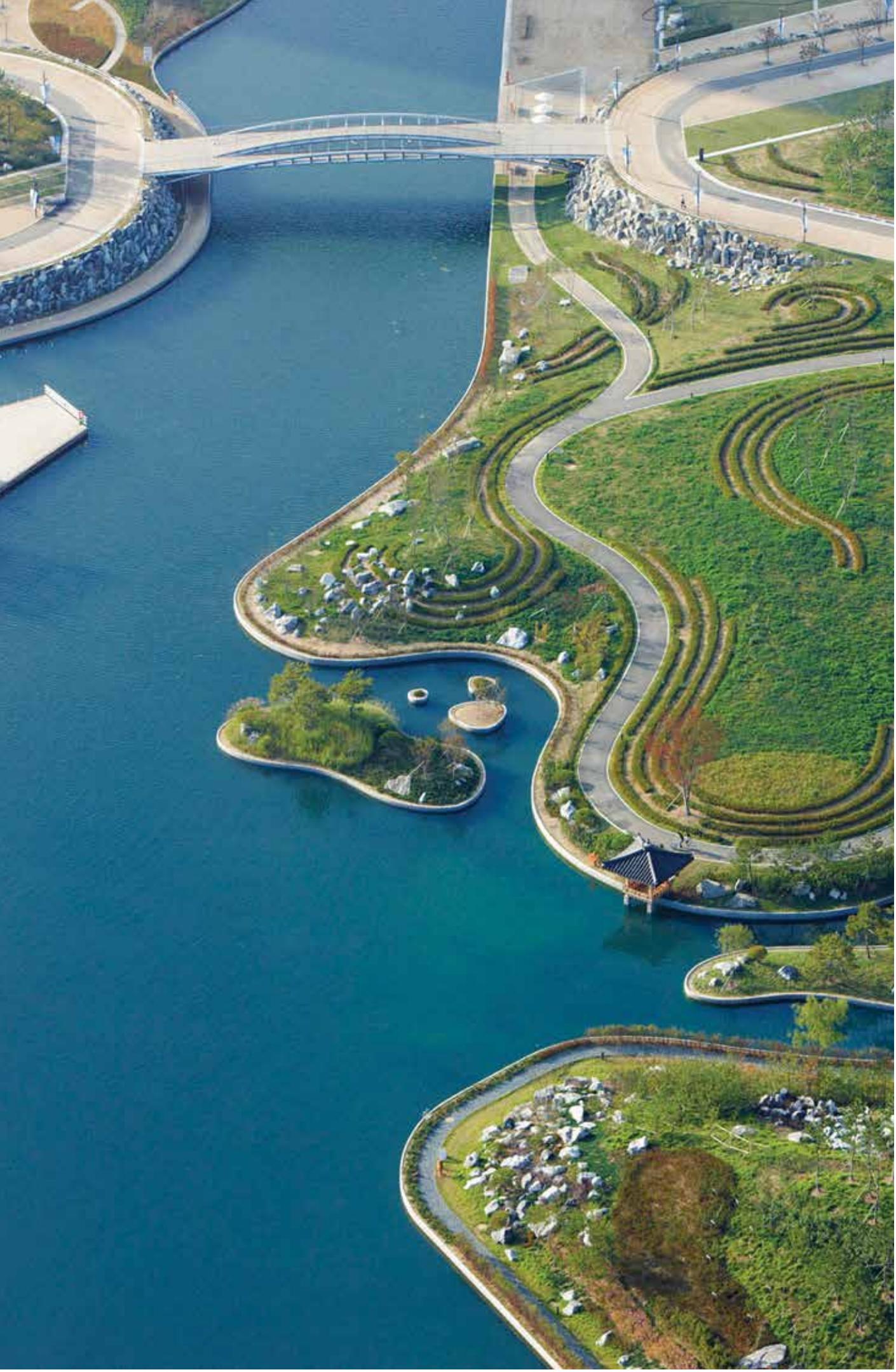
Responsibility for securing a foreign developer to lead IBD's financing and design fell to POSCO's Jay Kim. After several attempts and rebuffs by large international developers, Kim stumbled across a new development in Boston, the State Street Financial Centre. It was an eye-catching modern skyscraper on the edge of Boston's architecturally conservative Financial District.

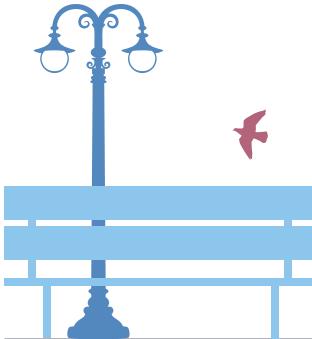
### Incheon Free Economic Zone

The purpose of the Zone was to draw in Foreign Direct Investment. After the Asian financial crisis, domestic investment funds were in short supply. To grow the economy and invest in new facilities that would employ Korean workers, the government needed global companies to build new operations in the country. To encourage this, the Korean government offered a range of incentives to foreign companies that established operations in Incheon. It is a highly competitive set of enticements. They include:

- **Tax incentives:** A complete suspension of all national and local corporate taxes for a period of five to seven years; import tariff exemption for three years; income tax credits or reduced income tax rates for all employees;
- **Financial assistance:** Cash grants, retraining subsidies and reduced rent on public land and infrastructure;
- **Easing of labour standards:** Restrictions on employment quotas, outsourcing and mandatory paid leave lifted; and
- **Administrative support:** One-stop shop set up to provide administrative support for foreign businesses including language support<sup>179</sup>.







## The Fightback

The building had been constructed by a relatively unknown New Jersey-based real estate development company called Gale International. Kim picked up the phone to the company's CEO John Hynes III and asked whether they would consider building a new city in Korea. In Hynes' words "They tracked us down, wanted to build a city in the ocean and no one else was interested."<sup>180</sup>

Despite initial reservations Hynes III and his partner Stan Gale flew to Songdo. What they saw was a huge area of land that had cost the Korean and Incheon governments USD 10 billion to reclaim and sink base infrastructure<sup>181</sup>. Undaunted by the craziness of the plan, in 2001 Gale International and POSCO signed an agreement to form the New Songdo International City Development Company. Gale International held a 70 percent controlling interest with the remaining 30 percent held by POSCO<sup>182</sup>. The risks were huge. It would cost an estimated USD 35 billion to convert the barren IBD plot into a thriving city centre<sup>183</sup>. And even if the city's construction was completed on time and budget, there was no guarantee that anyone would actually move there.

### How to design a city from scratch

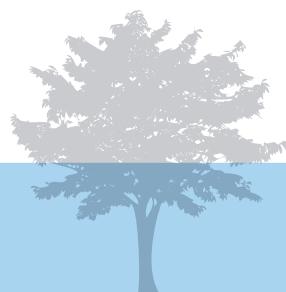
Before work could begin, a city master plan was required. As a long shot, Gale called one of his friends at the New York based architecture firm Kohn Pedersen Fox ("KPF").

KPF had significant experience designing buildings for Asian markets, but they had never been asked to design a whole city. Despite the huge risks, KPF agreed to take on the project, just as Gale International had.

From the outset, KPF was obsessive about the people the city centre should attract. The Incheon and Korean government envisioned a new city in which Asian and global multinationals were based. For this to happen, Songdo would have to be a city that attracted the young wealth creators who worked for these companies.

These were highly ambitious and well educated people who were used to a global lifestyle. Education was important, as was greenery and a suitable array of things to do. If Songdo was going to survive, the new city would have to provide a quality of life that was commensurate to that of other global cities. If the city was going to succeed, it had to offer something better and different to that of other global cities.

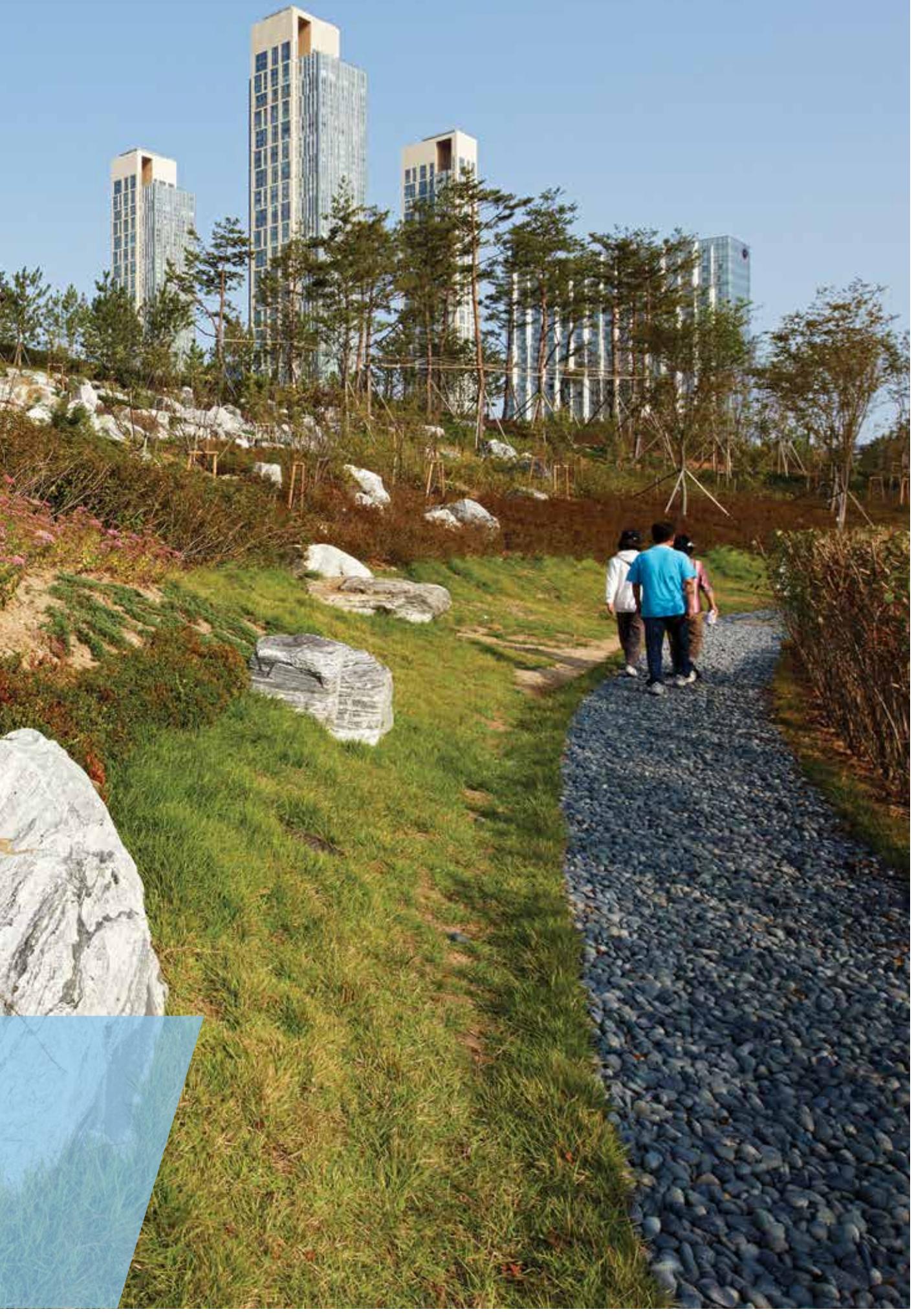
The team looked around the world for inspiration. They decided to draw the best features from global cities around the world. Songdo would have a 100-acre Central Park at its centre like New York City; a network of Venice-type canals would create visual space; a system of pocket parks were introduced based on Savannah; and architecturally important buildings were inspired by Sydney. For recreation, Jack Nicklaus would design a champion golf course.

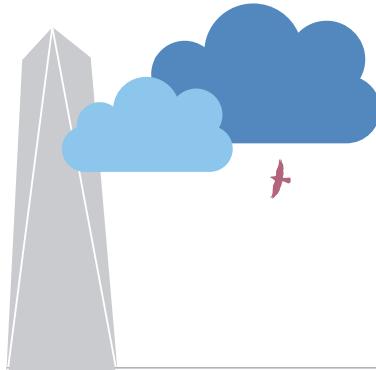


### The Varied Diet, KPF's design brief

"The vitality of the urban condition arises from the variety of experiences that a city offers to its inhabitants. Just as the health of an individual person is strengthened by a broad gene pool, a varied diet of foods, and a progression of thoughts, a city culture benefits from breadth of choice. Great cities open up to us like grand bazaars.

They are like vast dictionaries, each street like a page of words with different meanings, sounds and origins. The plan of Songdo incorporates varied scales of streets, multiple tree types, building densities, zoning uses, and open space configuration<sup>184</sup>."





## The Fightback

To create vibrancy, Songdo was designed to have a high-density urban core. A mix of high-rise commercial and residential buildings would be located at the centre of the city around the Central Park. Mid-rise commercial and mixed use zones would circle those; and around those low-rise residential buildings would follow. The idea was to create a skyline that resembled a tent. Many of these ideas had not been used in Korea before. City skylines were flat and city block sizes were determined by the width of roads, which had to accommodate the mass movement of troops. It took KPF, Gale and POSCO some time to persuade the Incheon and Korean governments that these changes would not harm the security of the country.

What is perhaps most surprising about the development of Songdo's IBD, is the fact that aside from the (substantial) funds invested to reclaim the land and lay the basic infrastructure, all of the funding has been privately sourced. Under arrangements with the Incheon and Korean government, the New Songdo International City Development Company would buy plots of land, develop them and then sell them on. This would enable them to finance the development on a rolling basis and involve different rounds of investors.

In 2004 ground was broken and building subsequently commenced in the IBD during 2005. Since then almost 14,000 residential units have been completed or are currently under construction as well as all of the main elements of KPF's master plan<sup>185</sup>.

The 2008 global recession slowed the progress of the IBD downtown build. Companies and residents who had flocked to buy space, started to drag their feet. Construction remains on track, albeit on a somewhat delayed timescale.

However, testament to the fact the financing approach has worked, the Incheon and Korean governments have now appointed a second private consortium, Atlanta-based Portman Holdings, to begin work on the development plot that neighbours IBD. This area will host an array of commercial and residential structures as well as cultural facilities, restaurants and shops.

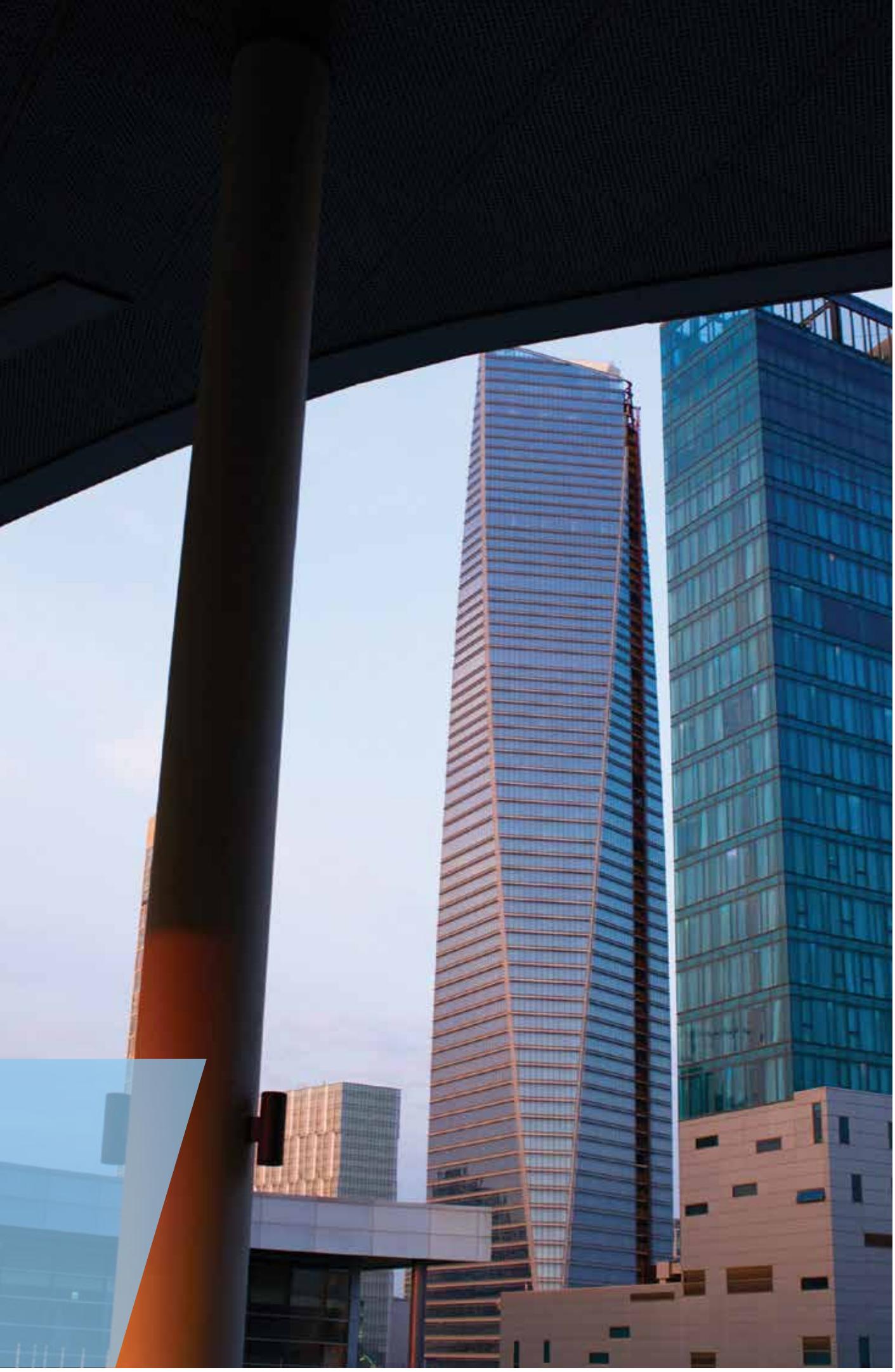


## How Songdo was financed

Morgan Stanley led the financing for the first plot of land, on which Songdo First World Towers was built. A consortium of global and Korean banks raised USD 90 million, of which USD 60 million was paid to the Incheon/Korean government to purchase the plot of land, and USD 21 million was used to pay for the construction<sup>186</sup>.

The second round of funding, again led by Morgan Stanley, raised USD 180 million to pay for additional residential plots and buildings.<sup>187</sup> Following the commercial success of the first two deals, both of which were profitable, the Shinhan Bank Consortium provided a financing agreement of USD 2.7 billion, the largest real estate financing deal in Korean History<sup>188</sup>.







## The Fightback

### Songdo's International Business Centre design principles



#### Open space

600 acres were designated as open space, representing an impressive 40 percent of Songdo's total area. Central Park was the chosen centrepiece and pocket parks based on Savannah were incorporated throughout.



#### Transportation

The city was designed to be pedestrian and cycle friendly with wide sidewalks and 25 kilometers of bicycle lanes. The Incheon Subway line and Incheon bus service were to be extended to incorporate Songdo. And to accommodate South Korea's growing obsession with cars, five percent of parking was reserved for fuel-efficient and low emitting vehicles, and an additional five percent for carpool vehicles.



#### Water

A tiered water system was designed to minimise freshwater usage. The use of potable water (i.e., water safe enough to consume) was limited to where humans would come into direct contact with it. Once used, the water would be treated and used in non potable "grey water" activities. Sewage or "black water" would also be treated and used for toilet flushing, road cleaning and irrigation. Finally, the canals would be filled with sea water as opposed to freshwater.



#### Energy

All NSIC projects were to be built according to the ASHRAE building technology standards which focus on energy efficiencies. Other energy savings included the use of a centralised pneumatic waste collection system.



#### Recycling

Recycled materials were to be used in the development where possible and targets were set requiring 75 percent of all construction waste to be recycled.



#### Operations

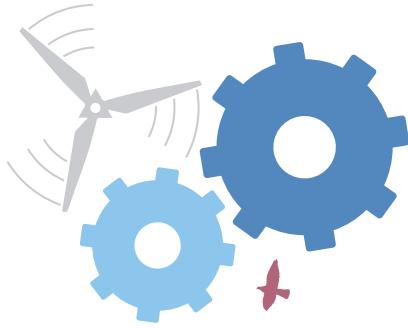
Finally, Songdo would be subject to sustainable procurement goals, recycling guidelines, and facilities management and maintenance contacts would mandate environmentally friendly products<sup>189</sup>.

### Songdo the sustainable city

When KPF worked on the master plan for the centre of Songdo, the firm understood that a growing number of young wealth creators were concerned about the issue of sustainability and the environment. If the city was going to attract the next generation of global business leaders, then the city would have to embrace their same values. So all of the city's downtown buildings were designed and built to LEED Platinum certified standards, the highest standards of environmental construction.

All buildings, both residential and commercial, contain integral tiered gray water networks which enable rain water and gray water to be collected on a large scale for non-potable uses such as irrigation and cooling. A single black water treatment centre filters and treats waste using new processes based on biotechnology.





## The Fightback

All of the new buildings have green, turf-covered roofs, high performance glazing and super-insulating walls to reduce heat leakage, natural air circulation to warm and cool units and daylight harvesting with light level sensors and movement detectors. A hydrogen fuel cell plant is under development and the city contains infrastructure for electric cars.

In addition, many of the new residences and offices contain a small high definition screen called 'TelePresence' which have been installed by Cisco. Residents and workers use the screens to access government services, basic banking and healthcare support. The screens are also used to control the curtains, lighting, heating and home devices.

At the outset KPF and POSCO debated the build sequence at length. Should they build the commercial buildings first and secure large corporate anchor tenants? During the first few years people would have to commute into the new district from Incheon and Seoul. The difficulty with this approach is it would be off-putting for the first residents to live in a wholly commercial district. Global wealth creators wouldn't want to move into an area that had commercial buildings, but no amenities. This posed a significant risk to the project. Instead, the team decided to build residential buildings first. It was agreed that the profits raised from the sale of the first round of residential units would be used to fund the construction of important quality of life elements like the Central Park. The second wave of residential unit sales would be used to fund the pocket parks, and so the area would evolve. Once a critical mass of residents had been established, work would then progress onto the commercial buildings. It was a gamble that paid off.

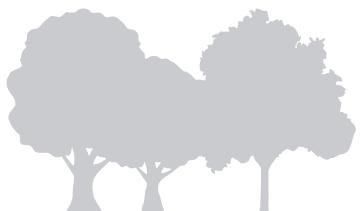
When the first residential building was completed, Songdo First World Towers, 62,000 people literally lined the streets to buy the apartments. Within the first weekend, all of the units were sold<sup>190</sup>.

### Creating a quality of life for wealth creators

Songdo's developers and architects thought long and hard about how to ensure the new area was suitable not just for the young wealth creating employees of global multinationals; they also thought about what their families would need. High-achieving employees are often ambitious and competitive parents. If Songdo was to become a place where global and Korean companies opened headquarters, then the area had to have internationally competitive schools. Early on the city of Incheon decided that this would be best provided by the private educational sector. The developers targeted a number of high-profile private schools including the Chadwick School, a private primary and secondary school based in California. When the school opened in 2010, it had an inaugural class of 260. Today the school's population is over 700 and there are plans to expand further by 2015<sup>191</sup>. Cisco's 'TelePresence' screens connect students with other international schools around the world.

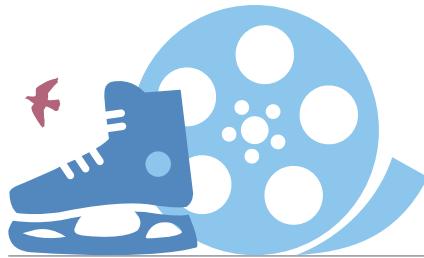
A new university campus called 'Songdo Global University Campus' has been built to host 10 world-leading universities at its overseas campuses. The idea is the children of Songdo's international residents can attend well-regarded academic institutions without the need for physical separation from their families. In addition, Korean students gain access to US and European educational institutions. In keeping with the ethos of Songdo, the schools are expected to focus on academic disciplines that will nurture the next generation of research and development scientists and researchers, as well as undertake R&D in Songdo's emerging clusters.

To date a number of institutions have opened up campuses including George Mason University, State University of New York at Stony Brook, University of Utah, Ghent University and Saint Petersburg State University.





Kohn Pedersen Fox Associates PC



## The Fightback

### Degrees offered at Songdo Global University Campus

Educational Institution	Faculties Offered
State University of New York at Stony Brook (US)	Computer Science; Technology and Society
George Mason University (US)	Economics; Business Administration; International Relations
University of Utah (US)	Mathematics; World Languages; Education; Sciences; Social Work; Psychology; Bioengineering
Ghent University (Belgium)	Bioengineering; Environmental Engineering; Food Engineering
Saint Petersburg State University (Russia)	Physics; Russian



In addition to strong educational institutions, highly magnetic cities have lively retail areas. To provide this a long man-made canal runs through the centre of the city along which restaurants, shops, gyms and townhouses are built. The Lotte Group has constructed a shopping mall with room for over 100 tenants<sup>192</sup>. The shopping centre has been designed to compete directly with Seoul's mega COEX complex and will contain multiple cinemas, an ice rink and variety of other facilities. Soon Seoul's residents will travel to Songdo for the best shopping.

Finally the new city centre contains an iconic building, the IFEZ Songdo Arts Centre. Built on the waterfront, the building is a cross between Sydney's Opera House and Bilbao's Guggenheim. It contains a 1,800 seat concert hall, a 1,400 seat opera house, a multi-purpose hall, the Asia Museum of Contemporary Arts, a music school, a design school and a library<sup>193</sup>. The Asia Philharmonic Orchestra and Asia Opera Company have committed to hold productions in the new facilities. One only hopes that Songdo's residents have the same high-brow interests as the planners.

For those who love sports, Songdo's residents can watch championship golf at the Jack Nicklaus Golf Club where the 2010 Champions Tour took place and the 2015 Presidents Cup is scheduled to take place.

And for those who love the water, Korean Airlines is constructing a yacht racing course and marina at Wangsan Beach. When the Asian Games are hosted in Incheon in 2014, the new marina will be used for yacht racing, after which it will be expanded to accommodate over three thousand yachts.

### Songdo becomes a bio-industry capital

Early on it became clear that Songdo was attractive not just to young eco-conscious residents, but also to large companies. POSCO, the Korean construction company in charge of the IBD's construction, moved their headquarters to the area in the early stages. More recently the World Bank announced they were to move their South Korean secretariat to Songdo. This follows the decision by the UN's Green Climate Fund to base their operations in Songdo. Just ten years after the massive Songdo build began, Incheon is now headquarters to some of the most important global institutions.





## The Fightback

But probably the most interesting part of Incheon's reinvention story is how Songdo became home to a significant cluster of global bio-industry companies. The origins of this go back to a pioneering American company called VaxGen based in San Francisco.

When the Korean government announced their plan to make Incheon into an Enterprise Zone, the firm set up a joint venture called Celltrion with a number of Korean investors. The joint venture would build a new USD 85 million biopharmaceutical plant on a Songdo development plot designated as a Technology Park<sup>194</sup>. By 2006 the plant was fully operational and the production of vaccines for anthrax, small pox and meningitis B was underway. VaxGen retained its original plant in San Francisco, but used it for clinical and early commercial-scale production before full-scale production took place in Songdo. The reasons the consortium chose Songdo, at that stage a large tract of barren reclaimed land, were simple. Songdo was the only place they could build a new state of the art factory at relatively low cost, receive tax breaks and get to an international airport in an hour. At that stage Incheon was the only Free Economic Zone in Korea, something that has since changed; there are now eight Free Economic Zones across Korea, which makes it more difficult for areas to compete on the basis of tax breaks alone<sup>195</sup>.

After one year VaxGen sold their stake in Celltrion for USD 53 million<sup>196</sup>. Which was a good return given that VaxGen had not contributed any cash to the deal, just knowledge transfer, technology and training. But in the period they were involved, they trained a whole cadre of Korean Celltrion staff with the skills needed to work in biopharmaceuticals, such as the technical skill to isolate proteins.



With well trained staff and new investors, Celltrion went on to win a number of long-term contracts with large global pharmaceutical companies like GlaxoSmithKline to manufacture a range of biopharmaceutical products. Not long after, work began to expand the plant.

As Celltrion's success became known, a number of small biopharmaceutical companies opened up facilities in Songdo's Technology Park. The specific skills required to work in this area are narrow and firms hoped to benefit from close proximity. And so the cluster continued to grow and around 30 biotech companies were based in Songdo.

However, it was the Gale/KPF design for Songdo's downtown that helped establish Songdo as a major player in the bioindustry space. In 2010 the Korean behemoth Samsung announced it was creating a new company Samsung Biologics to spearhead their growth into the biopharmaceuticals sector. To begin they were going to invest USD 300 million in the creation of a new biopharmaceutical 'BioPark' facility, bio-similar research and development and the construction of a large production plant<sup>197</sup>. The new bio-park will host Samsung Biologics as well as foreign businesses who work with the firm.

What is most striking is the reason Samsung gave for their choice of location. After all, Samsung had not invested in Incheon for over 70 years. When the President of Samsung Biologics announced the investment alongside the Mayor of Incheon he said the company had chosen Incheon Songdo for two reasons. First, was because Songdo had become an important cluster in the biopharmaceutical sector thanks to Celltrion's early investment. Second, was because Songdo was a thriving metropolitan area that attracted a large supply of qualified global talent. To compete in the biopharmaceutical sector, they had to go where the talent was going to be. And thanks to the beautiful downtown area full of things to do, high quality sustainable housing, competitive schools and airport close by, Songdo was where the talent was moving to. Incheon Songdo had officially become a magnet city.



# THE VICTORY

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MAGNET CITIES | INCHEON SONGDO

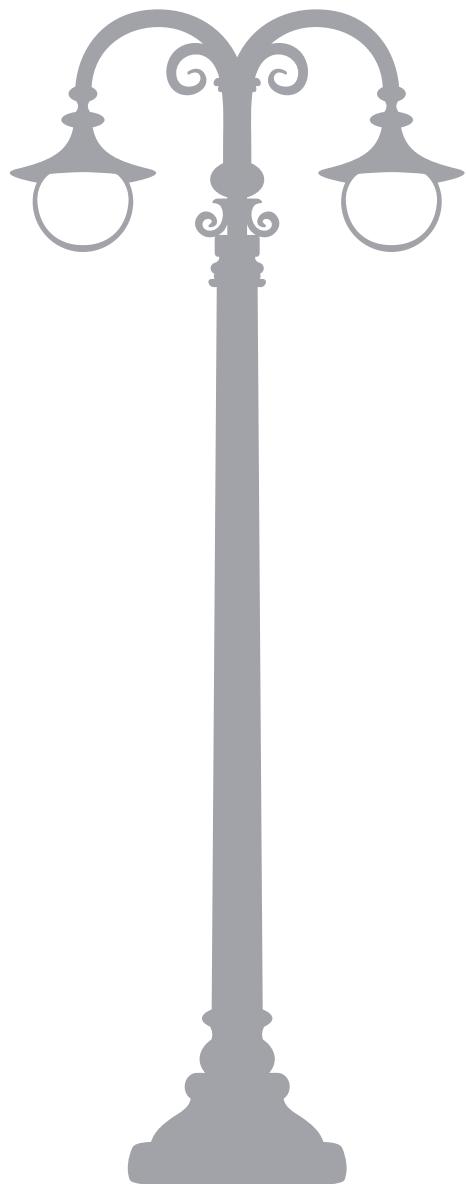


Kohn Pedersen Fox Associates PC

“It is early days, but the ongoing investment by the city and private enterprise continues.”

The city of Incheon continues to invest in its infrastructure. In 2009, a USD 1.4 billion investment in Incheon Bridge which connects Incheon International Airport directly to Songdo in under 20 minutes by car was completed<sup>198</sup>. In 2018, a new GTX train will link the airport to Songdo' main train station. And the next stage of the area's development under the Portman Consortium continues. As the city centre expands, so will its magnetic pull. Songdo the new city that rose in one decade will become ever better known. Already the city's growth is outstripping that of the Korean economy, despite the difficult global economic conditions. In 2010 Incheon's economy grew by 13.1 percent against a rate of 6.2 percent for the rest of the country<sup>199</sup>. It is early days, but the ongoing investment by the city and private enterprise continues.

That is not to say there aren't risks. Today Korea has introduced eight separate Free Enterprise Zones, which are dotted across the country. Singapore and other regional cities are becoming ever more competitive. Some are disappointed to visit and see the city is still literally under construction. But if Incheon Seoul continues to develop and grow with the same tenacity and vision it has to date, it may just well become one of the greatest magnet cities out there.



# THE PRINCIPLES

## How Incheon Songdo applied the Magnet City Principles

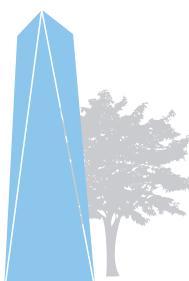
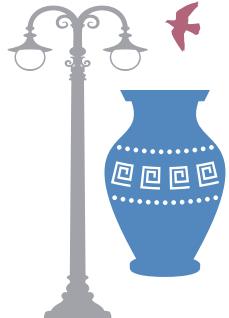


### Magnet cities attract young wealth creators

The overriding objective of Incheon Songdo's master plan was to design a new city centre that appealed directly to young global wealth creators. The design of the city centred around providing a competitive quality of life to residents, many of whom have lived in some of the most vibrant and magnetic cities in the world. To achieve this, the architects looked at all the features and amenities global cities provide and found ways to integrate them in the master plan and the facilities provided in the city.

### Magnet cities undergo constant physical renewal

Incheon's leaders understood that the physical state of a city was central to how people use it, and in turn who it attracts. Not only has the city built a whole new area, Songdo, but city leaders are working hard to bring all of the city back into use. Reclaimed islands are being turned into outdoor and water park facilities, new amenities and buildings like the arts centre are being introduced. The current rebuild of Incheon is not scheduled to complete for another few years.

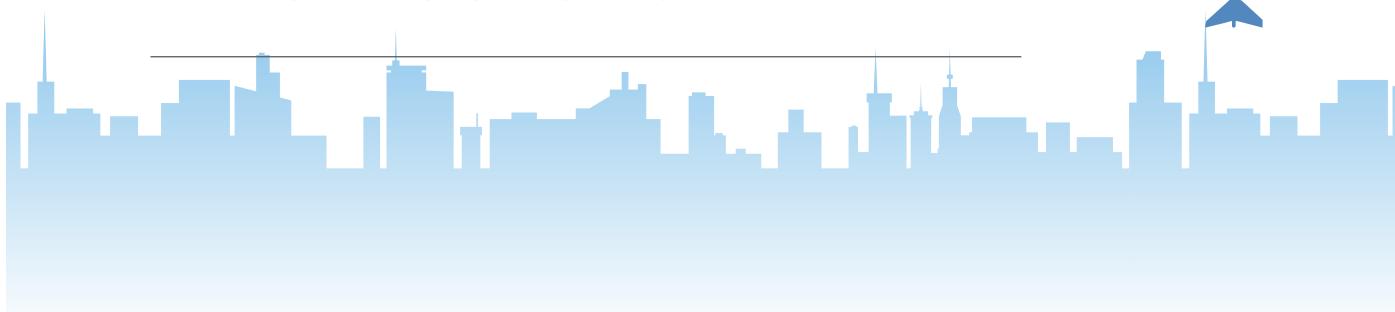


### Magnet cities have a definable city identity

The objective was to make Incheon Songdo known as modern and sustainable. By ensuring the master plan as well as all of the buildings, green spaces and commercial buildings were designed to the highest possible sustainability standards, the city has successfully differentiated itself from neighbouring Seoul, as well as becoming known globally for its progressive approach to development.

### Magnet cities are connected to other cities

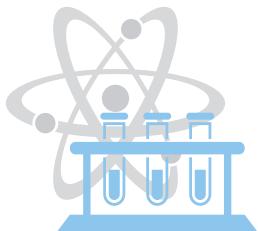
Much of Incheon Songdo's success stems from its close proximity to Gimpo International airport, a new large airport built by the Korean government. The city is easy to access from the airport thanks to a bridge that directly links the airport to the city centre. A range of international flights make it a good place for global companies to base facilities.



**“Incheon Songdo is one of the most extreme examples of what a city can achieve with private funding.”**

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INCHEON SONGDO | MAGNET CITIES

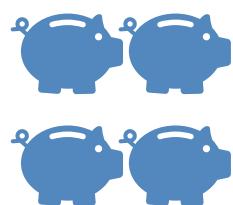


### Magnet cities cultivate new ideas

The city has invested in a number of technology and research centres in the commercial area of the city. These large physical spaces have made it affordable for smaller businesses, particularly in the bio-industry space to set up operations in the city. Further tax breaks for companies that undertake R&D work in the city ensures a flow of new technologies and ideas that will in turn drive manufacturing and biopharmaceutical production in the future.

### Magnet cities are fundraisers

Incheon Songdo is one of the most extreme examples of what a city can achieve with private funding. Billions were raised privately to build the International Business District alone. From early on, the Korean and Incheon governments approached the renewal of Songdo as a fundraising exercise. They were willing to invest significant seed capital in the reclamation of the land and early infrastructure, but secured private funds to literally build the city.

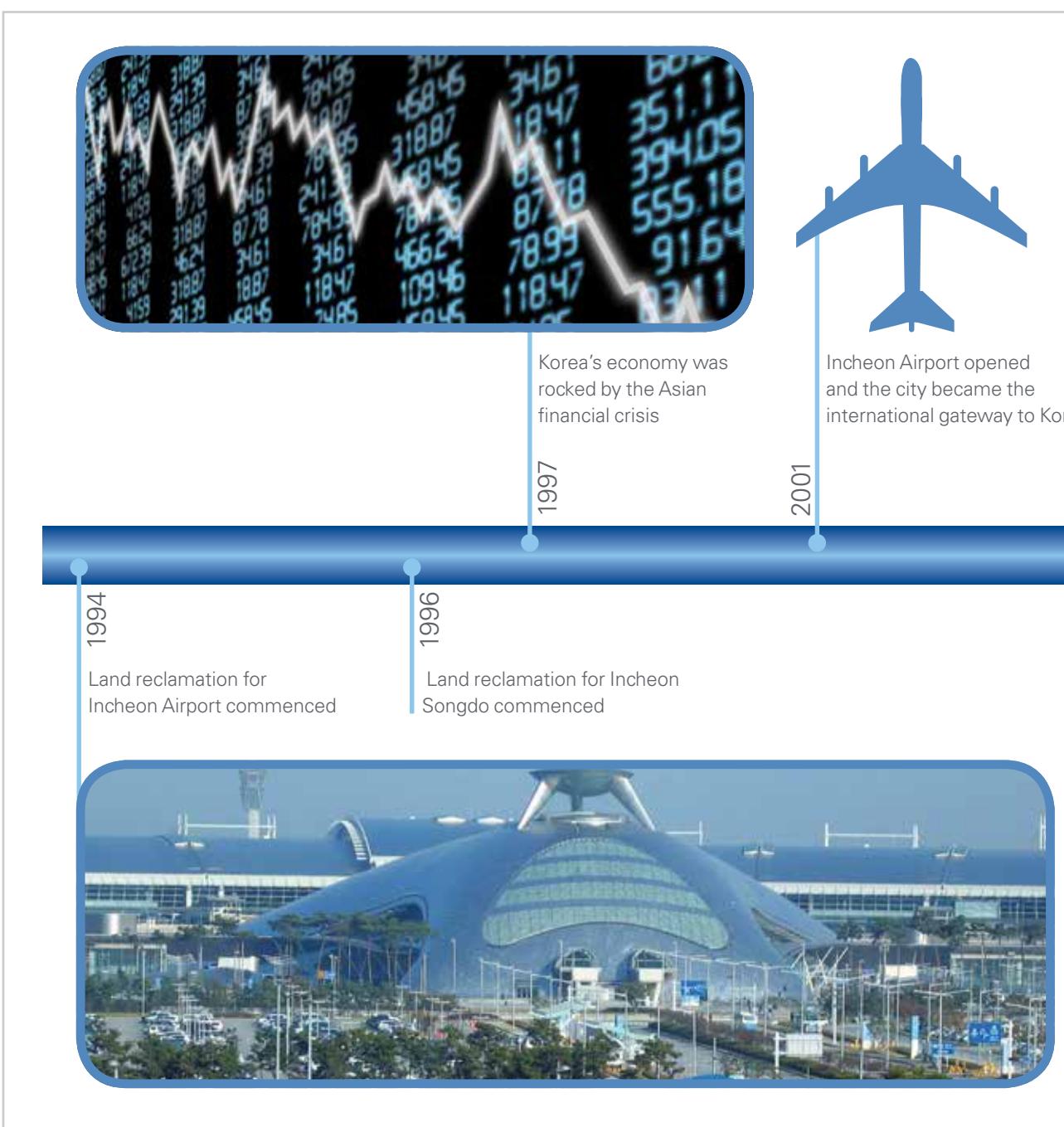


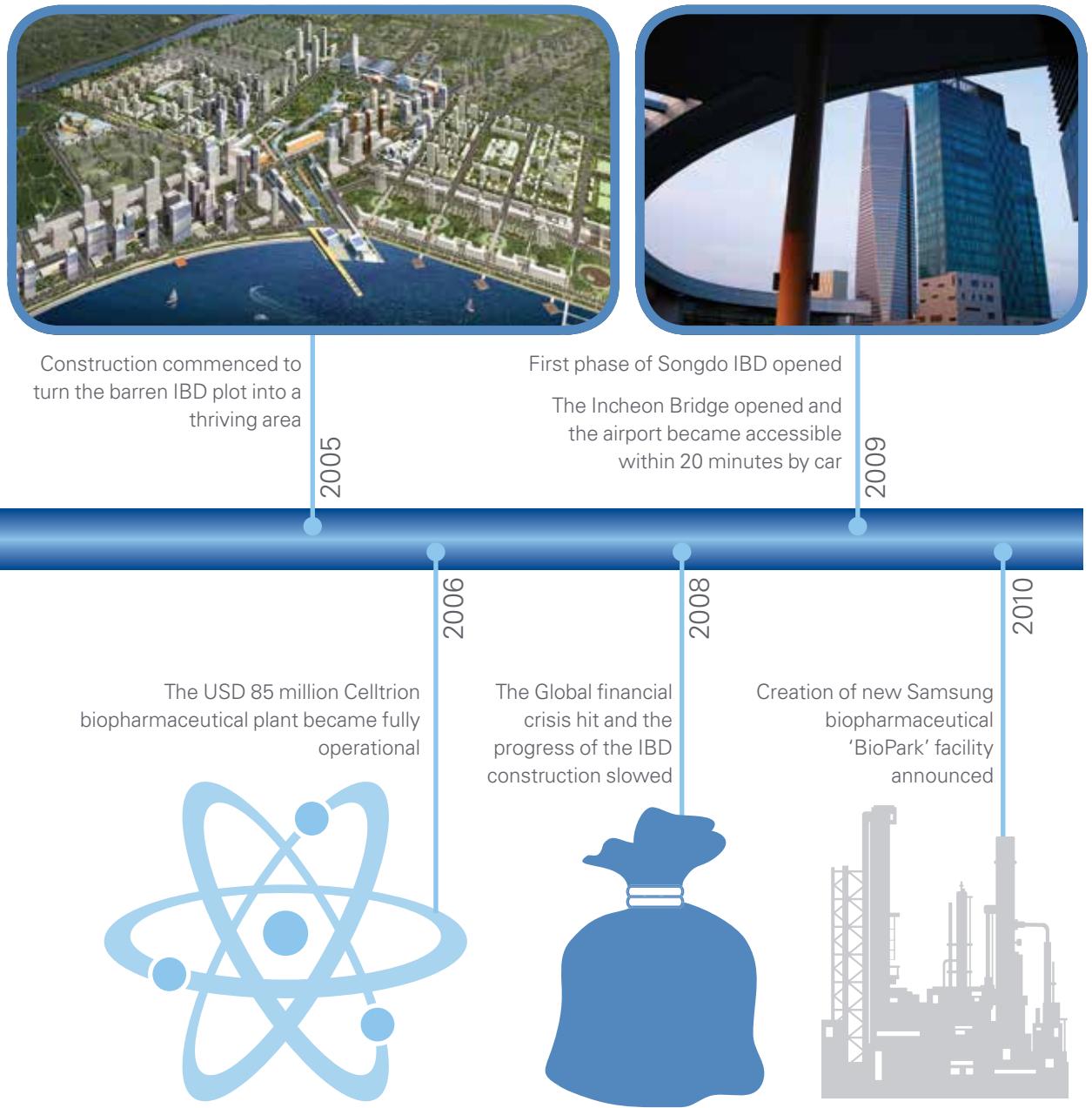
### Magnet cities have strong leaders

Interestingly the leadership in Incheon Songdo has been provided by a series of determined Mayors as well as exceptionally strong leadership from the private companies that undertook the work. Much of Songdo's success is down to the vision and risk-taking by Jay Kim of POSCO and Stan Gale and John Hynes III of Gale International.



# TIMELINE





# MAP



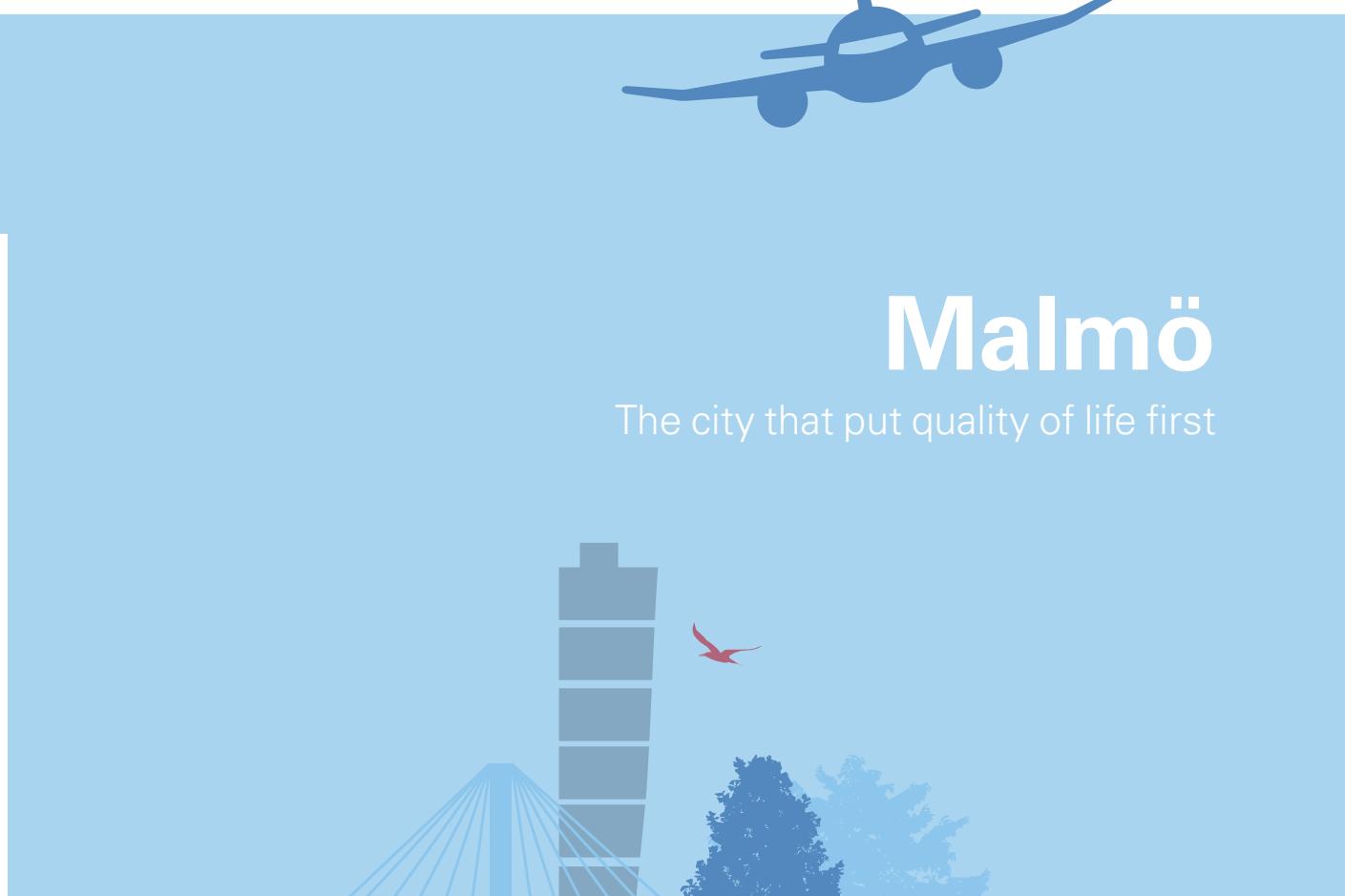
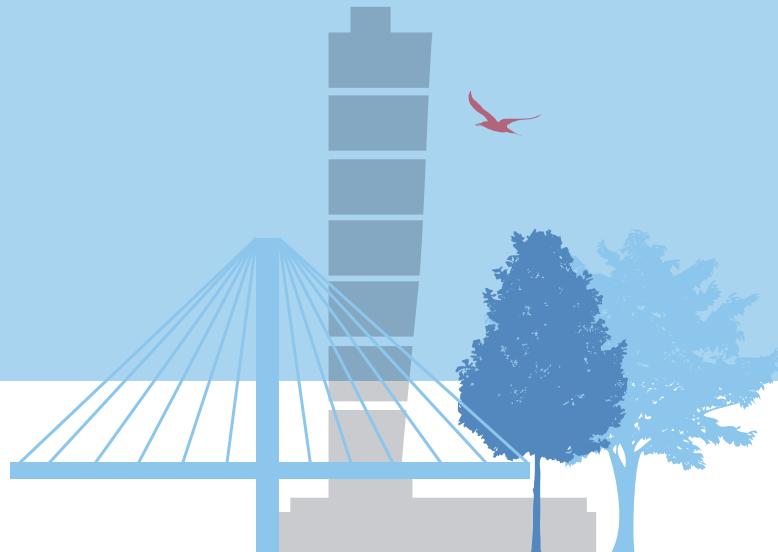


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MAGNET CITIES | MÄLMO

# Malmö

The city that put quality of life first





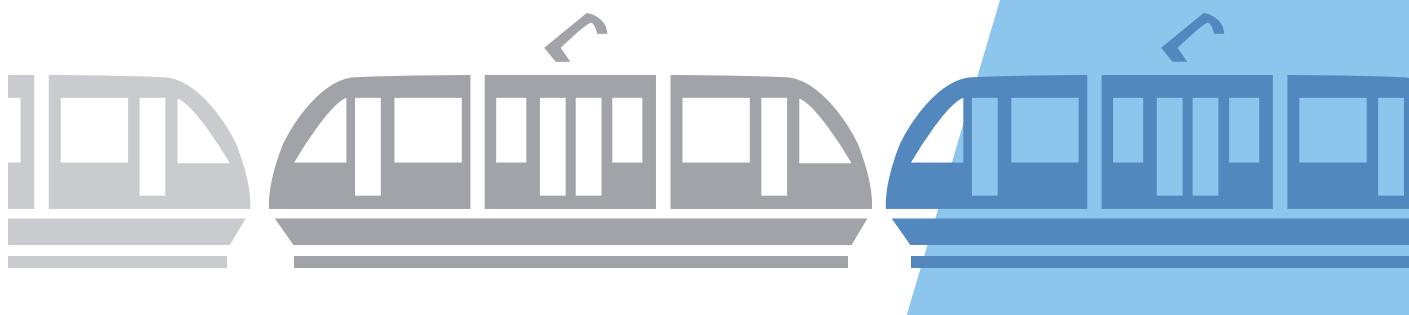
# INTRODUCTION

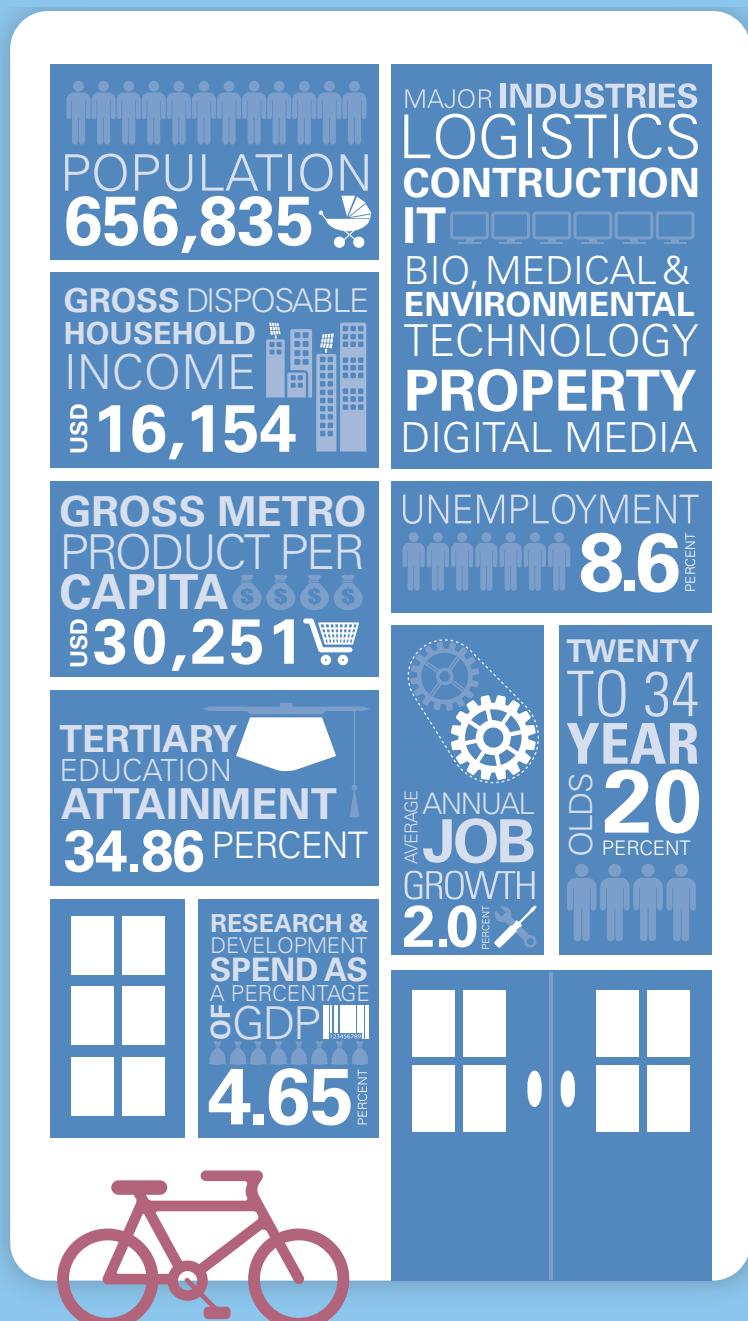
Malmö feels like the rebellious little brother of Scandinavia's more straight-laced cities. It is relaxed but has an edge. The city is crammed with young, smart, entrepreneurial twenty and thirty-somethings who are as obsessed with clean technologies as they are in finding the best coffee. These self-confessed 'nerds' are the new wealth creators who create 50 new businesses a week<sup>201</sup> and whose skills are being stalked by companies and research facilities; multinationals and major scientific facilities are relocating to the region, evidence that jobs follow good people.

Malmö is also a city of 174 different nationalities<sup>202</sup>. This unexpected mix of culture, cuisine and commerce gives the city its dynamism as well as some urban tension. At the heart of Malmö is a collective and uncompromising commitment to push the boundaries of sustainable living. Entire districts of Malmö have been built or refurbished using the most cutting-edge sustainable technologies, making it the ultimate urban laboratory. In short, today Malmö is a highly magnetic city. And the by-product of this has been strong economic growth, which is evident from the increase in Gross Metropolitan Product (GMP) of 8.94 percent from 2005 to 2010<sup>203</sup>.

However, if time was turned back to the early 1990s, economic growth of this pace would have seemed impossible. The young left Malmö for Stockholm, Oslo and further afield and the population fell by 30,000<sup>204</sup>. The municipal government ran the largest budget deficit in Swedish history at USD 169 million<sup>205</sup>.

This is the story of how one city sacrificed its industrial heritage to save itself. The city's leaders and residents let go of the city's previous identity to embrace the new. This once blue collar industrial city is now home to entrepreneurs, scientists, start-ups and technologists. These new residents have transformed the city's economic outlook. But it is the enlightened steps the Mayor and residents took that attracted this new generation into the city in the first place that make it such an inspiring story.



MALMÖ METRICS<sup>200</sup>



# THE DECLINE

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MAGNET CITIES | MALMÖ



Bilderi Syd

## "Hundreds of workers that first trained as shipwrights, then retrained as car assembly workers, were to be made redundant once again."

Malmö's decline was gradual and stopped and started over a period of twenty years. The recession of the early 1990s was the end game. Malmö was physically and economically oriented around its port and shipyards. The city was not just a single industry city; it was a single company city. A company called Kockums had run shipyards and built merchant ships from the late 19th century and submariner ships during the two world wars. The city's infrastructure was built around the shipyard. Generations of Malmö's residents were apprenticed to shipbuilding in lieu of higher education. Malmö's population wasn't the most educated in Sweden, but average earnings were 20 percent above the national average<sup>206</sup>. As if to remind the city of its importance, Kockums built a 450 foot high gantry crane that punctuated the Malmö skyline.

Yet by the early 1970s the Swedish government was subsidising the Kockums shipyard to keep it afloat in the face of aggressive international competition. When the oil crisis hit in the early 1970s, the company couldn't survive. In 1973 Kockums had the world's highest number of orders in the world; one year later new orders fell to zero<sup>207</sup>.

The collapse of Kockums put Malmö's future in jeopardy. Many of Malmö's residents were directly or indirectly employed through shipbuilding; 6,000 people alone were employed in Kockum's dry docks, cranes and industrial buildings<sup>208</sup>. The Swedish government acted. It was decided to find a replacement industry to absorb the lost jobs and income. At that time Saab, the Swedish car company, was expanding its export base.

The Swedish government heavily subsidised the construction of a new state of the art Saab factory in the port area of Malmö. In 1989 the new Saab factory was opened to great fan-fair. If all went well, Malmö was going to become the new Detroit.

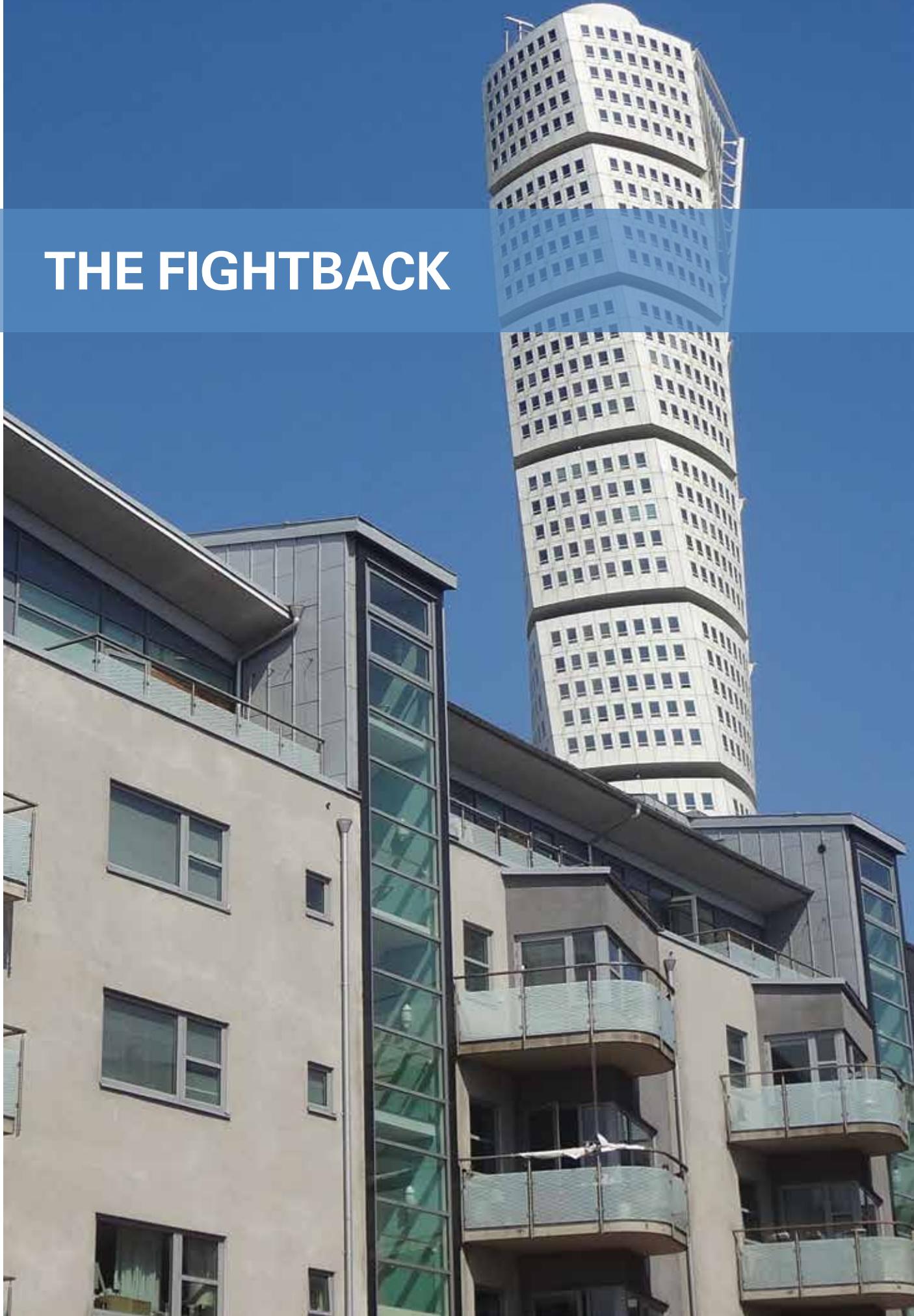
The gamble did not pay off. In 1990 Saab-Scania merged with General Motors and not long after announced the closure of Malmö's brand-new, state-of-the-art car assembly factory<sup>209</sup>. Hundreds of workers that first trained as shipwrights, then retrained as car assembly workers, were to be made redundant once again. The city of Malmö itself was left demoralised. It had lost its industrial heart.

When the real estate and financial bubble burst in the early 1990s, Malmö was already on its knees. Over the next five years, one in five jobs disappeared and the city's unemployment rate became one of the highest in the country<sup>210</sup>. The young left the city in droves. As the tax base shrank, the city got into financial difficulty. It looked as if Malmö, a city known for its industrial heritage faced terminal decline. In the words of Anders Rubin, a leading politician, "The city was dying. We faced death. It was at that point that we started to fight for our lives<sup>211</sup>."

# THE FIGHTBACK

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MAGNET CITIES | MÄLMO



“Mayor Reepalu took two decisions that would change the course of Malmö and flip its magnetic orientation from negative to positive.”

In 1994, the city voted in Ilmar Reepalu as Mayor from the Swedish Social Democratic Party. Reepalu was born in Estonia, but had been raised in a working class family in Malmö. Unlike most in the city, he had obtained not just one degree, but a double degree in Architecture and Civil Engineering. For much of his career Reepalu had worked as an architect specialising in sustainable city planning and latterly for the City of Malmö. Within his first few months in office, Mayor Reepalu took two decisions that would change the course of Malmö and flip its magnetic orientation from negative to positive.

First, the Mayor decided the city would not search for another industry to replace ship building. History had proven it was difficult to predict which industries would succeed, let alone which companies in a given industry. It was too risky to gamble the city's future on a single bet. The unions were furious and a protracted, public argument broke out between the two sides, but the Mayor held his ground.

Second, the Mayor refused a package of support from the Swedish government. The national government's idea was to turn Malmö into a large enterprise zone. Companies would be given tax breaks in return for setting up operations in the city. The Mayor argued that the city's economic mess was a direct result of companies that prioritised profits over Malmö's wellbeing. Companies that moved to Malmö for tax breaks would leave as soon as more generous tax breaks were offered elsewhere. A solid recovery could not be built on the weak masonry of tax incentives. In the face of record unemployment rates, a deteriorating infrastructure, bumper budget deficits and baying unions, this was a brave if not controversial stance.

## Attract the young

Instead the Mayor argued, Malmö's renewal should start from a different place. Over the years the city had lost a whole generation of young people. The first imperative was to stop the flow of people out of the city, particularly the young. The second imperative was to find ways to attract young people and young families back into the city. Without the young, the city's older population would continue to age and city renewal would become impossible.

The city needed to be reinvented as a place the young would use. Too much emphasis had been placed in the past on making the city attractive to the “wealthy, executive classes” who travelled by car and barely interacted with the city.

Immediately the Mayor spent money to make the city look and feel better. Pot holes were filled, municipal buildings cleaned, large parts of Malmö's city centre were pedestrianised, fountains were built, bicycle lanes were introduced and green areas were filled with flowers. Malmö's residents could see immediate improvements in their city. The Mayor argued that since the city already faced a budget deficit of historical proportions, there was no harm in making it slightly bigger.





## The Fightback

### Malmö gets a new city identity

The Mayor was convinced that the city could not move forward and start its economic recovery until a new identity was established. The city was identity-less. For centuries the city had been known as a great shipbuilding capital. Its residents and businesses were spokes around this hub. When the Kockums' shipyards were mothballed, so was the city's fundamental purpose.

The Mayor felt it was important that the entire city had a say in the future of their city. A city consultation programme called the 'Aspiration Programme' was set in motion. Its aim was for the city's residents to come up with a collective view on what the city should be like in 15 years.

At the end of a year long process, it was decided that Malmö should become a global capital for sustainable living. The city would be turned into an urban laboratory where new technologies were tested. The emphasis on sustainability would attract young, creative Swedes and Danes. The city that was once reliant on one single, old-school employer was going to reinvent itself as a magnet for the entrepreneurial and young.

### Malmö gets a university

If Malmö was going to attract a new generation of young people, it needed a way to get them into the city. Unlike other Swedish cities, Malmö did not have a university. The city hadn't required one in the past – it was a ship building city after all. For those children who required a university education, the excellent Lund University was just a short car ride away. Mayor Reepalu and his colleagues understood the importance of establishing a university in the heart of the city. Not only would the school draw in young people to attend, but if students enjoyed living in Malmö during their university years, they would stay in the city after they graduated.

### Aspiration Programme

The Aspiration Programme was structured around four visions of the city in 15 years time; an educational vision; an environmental vision; a cultural vision; and, an economic vision. Instead of filling the groups with bureaucrats the Mayor nominated a leading individual in the city to lead each group and then pull together people from their own networks. The remit for the groups was not to come up with strategies, plans or routemaps. It was simply to come up with a provocative think piece on what Malmö could be like in 15 years.

The participants included a wide-range of architects, scientists, academics, politicians, newspaper editors and residents. In typical Scandinavian style, the groups held public meetings where ideas were presented, discussed and debated.



But first the Swedish government had to be persuaded to make the investment. The Swedish government was resistant. In a meeting with the Mayor, government officials explained they were happy to fund a Malmö campus for an existing university, but not a new stand-alone university for Malmö. The risk was too high. The city was in an economic slump, lacked young people and had no academic heritage.



## The Fightback



But Mayor Reepalu wouldn't take no for an answer. One week later he returned with an offer the Swedish government couldn't refuse. Malmö City Council had identified a huge plot of land in the centre of Malmö. Most of the plot was owned by the city government. Over a period of five days the city had negotiated with its own tenants and arranged buy-back clauses with private owners of land. The city would provide the land for free. In return the Swedish government would fund the building costs. The entire deal and plan was pulled together in one week. With such an offer, Stockholm had little choice but to fund Malmö University. Just three years later Malmö University opened its doors. Today there are 24,000 undergraduate and graduate students<sup>212</sup> and 35 percent of Malmö's population have degrees<sup>213</sup>. Most importantly the university has created a pipeline to draw young people into the city, many of whom continue to live in the city after graduation.

Not all of Malmö's residents backed the university plan. Some felt the new university demonstrated the city was being reinvented for the benefit of the middle classes alone. And there was some truth in this. As a result the 1998 election was extremely tight. Although Malmö was historically a Swedish Social Democratic Party stronghold, according to Malmö's Deputy Mayor "luck got us through the 1998 election<sup>214</sup>". National, regional and city elections are held on the same day in Sweden and the popularity of the Swedish Social Democratic Party at the national level trickled down to the regional and city level. If the national mood had supported another party, it is unlikely that Malmö's pioneering and controversial Mayor would have been re-elected. The city "still had low self-esteem" and it became the Mayor's mission in his second term to address this.



## Western Harbour

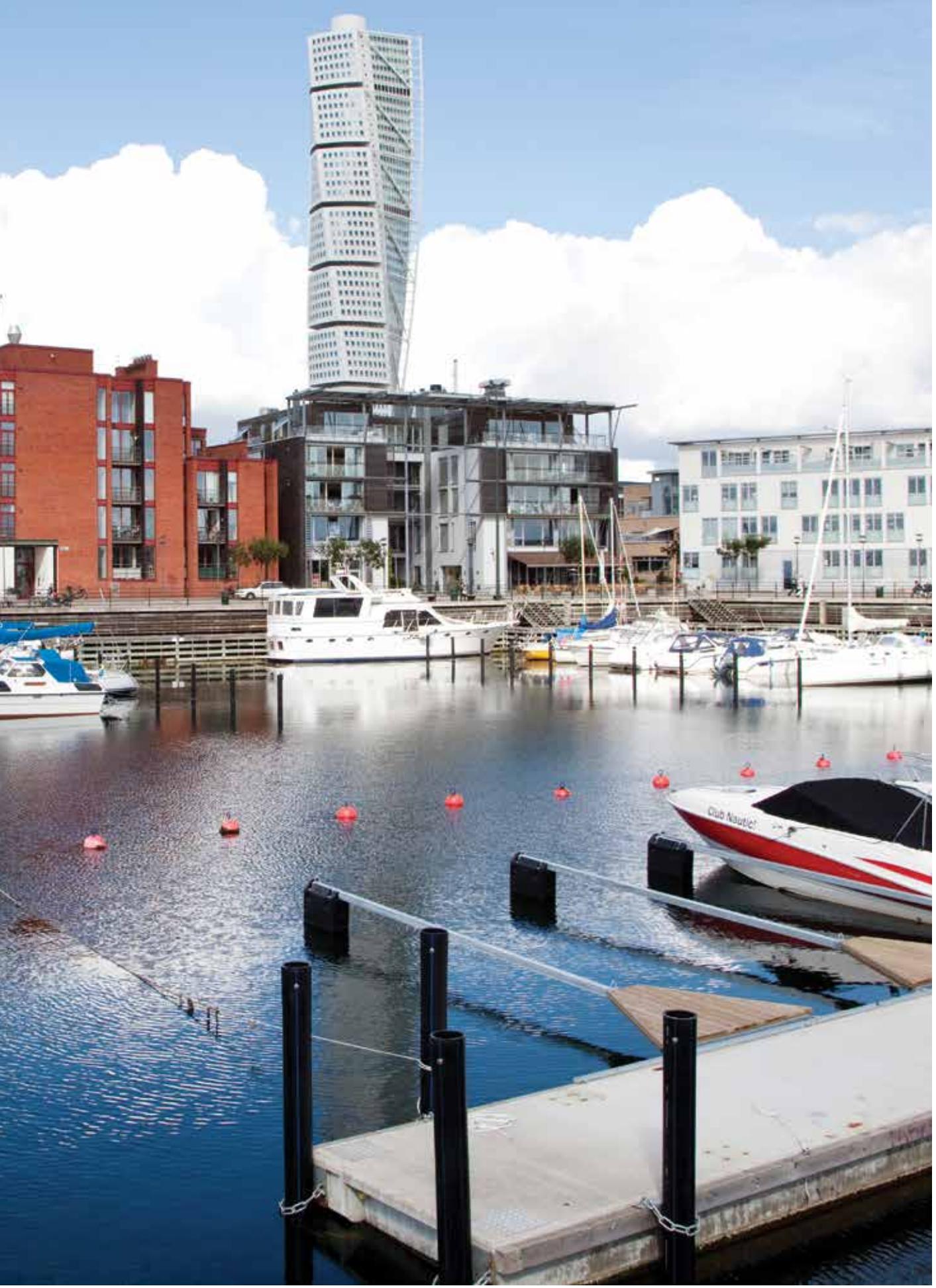
Now Malmö had a steady in-flow of young people into the city, it turned its attention to housing. The Western Harbour (Västra Hamnen) had been the home of the ship yards, machining yards the city's ill-fated attempt at car manufacturing. The physical decline of the huge 187 hectare site mirrored the decline in Malmö's confidence as a city.

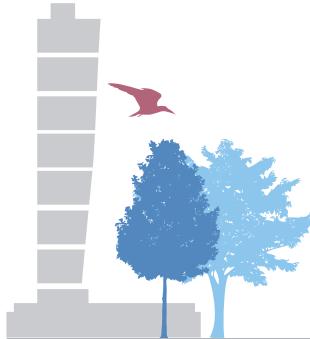
When General Motors attempted to sell the shipyards to a sister company for a peppercorn, Malmö City Council stepped in and bought Western Harbour using archaic planning laws. The Mayor's vision was to turn what was extremely polluted, post-industrial waterfront into an international showcase for sustainable housing. This would showcase Malmö's new identity to the world.

However, the Mayor understood developers would not take such great financial risks unless they were encouraged to. Plans were put in place to host a major Building Exposition in Western Harbour. The 2001 exposition had two parts, a newly constructed urban district, the first phase of Western Harbour's total redevelopment, and a temporary exhibit that showcased ecologically sustainable technologies. The infrastructure for the new residential area was funded by the city of Malmö and developers covered the design and building costs of the homes.

The plan for the area was audacious. Western Harbour was to be entirely powered by renewable energy. To this day all electricity is generated by solar and wind energy. Heating is extracted from seawater stored in natural underground aquifers. In the summer, water fills the cavities in the limestone and is pumped up and used in the district cooling system. The heating and cooling pipelines were installed along with other municipal infrastructure including sewage and central waste collection pipelines that make garbage trucks redundant.

Malmö hosted the European Housing Exposition from May to September 2001 under the title Bo01 City of Tomorrow. Its aim was to realise an "ecologically sustainable information and welfare society"<sup>215</sup>.





## The Fightback

The exhibition showed off visionary examples of sustainable living and included a European village where a leading architect from each country built a national showcase home. Over 25 world-leading architects designed a staggering array of buildings. Walking through this first development is like walking through a land where architects reign. Man-made canals give the area a sense of calm and intimacy and connect different areas. Yet each house and apartment building is a unique architectural experiment.

One of the reasons the area is such a success is because the city and developers negotiated strict terms. Each developer agreed to greenery ratios, how much natural light and how much energy could be used per house.

Over 400,000 people visited Western Harbour during the Exposition, many of whom were visitors to Malmö for the first time<sup>216</sup>. In one year Malmö established itself as the city that stood for bold sustainability. And not just in Sweden, but on the world stage.

The Exposition wasn't just a success from a city identity perspective. It was also a success from a financial perspective. The government spent approximately USD 28 million to decontaminate the land and install the progressive underlying infrastructure<sup>217</sup>. In return, developers bought plots of land and invested several multiples of the original investment. The city made back the initial investment quickly and has since reinvested the funds in four subsequent phases of development which contain a mix of develop-to-let housing for low and medium income households, privately owned homes and commercial space. The area is now home to 5,000 people<sup>218</sup>.

Today Western Harbour is home to many of the city's young residents; the housing is environmentally, architecturally and socially progressive. The area looks onto the Öresund Strait with beaches, waterfront walkways and lively cafes and restaurants. It is a great place for young families and has proven to be a strong draw. One resident pointed at a new cosmetic surgery office with pride and disdain; evidence that young wealth creators have moved in.

Between the new university and the redevelopment of Western Harbour, Malmö was becoming known as a city where things were changing. However, the Kockums crane still towered over Western Harbour. As long as it remained standing, it reminded people of what the city had lost. The city sold the crane to a South Korean company and commissioned a new iconic skyscraper to take its place. The old Malmö was literally being replaced by the new. The new building was designed by Santiago Calatrava and was completed in 2005. It is the tallest skyscraper in all Nordic countries and is called the Turning Torso, as the building literally twists its way up to the sky.

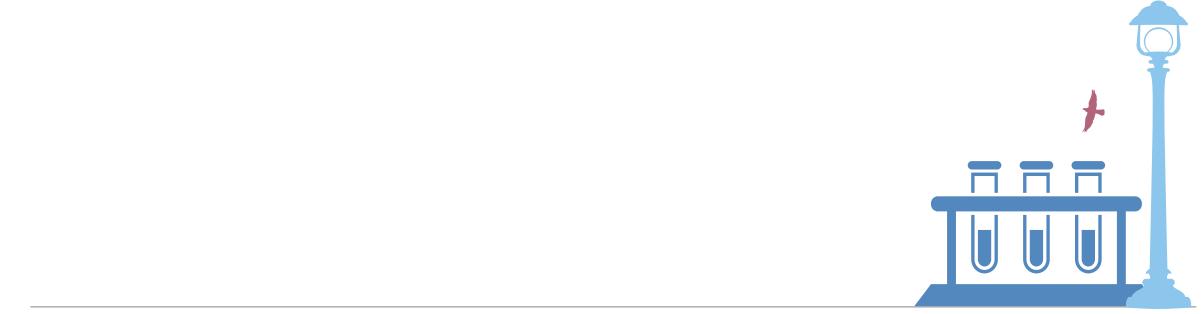
As the Turning Torso rose, so did Malmö's population. The efforts to establish Malmö as a young and modern city were paying off. The city started to attract and keep creative Scandinavians who appreciated the city's experimental and pioneering nature. To further encourage maverick new citizens, the city built skateboarding parks and handed over municipal buildings to graffiti artists who created constantly evolving street galleries along the walls. Parks with performance areas were built and new cultural attractions were established. A new city library was built which consists of three buildings: an old castle; the Cylinder; and the Calendar of Light, both of which were awarded the Kasper Salin Prize for Architecture. The library houses 460,000 books in 50 languages, 10,000 audio books and 100 daily newspapers from around the world<sup>219</sup>. Nearly one million people visit the library each year<sup>220</sup>.



### Malmö Western Harbour System

The spirit of experimentation lives on today. E.ON has built three houses using different experimental sustainable technologies to test how they compare in a live environment. Residents of Malmö apply to live in the houses for one year and Malmö's residents monitor comparable energy consumption of the different technologies on websites and Apps across the three houses. The winning technologies are then used in new housing.





## The Fightback

### Malmö the Urban Laboratory

The city also encouraged the development of new business. If the city was going to succeed it needed new businesses and companies to flourish. The city hoped to develop the knowledge economy, particularly in the areas of cleantech and life sciences in keeping with the city's identity. The regional universities had strong technology and science orientations. But the city did something very innovative to accelerate progress and support Malmö University's reputation as a research hot spot. It offered up the city, including city-owned residential developments and municipal buildings, for prototype testing of new cleantech and sustainable technologies. Companies that established themselves in Malmö would have access to a large testing ground; the city itself would become an urban laboratory.

Council-owned properties in the neighbourhoods of Augustenborg and Rosengård were retrofitted with cutting-edge, sometimes experimental, sustainable technologies. Today the area has open storm water wells, green roofs, sustainable laundry rooms, compost machines and a solar cell facility. The city co-funded the retrofit through an equity joint venture. The aim was not only to improve the properties, but to halve the energy consumption of the district to lower the city's energy bill. The capital and interest on the investment will be met by future savings on energy.



Today the city is working with environmental scientists and cleantech companies to develop Sege Park, a new housing district that will be ecologically sustainable. New technologies like Sweden's only solar power plant are being trialled.

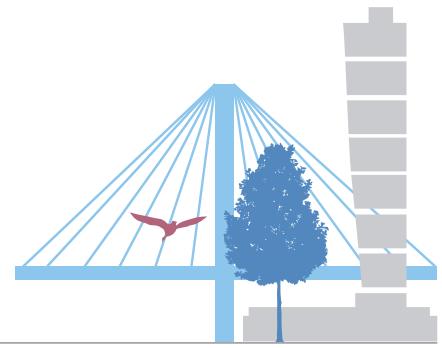
This synergy between the companies, educational institutions and the city has turned Malmö into a magnet for science and technology oriented entrepreneurs. Malmö's young residents create 50 new businesses every week<sup>221</sup>. To help these businesses become commercially successful, the city has established a number of city-funded incubation and acceleration spaces that link new companies with academics and city officials to help them identify opportunities and pilot areas. The city has created dedicated buildings to support clusters including the Malmö Cleantech Centre, a space where companies exhibit and demonstrate new technologies as they develop.

This city-wide ethos of research and experimentation is attracting major scientific institutions. For example, European Spallation Source, the world's foremost material research facility using neutrons, chose Malmö as its site and will open in 2019. Thousands of new scientists will move to the city as a result.

Today Malmö is filled with a whole new generation of young wealth creators who are setting up new businesses or carrying out research which will one day underpin new businesses.

And not surprisingly, other businesses are now moving into Malmö in pursuit of this talent; businesses that don't necessarily hire scientists, but stalk smart people in the battle for talent. For example, Ikea recently announced its plans to open an office for global staff functions in Malmö. Still Sverige inaugurated a new head office in Malmö and will soon be followed by Storck Sverige AB and Moltex. The city that once said no to city-wide tax breaks now has companies and research institutions banging on its front door.





## The Fightback

### Øresund Bridge

The story of Malmö's re-magnetisation would not be complete without reference to the Øresund Bridge. The idea for a bridge to connect Malmö and Copenhagen over the Øresund Strait had been around for over a century. However, every time one city's government backed the idea, the other was against it. In 1995 the two city governments were finally in sync and construction on the Øresund Bridge began.

The impact the Øresund Bridge had on Malmö (and Copenhagen) when it opened in 2000 cannot be overstated. Before the bridge was built Malmö was an isolated city. The Bridge not only connected Malmö to Copenhagen, but physically connected the entire Øresund region. Suddenly 3.7 million people<sup>222</sup> who lived in the south of Sweden and Denmark became one geographically united area, an area that commanded the attention of Stockholm, and a shared identity that became equal if not more important than being Swedish. Malmö and Copenhagen became the joint nucleus of a significant region with first call of access to European markets and its people. Instead of looking alone to Stockholm for permission and help, Malmö now stood shoulder to shoulder with Copenhagen and looked to the rest of the world for opportunities.

In the early years many Danes moved to Malmö to take advantage of lower housing costs, but continued to work in Copenhagen. Today, many Swedes travel to work in Copenhagen's large service-based economy. Not only does Copenhagen's tourist sector have a high demand for labour, but businesses pay higher wages relative to Malmö. The physical conjoining of the two cities has created a larger labour pool which benefits businesses, a wider job market which has helped workers and a more varied and economical housing stock, which has helped families.

And the agglomeration of the two cities has also benefited the city's ports. Shortly after the bridge was opened Copenhagen and Malmö Ports merged in 2001. No longer in competition, the two ports specialised. The Malmö side of the port is now a logistics hub and cruise ship destination and the Copenhagen side focuses on imports and exports.

Culture buffs will know the Øresund Bridge also played a role in one of the first joint film productions between Sweden and Denmark. *The Bridge* is a gritty television drama that found international acclaim. Whilst not all in Malmö are delighted at how the city has been portrayed, the television series has successfully introduced the city and its changes to a global audience.



### Øresund Bridge

The Øresund Bridge is owned and operated by Øresundbro Konsortiet, a company which is jointly owned by the Danish and Swedish governments. The Danish land works were funded and built by A/S Øresund and the Swedish landworks by SVEDAB AB.

The total cost of the bridge was USD 3.7 billion and the construction and operating costs were funded by debt secured against future toll revenues and fixed fee charges for train traffic<sup>223</sup>.

The deal was struck on the basis that the loans would be paid after a period of 30 years<sup>224</sup>.

During 2011, 17,300 people commuted daily across the Øresund Bridge; 60 percent by train and 40 percent by car<sup>225</sup>. 94 percent commuted to work and 6 percent to study<sup>226</sup>. In addition, thousands of people use the Øresund Bridge a day on one-off trips, many of which are to Copenhagen Airport, Lund in Sweden and the surrounding Øresund region.





## The Fightback

### Malmö becomes an events destination

Rather than resting on their laurels, the city leaders turned their focus on the next area of development. Malmö's new city identity was beginning to make waves around the world. Now was the time to start drawing tourists into the city; the Øresund Bridge gave people quick access to see the urban laboratory city first hand.

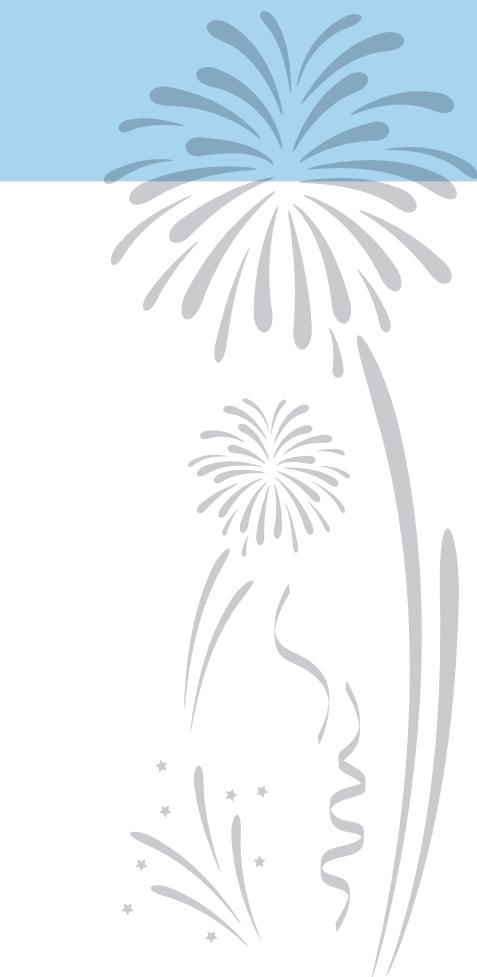
The city created a joint venture company between the City of Malmö and investors called 'Destination Malmö' to encourage cooperation between the City of Malmö and the tourism industry. The city aimed to become a destination for commercial events that suited the personality of the city. One such event was Eurovision, which Sweden won in 2012. When the European Broadcasting Union approached the city of Malmö about the possibility of hosting the competition in 2013 they made one request. The city would have to guarantee the availability of 3,000 rooms at reasonable rates (i.e., no profiteering). Malmö City Council went out to the business community and within 48 hours the guarantee was signed and delivered, and the competition was secured. Eurovision was held successfully in the new Malmö Arena in May 2013. During 2011, 1.5 million people stayed overnight in Malmö and a further 5.5 million made day trips<sup>227</sup>.

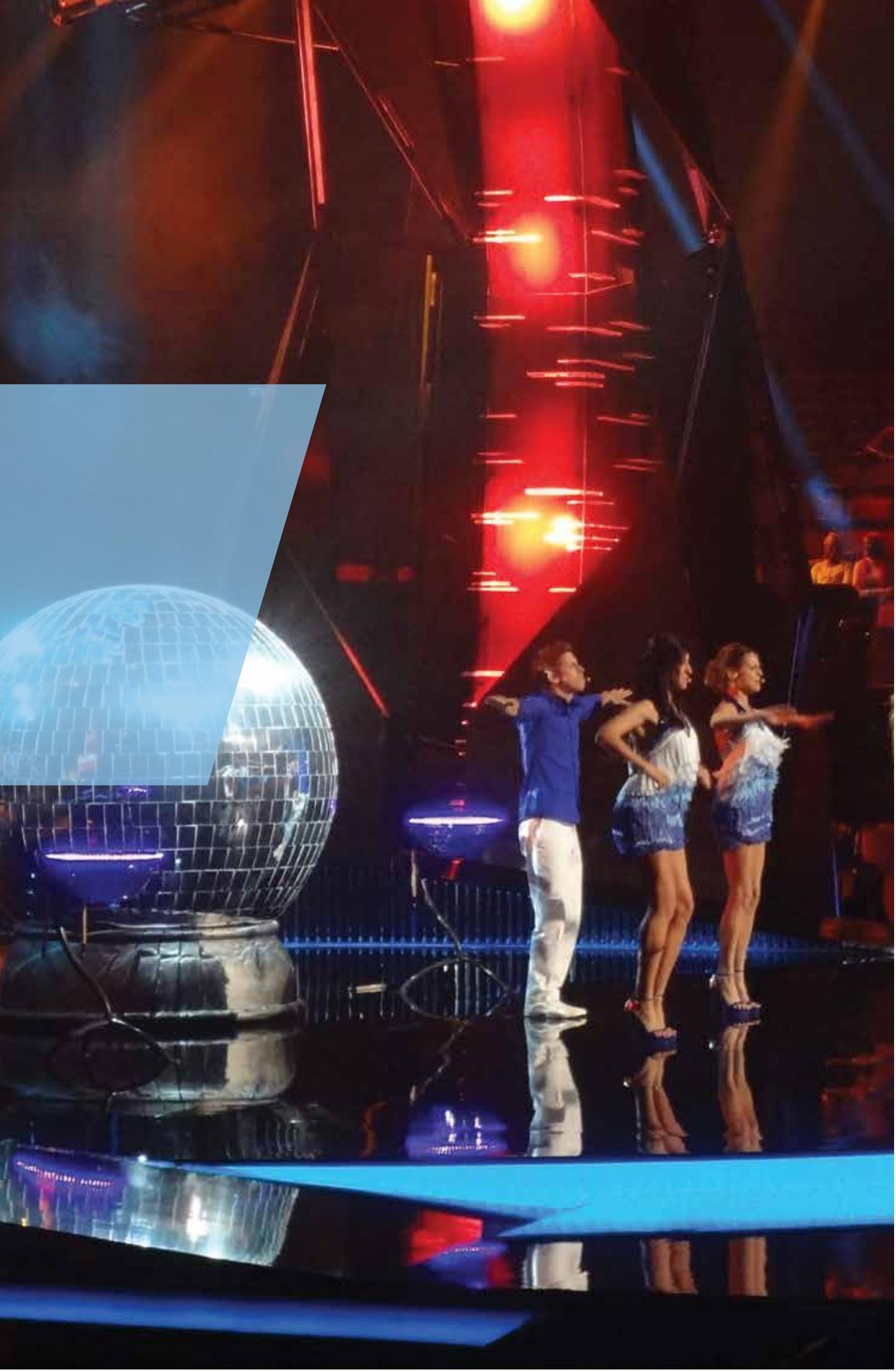
Interestingly, the arena was built in the Hyllie district of Malmö, the city's newest eco-neighbourhood and will include a shopping centre, hotel, exhibition centre, office buildings and 2,500 new homes<sup>228</sup>. Hyllie Station opened in 2010 and provides direct transport links between the district and greater Malmö.

### Destination Malmö

Destination Malmö is a joint venture company founded in 2008 between the City of Malmö and the tourism industry. The City of Malmö holds a 30 percent share and the remaining 70 percent share is held by approximately 60 representatives from the tourism industry<sup>229</sup>.

Destination Malmö's responsibility is to jointly market Malmö as a city for targeted mid-sized events. The venture has succeeded at securing a number of high profile events for Malmö including Eurovision.







## The Fightback

### Growing pains

When the city embarked on its remarkable transformation in the mid 1990s no one would have believed that the city's future growth could be so great it would in turn introduce a new set of issues. Yet that is what has happened.

In 1960, 95 percent of Malmö's population was Swedish with the remainder being born abroad. By 1995 (when the transformation began), 26 percent had a foreign background. By 2012 the number had increased to 42 percent<sup>230</sup>. Malmö's newly charged magnet has been both a blessing and a challenge.

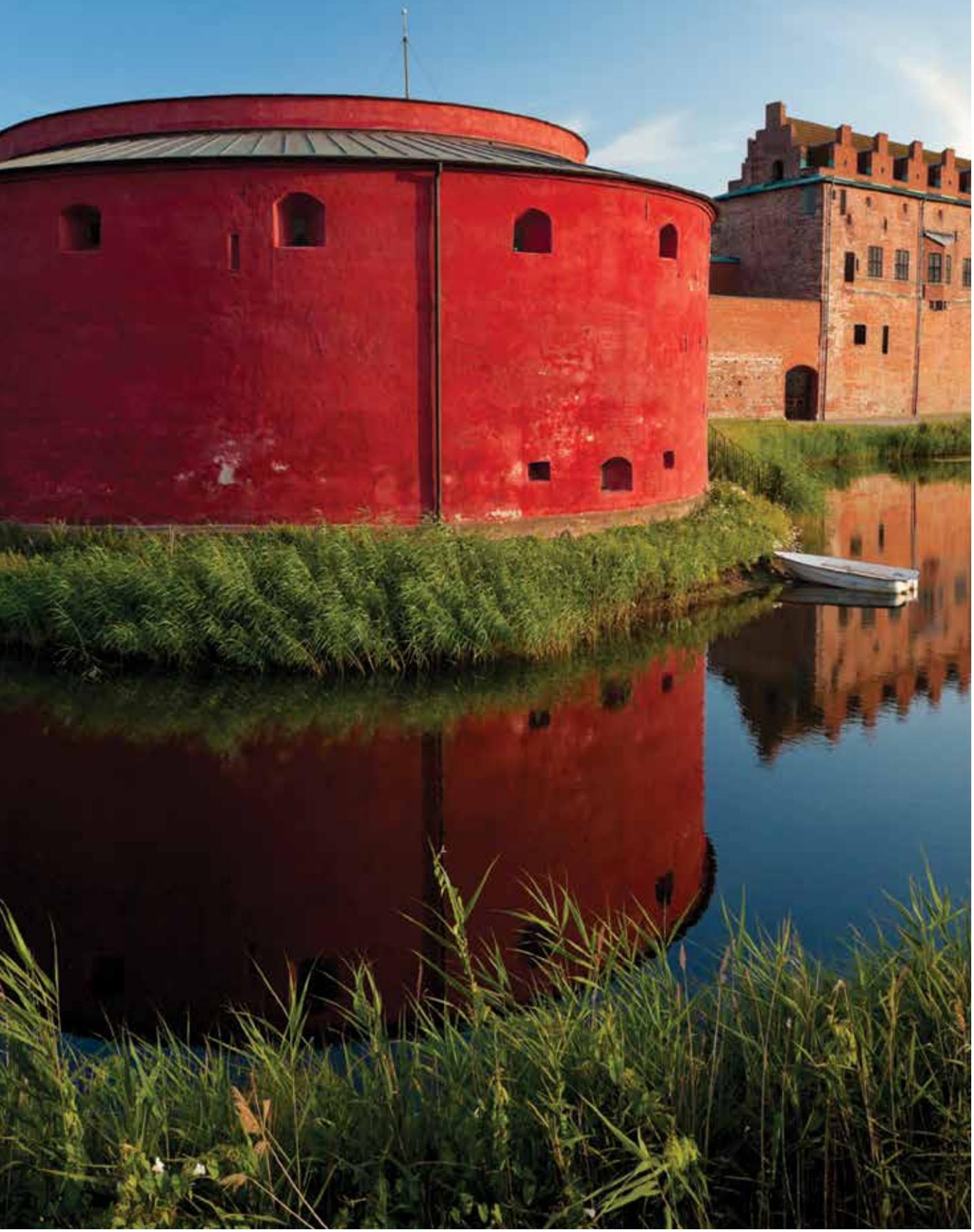
The influx of different cultures and people gives Malmö a dynamism that is unlike other Scandinavian cities. A leading politician joked that the city's most popular dish is falafel and beer, loved equally by all. However, many of the people who move to Malmö come from conflict regions and bear physical and mental scars; more people from Iraq settled in Malmö alone than all of the Iraqis given asylum in the US. As it takes a new immigrant between three to eight years to secure their first job, the city now financially supports a much greater proportion of the population<sup>231</sup>. Immigrant children often struggle with schooling due to their inability to communicate in Swedish and lack of previous education. This places a significant burden on Malmö's education system. And as is the case in most cities, the new immigrants live together in particular districts. In the 1960s the Swedes aspired to build one million new homes in anticipation of the large population influx. These large high-rises, present in all Swedish cities, are called 'Million Homes', and like most 1960s blocks have not aged well. What was once housing for young Swedes, and then working class Swedes is now the preserve of the 'new Swedes'.

The integration of new migrants represents one of the largest challenges in Sweden but is particularly acute in Malmö. Frustration, low educational attainment and high unemployment rates across particular communities create tension.

Another unplanned consequence of Malmö's success has been a super-charged baby boom. The city is now a magnet for young people and young people have children. In the next two years alone, Malmö City Council will need to build 70 new nursery schools and 15 large primary schools to accommodate the huge spike in births<sup>232</sup>.

These are issues Malmö's next Mayor will need to address. After almost twenty years in office Mayor Reepalu, the architect of the city's transformation has retired. There is palpable sadness that the city's first father has left office.

When asked to describe what it was about Mayor Reepalu's leadership skills that made him so effective, almost everyone mentions the Mayor's ability to delegate. "He set the course and then didn't care how any of us went about it achieving it." It was a culture where experimentation and action was lauded, "If I don't make a big mistake once a week, then I am not doing my job correctly", said one. Mayor Reepalu fostered an entrepreneurial culture within Malmö City Council which in turn drove the energetic reinvention of the city. It was not anyone's job to just execute plans. City officials were turned into city entrepreneurs and fundraisers. To light those fires, the Mayor designed 'Engagement for Malmö', a day where all city hall managers were walked through Malmö's recent history and industrial decline. Its purpose was to set out the 'fight or die' urgency of Malmö's situation and install a sense of personal responsibility in each manager for finding ways to help the turnaround. Through this storytelling Mayor Reepalu created an army of people in City Hall who were as passionate about reinventing the city as he was. Engagement for Malmö is still run today.



# THE VICTORY



“Malmö has become so magnetic, other countries and cities seek direct transport links into the city.”

Malmö has pulled off a remarkable turnaround. Today the population exceeds that of its previous high water mark with 656,835 residents in the city and its surrounding metropolitan areas<sup>233</sup>. Gross Regional Product reached USD 19.6 billion in 2008, a 15 percent increase in five years<sup>234</sup>. And the average income in Malmö is now 92 percent of the Swedish average, which is a major achievement given a large proportion of the population are recent immigrants<sup>235</sup>. And since balancing the budget in 1996, Malmö's finances have been in surplus<sup>236</sup>.

The growth is set to continue. Malmö has become so magnetic, other countries and cities seek direct transport links into the city. The city's hotbed of young businesses, research and development base and talented labour pool is attracting wide interest. In return, new links will give Malmö's new commercial base direct access to new markets.

Construction is underway to build a high-speed train route, the Fehmarn Belt, that will connect Malmö and Copenhagen to Hamburg. Further investment in the Øresund Bridge is being considered. Trains and traffic are already at full capacity and an expansion is being considered.

However, to maintain growth at such pace, the city will have to address the issues quick-paced immigration has brought. It would be a shame if Malmö was to go the route of large global cities which have two stratified groups, those who benefit from the city's remarkable economic growth and those that do not.



## Fehmarn Belt

The Fehmarn Belt tunnel is scheduled to be completed by 2021 and will provide a high-speed train link between Malmö / Copenhagen and Hamburg. The link will reduce travel time to only 2.5 hours and play a significant role in opening Malmö to new international markets<sup>237</sup>.

The total infrastructure investment of approximately USD 13 billion will be financed according to a treaty between Denmark and Germany<sup>238</sup>. Germany will finance the German land works. The majority of the Danish land works and the fixed link will be financed by the Danish state owned company Femern A/S. Femern A/S will obtain loans which will be paid through toll charges for road use and fees for the use of the rail lines.

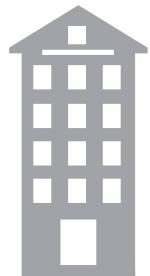
# THE PRINCIPLES

## How Malmö applied the Magnet City Principles



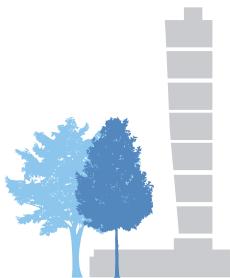
### Magnet cities attract young wealth creators

The centrepiece of Malmö's transformation was the ambition to attract a new generation of young people into the city. These young people would create the new businesses and jobs that would drive economic growth in the future. The city chose this approach instead of targeting specific industries.



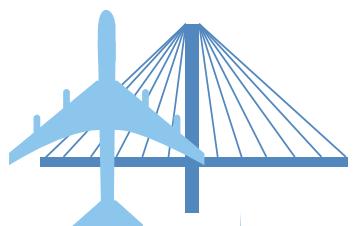
### Magnet cities undergo constant physical renewal

The city embarked on a significant overhaul of the entire city. Large parts of the city were pedestrianised, public spaces were redesigned and entire new neighbourhoods, designed specifically with new residents in mind, have shifted the centre of gravity of the city.



### Magnet cities have a definable city identity

The creation of a new city identity was an important part of the city's transformation. City leaders understood that the new identity was important to draw a young generation into the city. The 'urban sustainable laboratory' identity has gained significant attention around the world and has done much to draw in young, educated and environmentally conscious new residents from across Scandinavia and Europe.

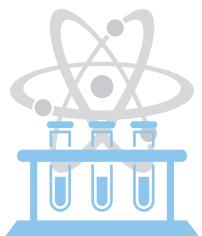


### Magnet cities are connected to other cities

The completion of the Øresund Bridge connected Malmö not just to Copenhagen, but critically to Copenhagen's airport. The journey time is 25 minutes between the airport and Malmö. Not only has Malmö gained a physical link; it has gained a major international airport which means people from around the globe can now get in and out of Malmö easily.



**“These young people would create the new businesses and jobs that would drive economic growth in the future.”**

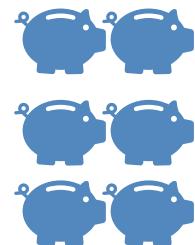


### Magnet cities cultivate new ideas

Because the city had no industry when the transformation began, Malmö’s city leaders had no choice but to cultivate new ideas that would turn into new businesses. The establishment of a new university, associated research and development funding and support for new start-ups has helped the city to become a major cluster in the areas of cleantech and life sciences. The city’s innovative idea to use the city itself to pilot new technologies helped to establish a culture of experimentation.

### Magnet cities are fundraisers

When the transformation began, the city was in deficit. Most of the main assets that have contributed to the city’s success were funded by others. The Mayor and his team were instrumental in securing this funding on behalf of the city. Some funding was from the state (e.g. for the university and the bridge), much funding was from the private sector (e.g. Joint Ventures with the city) and a large amount of the city’s inward investment was from private sources as the city became more magnetic.

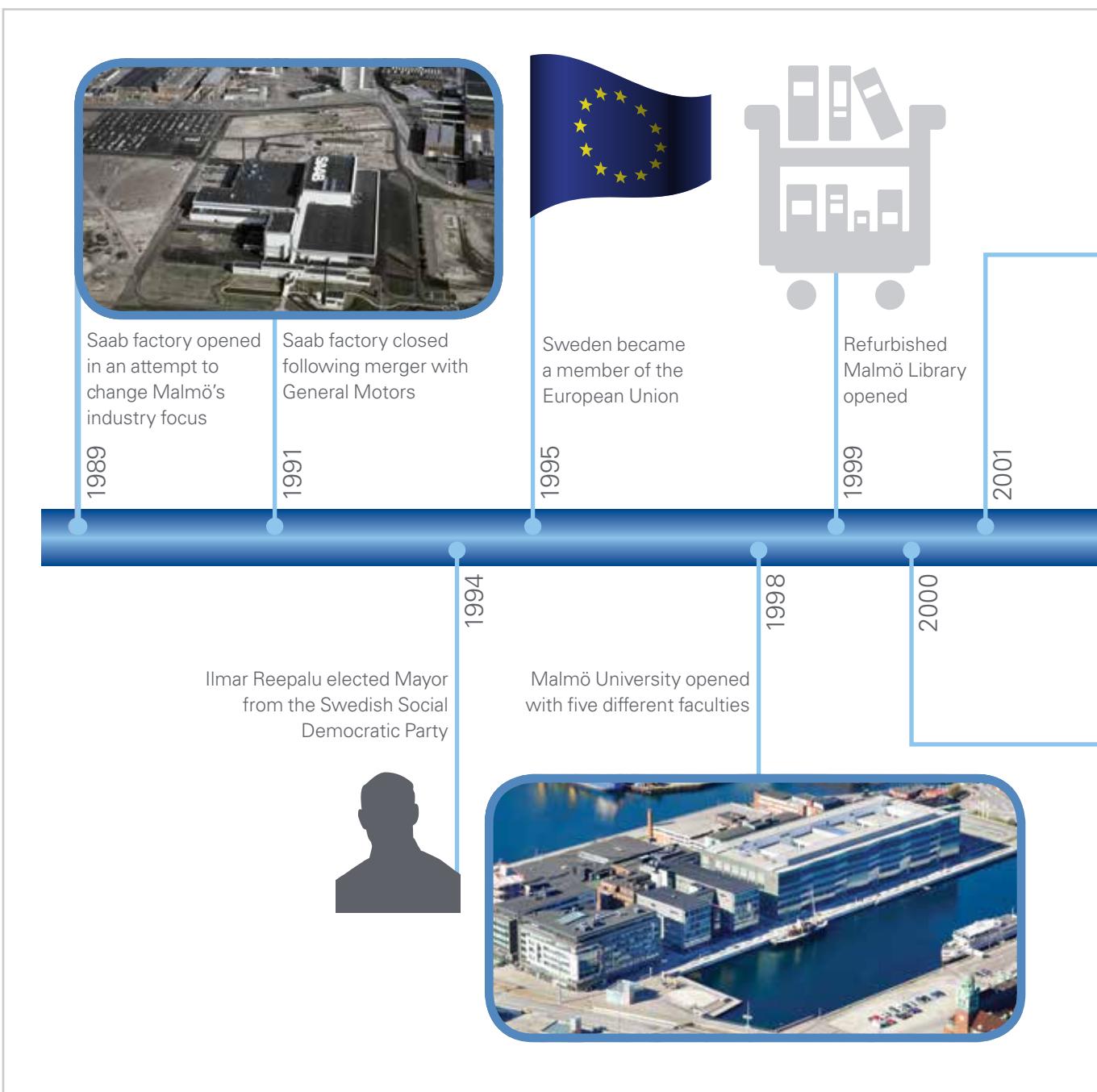


### Magnet cities have strong leaders

Malmö’s transformation was overseen by one strong Mayor over a twenty year period. His non political background in architecture and sustainability gave him a different perspective which drove the city’s renewal. The city today reflects his ethos and values. However, had he not stood firm in the face of much dissent from unions and sceptical residents in the early days, Malmö wouldn’t be where it is today.



# TIMELINE





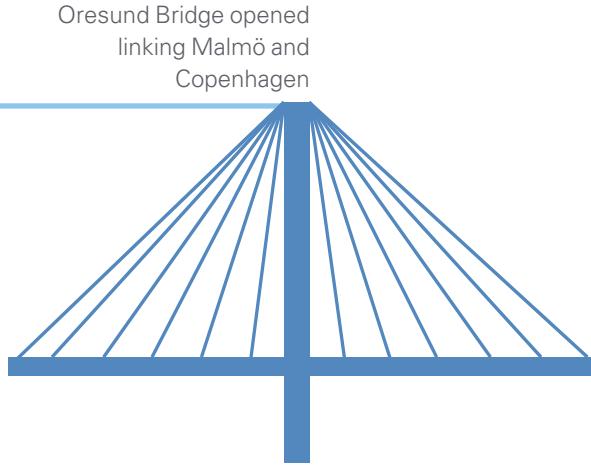
European Housing Exhibition held in Vastra Hamnen

Malmö successfully hosted Eurovision

2013

2008

Malmö Arena opened as a multi-purpose venue  
Destination Malmö established to market Malmö as a mid-sized events destination



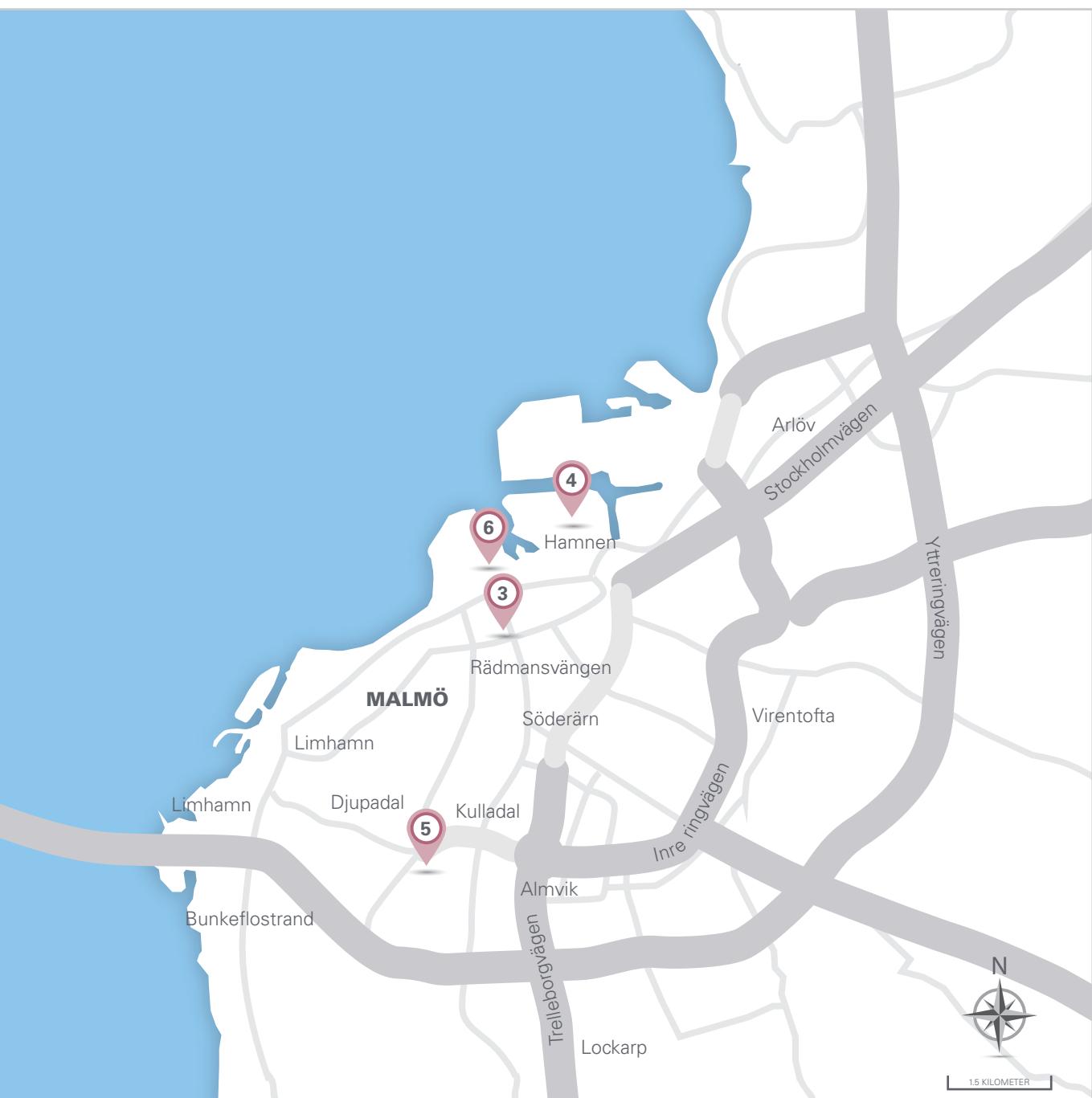
Oresund Bridge opened linking Malmö and Copenhagen

# MAP

208

MAGNET CITIES | MÄLMO





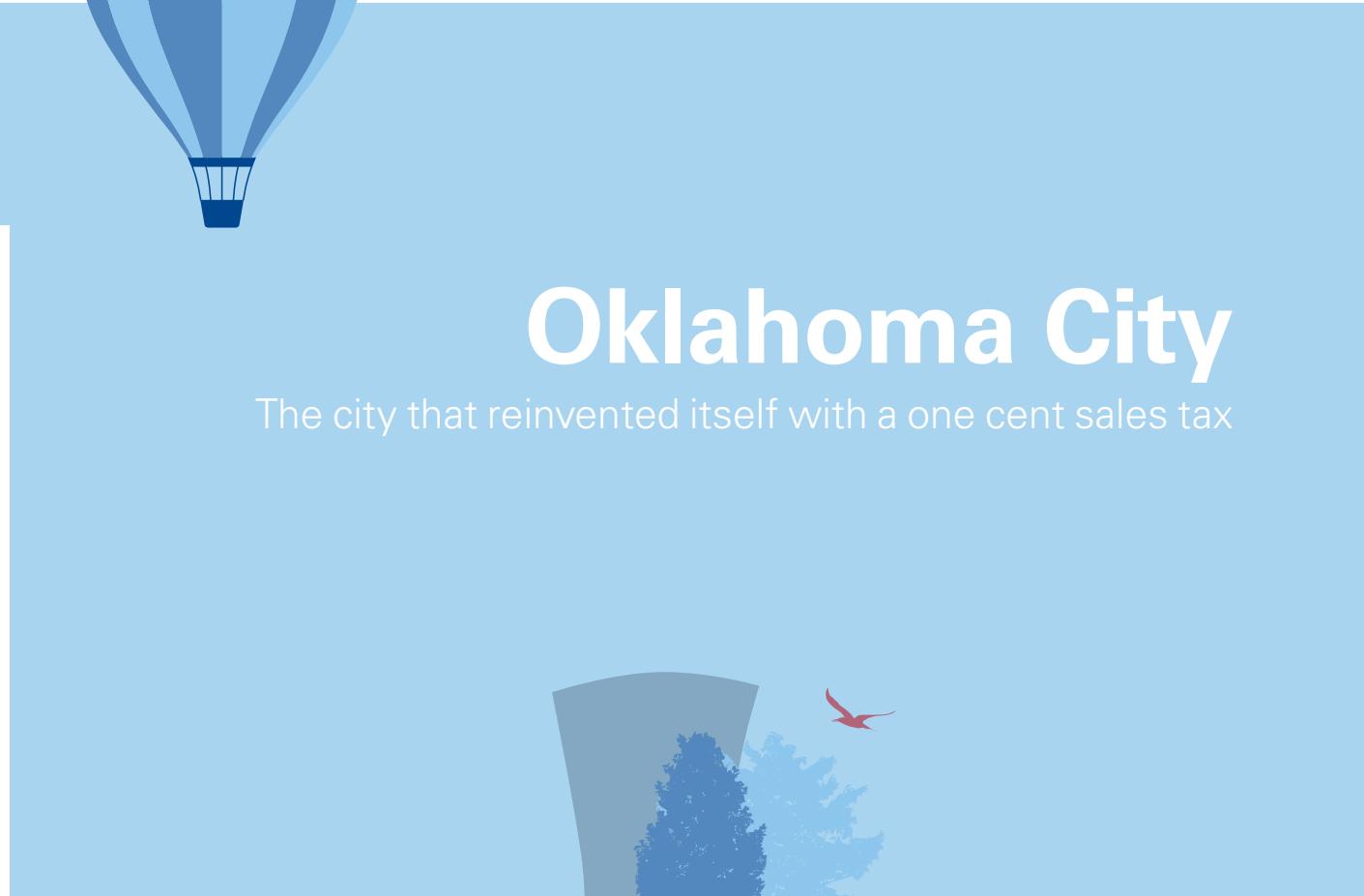
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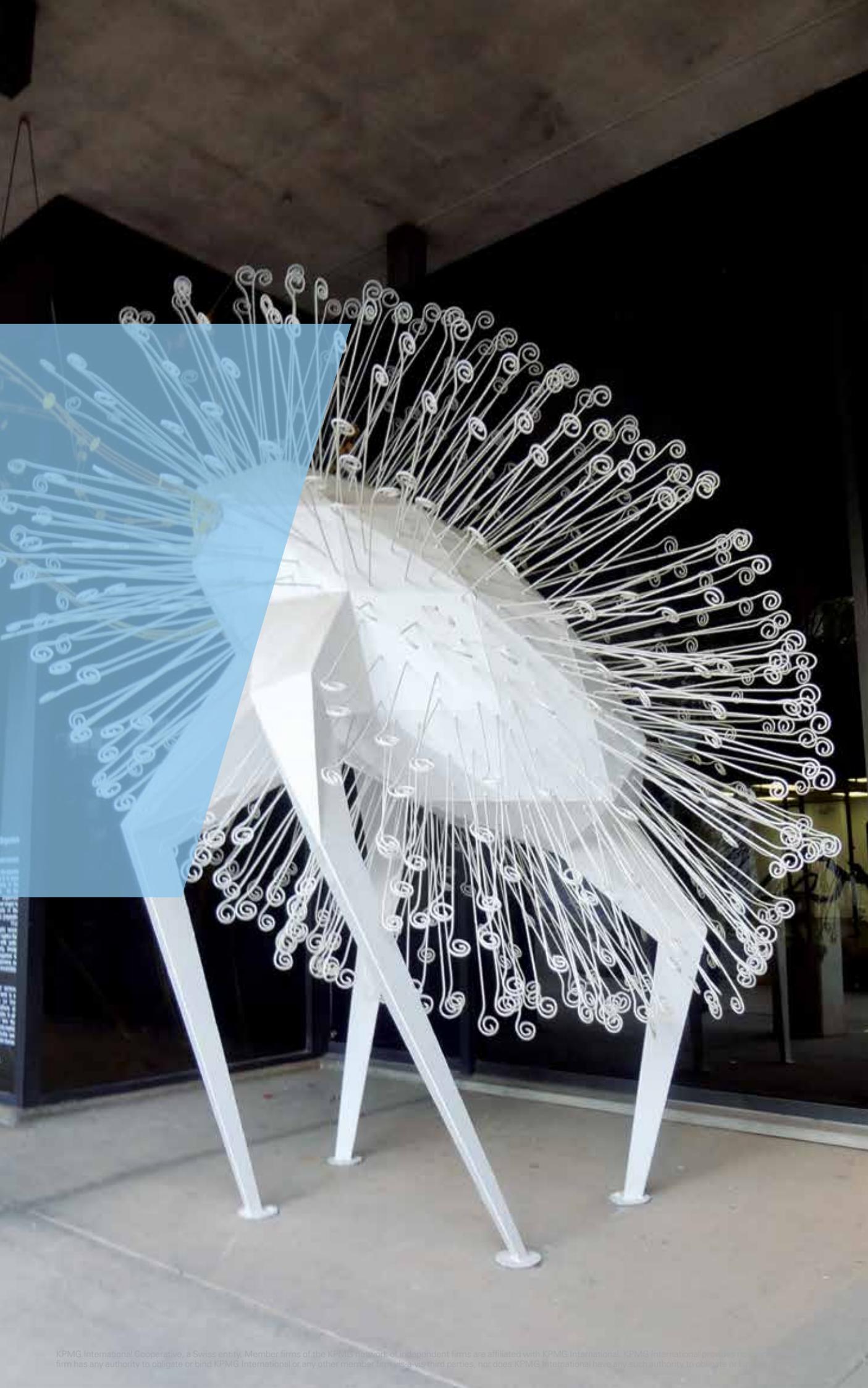
MAGNET CITIES | OKLAHOMA CITY



# Oklahoma City

The city that reinvented itself with a one cent sales tax





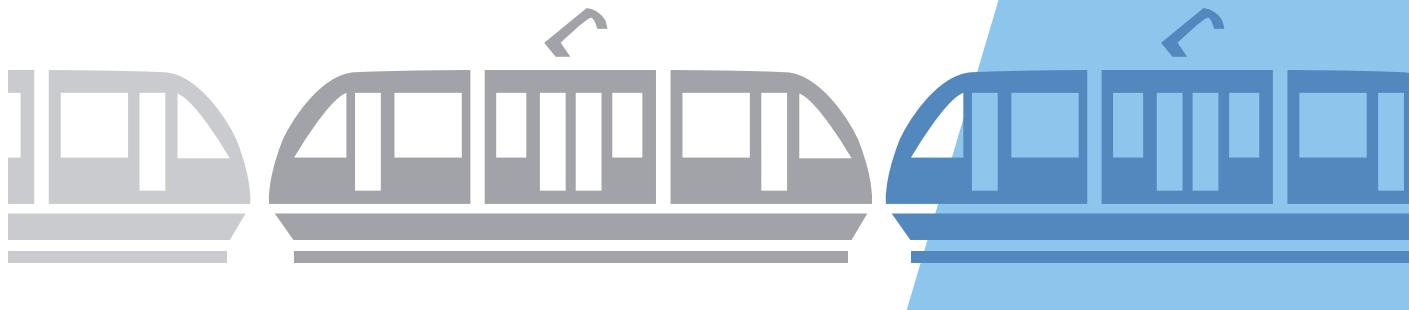
# INTRODUCTION

Downtown Oklahoma City is a charming mix of modern and old frontier America. This is evident in the physical city as well as in the character of its residents. Art deco municipal buildings sit alongside modernist glass skyscrapers. The old-school courtesy and charm of Oklahoma City's residents disguise a ferocious pragmatism. Oil and gas companies work alongside new economy businesses. Oklahoma City is at the new frontier of America's economy.

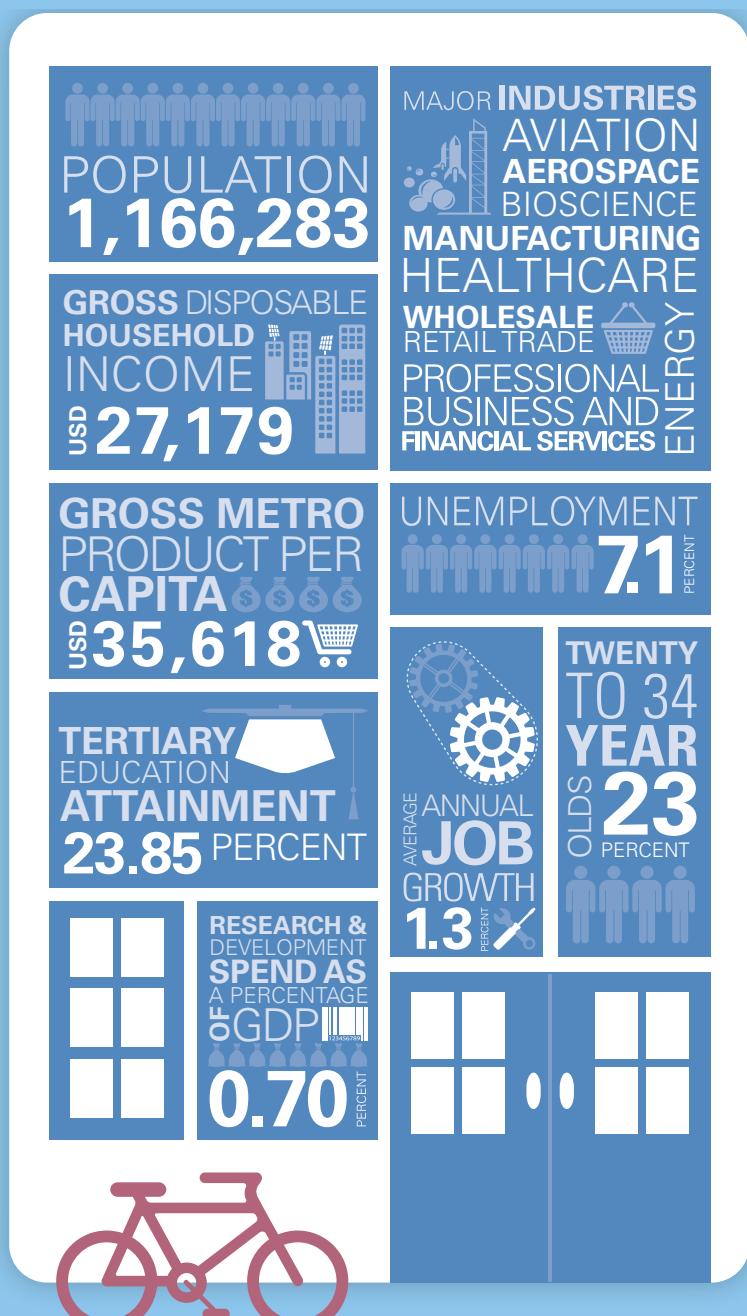
And it is this charming mix of old and new that makes Oklahoma City such a magnetic city. Oklahoma City's economy has grown by more than 30 percent over the last ten years against an 18 percent increase in US GDP over the same period<sup>240</sup>. The city has one of the lowest unemployment rates in America yet the population is growing<sup>241</sup>. The city regularly appears in US lists including top ten cities for business and top ten cities to live in<sup>242</sup>.

Yet just twenty years ago, Oklahoma City looked like a write-off; another old frontier city that could not adapt. An entire generation of young Oklahomans left the city for Houston, Dallas, Los Angeles and New York. Businesses soon left. What had once been a dynamic city had become a negative magnet; both people and businesses were repelled. In the words of the current Mayor, the city was so empty that "at 5pm you could shoot a gun down Main Street and you wouldn't hit anyone"<sup>243</sup>.

This is the story of how one city re-magnetised itself by transforming itself into a modern city with a highly competitive quality of life. It launched a wide-ranging programme of physical renewal and paid for it itself. Billions of private investment flew into the city. Today the city attracts a new generation of young people and families. The future looks bright. And what is remarkable is that the city accomplished all of this on its own and without support from federal or state government.



## OKLAHOMA CITY METRICS<sup>239</sup>



# THE DECLINE

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City of Oklahoma City

“What had once been a thriving and energetic frontier city and downtown, was now bulldozed and empty.”

To understand Oklahoma City, it is important to first understand the origins of the city. Oklahoma City was founded by people who were both desperate and determined. In the 19th century the US government held what were termed ‘land-runs’, during which unassigned land (usually former Indian Territories) was opened up to new settlers. On the morning of 22 April 1889, a gun was fired and thousands rode on horseback to claim up to 160-acre parcels of land in mid Oklahoma. By midday, Oklahoma City was a newly created city with a population of 10,000<sup>244</sup>. Creating a homestead in the old Indian Territories was not easy; Oklahoma City’s settlers faced physical hardship, illness and violence. But America was in the grip of recession and the people who founded Oklahoma City had few other choices. They were tough and they quickly made the most of their central location. Not long after its creation Oklahoma City was served by four railways and the city had established itself as a main trading post for the west.

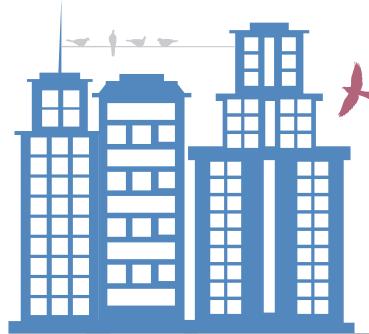
As the settlers of San Francisco, another city created by a land-run, panhandled for gold, Oklahomans found liquid gold. Not long after the city was settled, a number of huge oil fields were discovered under the newly settled territories such as the Oklahoma City Oil Field. The discovery of oil gave Oklahoma City great wealth. Ornate municipal buildings like the Civic Centre and City Hall were built alongside grand hotels.

Fate smiled upon the hard-working prairie city during the first half of the century. Not only did the oil fields continue to produce huge volumes of oil, but in the 1940s the United States Air Force based one of its largest air logistics centres, Tinker Air Force Base, on the periphery of the city and created 15,000 civilian jobs and 7,000 military jobs<sup>245</sup>. Oklahoma City’s location in the central west of America made it a well-placed hub to maintain and store a wide range of aircraft, engines, missiles, software and avionics.

Given the cheap supply of oil, it is no surprise that Oklahoma City residents became automobile-mad during the 1950s and 60s. In many ways the city is a shrine to the automobile. The city’s footprint grew as suburbs were annexed to the downtown. Today Oklahoma City is the fifth largest US city in terms of its geographical span<sup>246</sup>. The city was connected by a web of highways and roads so extensive that even today, traffic jams during rush hour are a rarity. Automobile companies set up dealerships along a strip of Broadway Avenue now known as ‘Automobile Alley’. The motor companies sold, maintained and often stored cars for Oklahoma City’s oil-rich residents. Today the restored shop fronts built for now-defunct automobile brands like Hudson and Essex and the McClelland-Gentry Motor Company are inhabited by new businesses and restaurants.

Downtown’s Main Street was populated by five large department stores and a range of smaller shops, all filled with well-dressed shoppers many of whom travelled in from the suburbs. A row of studio-run cinemas opened, one of which featured a two-story-high cut-out of Marilyn Monroe. Film and music stars like Frank Sinatra and US Presidents Harry Truman and Dwight Eisenhower visited an Oklahoma City floodlit in neon. It was an industrious city and its business and civic leaders had no reason to believe the good fortunes of their city would change.

After 60 years of solid growth, some sections of downtown Oklahoma City started to look a bit tattered. Investment was required. Some downtown buildings were poorly maintained; many were owned by second and third generation land-run settlers who lived elsewhere and continued to collect rent. And in the city that loved the car, downtown Oklahoma City was becoming an impossible place to park.



## The Decline

In the late 1950s several of the city's great and good decided that downtown Oklahoma City should be regenerated. Many US cities were using newly introduced urban renewal legislation to redevelop blighted downtown areas. Oklahoma City followed the same route and set up an Urban Renewal Authority. Alongside this public body a group of businessmen set up and funded an Urban Action Foundation that approached the highly-regarded architect I.M. Pei to develop a new master plan for downtown Oklahoma City.

Pei, most famous for the glass pyramid that sits in the courtyard of the Louvre in Paris, had experimented with urban planning in Cleveland, Ohio. His solution there had been to bulldoze almost every building across 163-acres to make way for a new city<sup>247</sup>. Pei's approach was much the same in Oklahoma City; he proposed the clearance of hundreds of buildings within a 528 acre area of downtown<sup>248</sup>. Many of the buildings earmarked for demolition were built in the early years of the city. Pei's idea was to make way for a 'City of Tomorrow'. The Pei Plan, as it was known, converted freed-up downtown land into surface parking (this was the city of the car) and a large park, based on Copenhagen's Tivoli Gardens. A Convention Centre was placed in the middle of the city alongside a number of new skyscrapers. The small downtown blocks were combined into large super-blocks and a one-way multi-lane road system was put in place to ease traffic congestion.

There was much debate about the wisdom of Pei's Plan. Some supported Pei's visionary picture of a car-centric futuristic city and believed the city must 'dream big'. Others felt it was short-sighted to wipe away the city's heritage by bulldozing the downtown. The arguments continued for years.

But as the debate raged, irreparable damage was being done. Tenants were refusing to renew leases on downtown buildings. No one was interested in signing a lease in a building that may not exist under the Pei Plan. Oklahoma City's once-buzzing downtown streets started to empty out.

Eventually in 1965 the Pei Plan was formally adopted. This was the beginning of the end for downtown Oklahoma City. The city kicked off a long and painful era that spanned close to 20 years. To implement the Pei Plan the city first had to negotiate eminent domain or compulsory purchase orders across the downtown.

Early on the city bought the land titles to the bustling department stores along Main Street. The city suggested the stores temporarily move to suburban locations including the city's first shopping centre, Penn Plaza. In hindsight this was a spectacular own-goal on the part of the planners. Removing the anchor tenants from Main Street, particularly the department stores, removed the need for many of Oklahoma City's residents to ever travel into the downtown city. In the words of one city planner "we killed the city."

At the same time acres of housing and the city's main hotels were bought and bulldozed to make way for Pei's Myriad Gardens. Eventually the Urban Renewal Plan ran out of steam. It limped on through the 1970s and early 1980s and some of the buildings included in Pei's master plan were constructed including the Cox Convention Centre and iconic Chase Building, a modernist office building in the middle of downtown. But these buildings were few and far between. Gaping holes were left around the city following the extensive bulldozing.





## The Decline

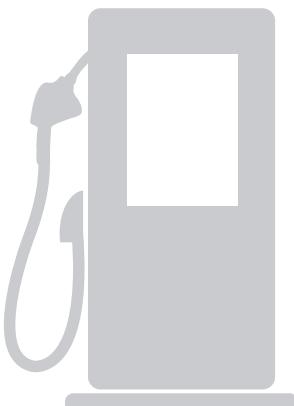
Right as Oklahoma City was midway through its Urban Renewal Programme, the bottom fell out of the local economy. A small local bank called Penn Square Bank collapsed when a number of uninsured high-risk oil loans defaulted. Retail and commercial depositors lost their money and the knock-on effect was huge; a further 121 Oklahoma banks went bankrupt as a consequence of Penn State Bank's failure<sup>249</sup>.

The banking crisis went hand in hand with the collapse of the oil industry. In 1986 OPEC flooded the market and oil prices collapsed. The impact on Oklahoma City, a city whose economy was concentrated around oil and gas, was brutal. Thousands of people lost their jobs<sup>250</sup>. Retail property prices collapsed. The few skyscrapers completed under the Pei Plan became known as 'ghostscrapers' as they remained vacant so people could see right through them. Oklahoma City government ran out of money and the problematic Urban Renewal Programme ground to a halt. What had once been a thriving and energetic frontier-city-downtown, was now bulldozed and empty. People left. Oklahoma City was a negative magnet.

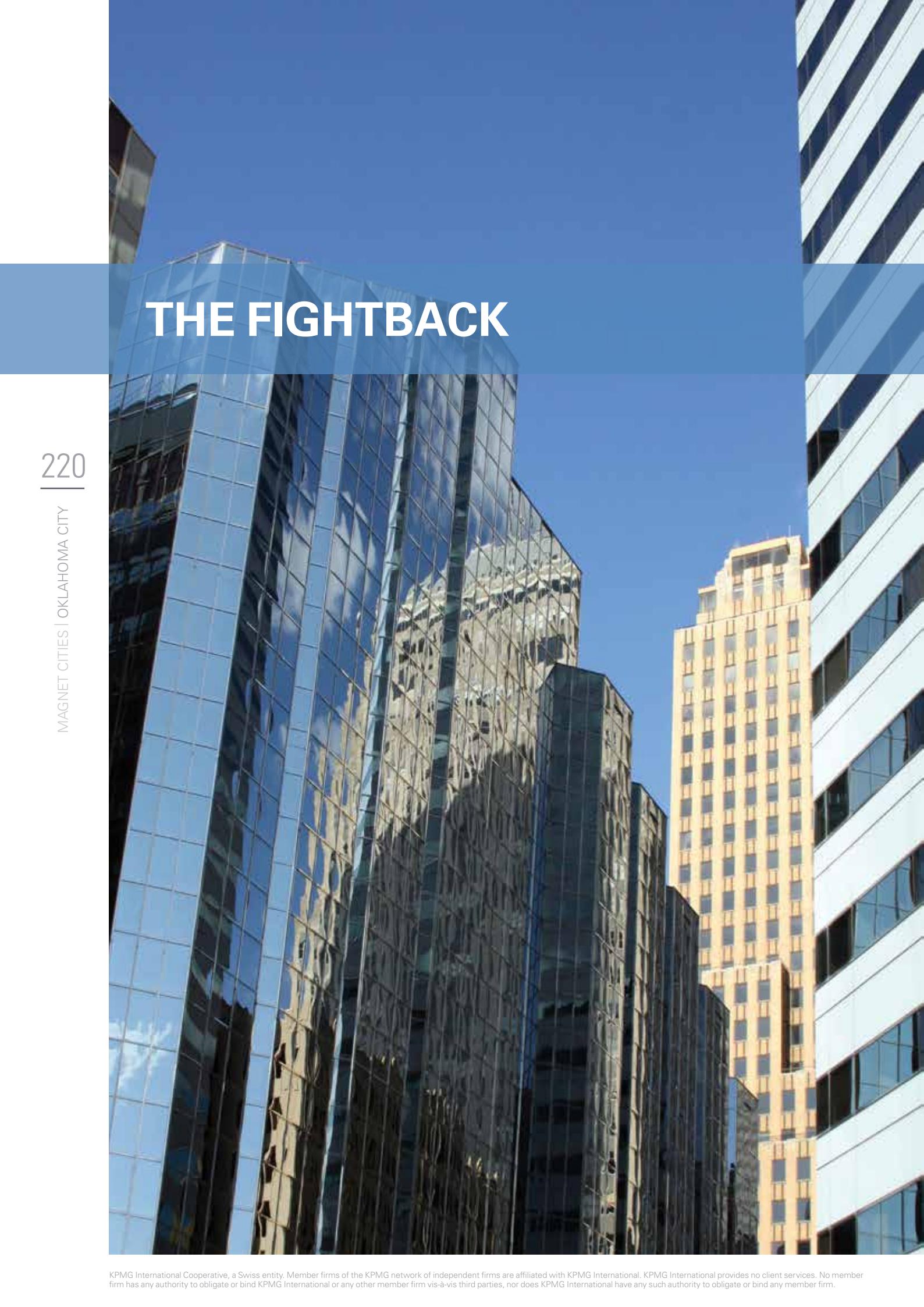
During the late 1980s while Oklahoma City settled into a funk, the rest of the US went on a Rolex-buying, champagne-swilling binge. Oklahomans didn't feel good about themselves or their city. In the words of David Holt, "growing up in Oklahoma City in the 1980s was like living in an alternate reality outside of American pop culture<sup>251</sup>." It was during these years that an entire generation of Oklahoma City's young, the city's future wealth creators, left for booming cities elsewhere.

In 1987 the city voted in Ron Norick as Mayor. Desperate to find a way to begin the depressed city's recovery, he hatched a bold plan to lure a large employer back into the city to replace some of the lost oil jobs and give the city a boost. The target was United Airlines. The airline was looking to relocate its central maintenance and logistics depot. With Tinker Airforce Base just outside the city, it seemed a natural fit with the city's skills base. To tempt United Airlines to Oklahoma City, Mayor Norick did something amazing. In December 1993 he persuaded the city's residents, a staunchly Republican and anti-taxation electorate, to vote in favour of a one cent rise on Oklahoma City sales tax. The funds would be offered to United Airlines to develop the new site. In essence, the people of Oklahoma City offered to pay United Airlines a cash subsidy to move to their city.

And despite this gesture, United Airlines said no and chose Indianapolis instead. Why? The executives of United Airlines wouldn't move their employees to Oklahoma City. There was nothing to do. The downtown was run-down with block-sized empty lots thanks to two decades of Urban Renewal. There was only one hotel, no shops and few restaurants. There were no major sports teams or sporting events. Cash couldn't make up for the city's poor quality of life. It was the moment Oklahoma City reached rock bottom.



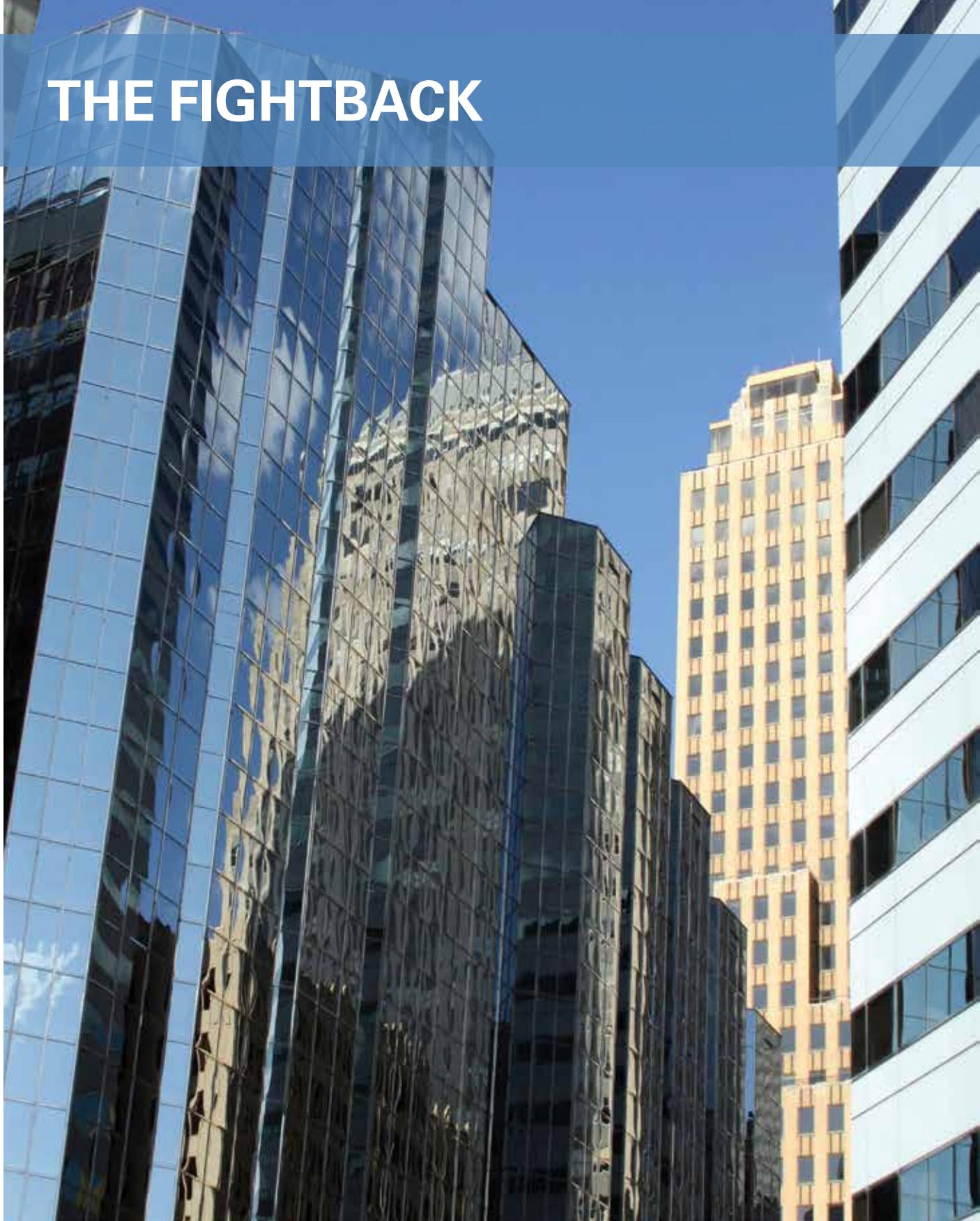




# THE FIGHTBACK

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“... funds would be invested in the city to undertake physical improvements, improve the quality of life and change the city’s identity.”

As the city reeled from United Airline’s rejection, Mayor Norick had another idea. Instead of offering a dowry to a large corporate like United Airlines, the people of Oklahoma City could instead invest the money in their city; to make it magnetic again. If the city was not good enough for United Airline’s employees, then it wasn’t good enough for Oklahoma City’s residents either. And this is how the concept of ‘Metropolitan Area Projects’, or MAPS was born. Mayor Norick again asked the city to vote for a one cent increase in city sales tax. But this time the funds would be invested in the city to undertake physical improvements, improve the quality of life and change the city’s identity. Fifty four percent of the city’s residents agreed with the gamble and voted to back the Mayor’s MAPS plan<sup>252</sup>.

Some residents were suspicious of MAPS initially; it looked like another attempt at Urban Renewal. To counter this, the MAPS team published all development plans and cost projections. The local television station aired a programme called ‘MAPS Watch’ which scrutinised every project delay and increase in cost. To counter the dissent, the Mayor appointed 21 people from all walks of life, small business owners, retailers, housewives and retirees, onto a MAPS Citizens Oversight Board to oversee the nine projects<sup>253</sup>. The Oversight Board scrutinised and challenged each invoice and made decisions on paint colours and building renders.

With all of this governance in place the MAPS team started the process of acquiring land and commissioning architects. Progress was slow during the first couple of years because the projects were funded on a ‘pay as you go’ basis. That is, the city first had to accrue sales tax receipts before money could be spent on architects and construction.

Just as people began to become frustrated by the slow progress, the unthinkable happened. A young man with no previous connections to Oklahoma City parked a van filled with explosives outside of the Alfred P. Murrah building, a Federal government building that housed local staff from over 17 national agencies<sup>254</sup>. The fertilizer and diesel-fuelled blast was enormous. More than 300 buildings were damaged or destroyed, some more than a mile away<sup>255</sup>. At the final count 168 people were killed, including 19 children, and several hundred were wounded<sup>256</sup>. This was a devastating moment. Not only were hundreds of families across the devout and tightly-knitted community affected, but much of what was left of downtown Oklahoma City had been destroyed. On top of that Oklahoma City now stood for destruction and heart-ache in the nation’s mind.

The community launched a fightback. These were the grandchildren and great-grandchildren of Oklahoma City’s tough and determined land-run settlers. In response to the bombing, public opinion swung behind the MAPS programme as the city’s only way forward.





## The Fightback

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### Physical renewal and downtown Oklahoma City

In the first round of MAPS projects, the city focused on a number of capital projects that would bring life back into the blighted downtown. The city leaders understood that the creation of a vibrant downtown area that drew people out from the suburbs, not to just work from nine to five, but to use at night, visit during the weekends and live in was essential. If people did not come together in the downtown, the city would remain a collection of suburbs. Bear in mind, Oklahoma City is one of the largest cities by geographical spread. And this would make it impossible to build a city-wide identity. The city leaders also understood that not all younger people want to live in suburbs. Many prefer downtown living, something which at that point was not a possibility in Oklahoma City.

The first project was completed in 1998 and was the construction of the new Bricktown Ballpark. Oklahoma City's minor league baseball team was based outside of the downtown at the State Fairgrounds. The team was threatening to leave the city because of the poor state of their facilities. The city acquired land in Bricktown, a largely abandoned warehouse district in the city. At a cost of USD 34 million the city built a new vintage-style, 12,000 seat ballpark that drew upon the architecture and history of the city<sup>257</sup>. The Ballpark became the Oklahoma City RedHawk's new home and the team immediately started to play to sell-out crowds at the downtown ballpark. For the first time in years, families visited downtown again to go to baseball games. Restaurants and bars opened nearby. There was traffic during weekends and weeknights.

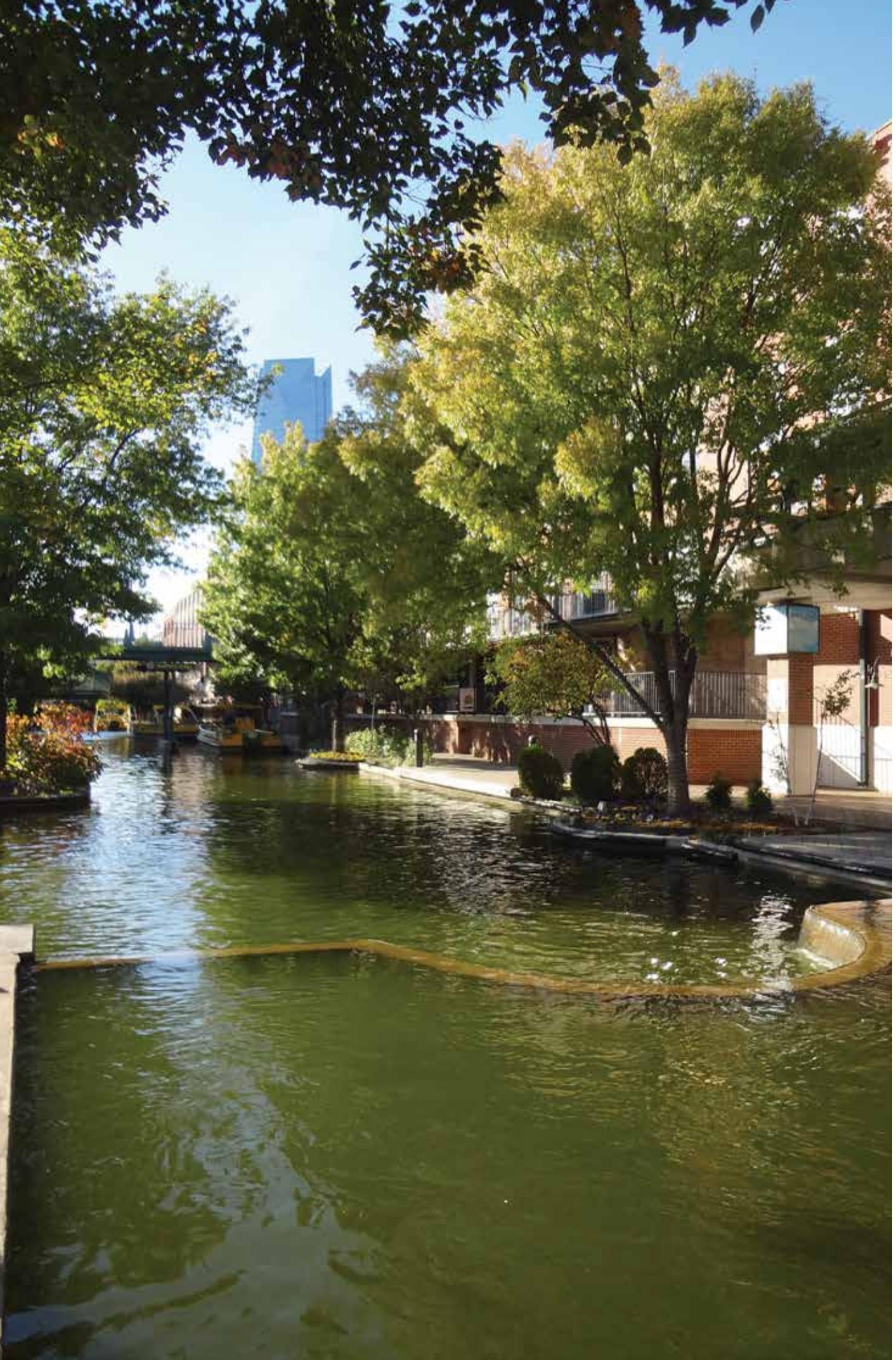
Next the city built a new downtown stadium to National Hockey League (NHL) and National Basketball Association (NBA) standards. The city had neither an ice hockey team, nor a basketball team so this was a gamble. But a new philosophy was emerging, 'if we build it, they will come'.

In its early days the Ford Arena (now Chesapeake Arena) became a regular touring destination for rock and pop stars. The seat area was large enough for major artists to include Oklahoma City on their tour schedule. And Oklahoma City's entertainment-hungry residents snapped up tickets so shows were regularly sold out.

And then Hurricane Katrina hit New Orleans in 2004. New Orleans' NBA team, the Hornets, required a temporary home since the city of New Orleans was using the SuperDome to temporarily house thousands of people. Oklahoma City's brand-new Ford Arena was the only arena close enough that could immediately host the New Orleans team. The people of Oklahoma City were delighted and for two full seasons Oklahoma City cheered on their adoptive New Orleans basketball team. By the time the Hornets returned home to New Orleans, the NBA was convinced that Oklahoma City could support an NBA franchise.

Now Oklahoma City's residents were starting to use the downtown once again, city leaders turned their attention to new housing. If the city was going to attract new residents, it would need new housing downtown, housing that attracted younger people. The city focused on Bricktown, an empty area of downtown that was filled with old warehouses as well as the new baseball stadium. The programme architects came up with a cunning idea. To make the area more attractive and bring it to life they proposed digging out a series of canals out of the flat land, to run between the empty warehouses. The canals would be fed by the Oklahoma River. The city took an almighty gamble and built a one mile canal system in downtown Bricktown.

The gamble quickly paid off. Almost immediately private developers started to buy up the old warehouses and convert them into loft style apartments. Laid back restaurants and sports bars opened. Within a period of a few short years, the Bricktown area had been transformed from derelict land to a vibrant downtown quarter, busy both day and night.





## The Fightback

Next the city had to provide more things for these new urban, outdoorsy residents to do. The Oklahoma River had been so neglected it was covered in a thick moss that was literally mowed three times a year. Here was a major city asset that was unused. The city spent USD 54 million to dredge and bring the river back to life and turn it into an outdoors area with grandstands and a floating stage<sup>258</sup>. The city is currently constructing a state of the art white-water kayaking facility. The city's ambition was bold. The river investment would make Oklahoma City known for river sports. It would help to establish the city's identity as a great place for people to live. Today the river is an important recreational area of the city as well as an Olympic kayaking and rowing training site. Soon it will be the only place in the country where flat-water and white-water competition is possible.

During the initial MAPS programme the city also modernised the downtown convention centre and undertook a creative redevelopment of the city's much loved art deco Civic Centre Music Hall.

Instead of replacing the Music Hall, one of the city's grandest and oldest buildings, the city commissioned a small, acoustically-perfect concert hall to be built and suspended in the middle of the larger space. It was this sort of creative problem solving that made the programme such a success.

The final major investment was the construction of a huge four-story library that fills a whole downtown block next to City Hall. The library was named after Mayor Norick and is used by primary, secondary and college students, older residents and holds community classes and computer labs. In the age of the internet and digital readers, Oklahoma City continues to invest in its flagship and satellite libraries as they continue to prove popular gathering points.

Not all of the projects were completed without delay or increased costs. The Mayor and his team had to go back to the residents and ask for a six month extension on the initial five year sales tax term. Sixty-seven percent of the population voted yes<sup>259</sup>. For the first time in decades, Oklahoma City's residents were rediscovering pride in their city.

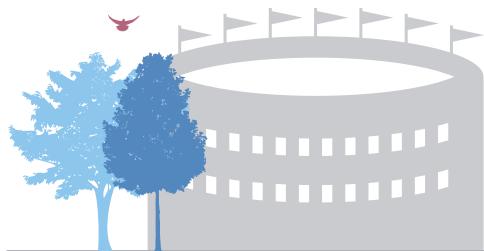


## MAPS management

All of the original and ongoing MAPS projects are managed by staff in the Oklahoma City department of Public Works. This small department of 6-8 people runs the projects on a day to day basis, whereas in many cities this function is contracted out. Over the last twenty years this team has developed their own set of project management tools including models to forecast sales tax accruals, project cost forecasting and project plan methodologies. Each team member procures and oversees all of the architecture, structural engineering and construction contracts directly.

The project managers report to the MAPS Projects' Resident Oversight Boards on a regular basis to explain whether the project is ahead or behind plan (and why), provide updates on the contract costs and obtain steerers from the community. This is an extremely lean and effective operation that saves the City 10 percent to 15 percent in costs, the cost of external professional project management<sup>260</sup>.





## The Fightback

### Leveraged private investment

Throughout this initial programme of works the city raised and spent USD 363 million through the one cent sales tax<sup>261</sup>. That initial seed investment attracted a further USD 2.4 billion of private investment<sup>262</sup>.

The cost of building the canal system in Bricktown was matched and exceeded by private developers buying derelict warehouses and converting them into lofts. Restaurant chains, shops and bars leased premises downtown for the first time.

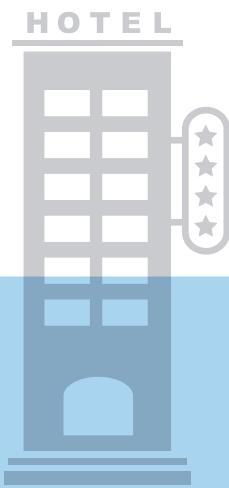
As the Chesapeake Arena was remodelled, Marriot Hotels acquired land next door and built a large hotel. The Renaissance chain did the same next to the Cox Convention Centre following the city funded refurbishment. Private investors bought the derelict Skirvin Hotel, the city's only historical hotel which had been moth-balled for decades, in a Joint Venture with the city.

What was so clever about the MAPS projects was not just that the projects were paid for in real-time with cash, but that the selected projects attracted significant private investment. This is because the city's leaders saw themselves as fundraisers on behalf of the city and its residents. They met with businesses, developers, investors and financiers to pitch the opportunities of Oklahoma City and helped to broker deals and investment that fundamentally reshaped the city.

### Quality of life and schools

As an array of new public works was completed and developers and hotel chains moved into the city for the first time in years, a new problem became clear. Oklahoma City was still finding it difficult to attract families and businesses because of the state of the public school system. Oklahoma City's public school outcomes were poor, the result of years of chronic under-investment. The physical state of buildings and facilities was poor and the many schools, particularly those in the downtown, were at the bottom of league tables.

But there was a difficulty. Oklahoma City's schools are funded and operated by the 24 different school districts and not by the city<sup>264</sup>. In 2001 the incumbent Mayor, Mayor Humphries persuaded Oklahoma City's residents to apply the concept of MAPS to the schooling system. The city proposed a one-cent, seven year sales tax to fund capital improvements to schools across the city.

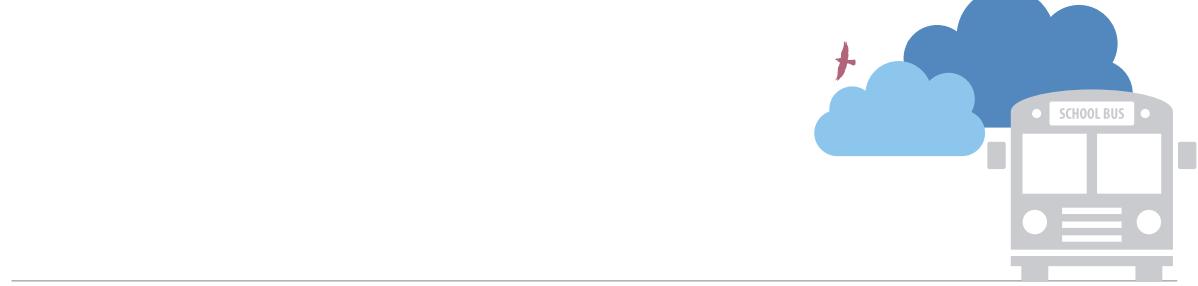


### The Skirvin Hotel

Oklahoma City now had new attractions, a concert arena and ballpark, but didn't have a luxury hotel in which travelling popstars and dignitaries could stay. Built in 1911, the Skirvin Hotel was once the charming jewel in Downtown's crown. William Skirvin employed Solomon A. Layton, the designer of the Oklahoma State Capitol building to construct a beautiful hotel that would stand out for decades to come.

During its heyday, it was the overnight stay for some of the world's most prominent individuals, from presidents and politicians to actors, athletes and entertainers including Elvis and Frank Sinatra. In 1989 the hotel went bankrupt as the city's economy sunk and it sat derelict for the next 19 years. Private investors were attracted to the site, but believed it to be more cost efficient to raise the building and start again, than to refurbish it. But the building was an important part of the city's heritage. So the city cut a deal and co-invested in the redevelopment of the hotel alongside private investors and raised USD 55 million<sup>265</sup>. The Skirvin was reopened in 2007 and is now managed by the Hilton chain. This story reflects the city's determination to leverage its heritage.

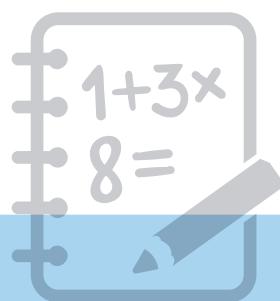




## The Fightback

Seventy percent of sales tax receipts would be directed towards the downtown district, with the remaining thirty percent funding improvements across the other 23 suburban school districts<sup>265</sup>. If Oklahoma City was going to attract a generation of young wealth creators back into the downtown, it needed to invest in schools in addition to housing. Again, a referendum passed with 61 percent of the vote to implement a time limited sales tax increase to fund the schools improvement programmes<sup>266</sup>. As there was a sense of urgency (the city couldn't afford to wait two years for sufficient tax receipts to roll in), the citizens also voted to issue a municipal schools improvement bond.

'MAPS for Kids' was launched. More than USD 514 million was collected in sales tax receipts and an additional USD 180 million was raised through the bond issue<sup>267</sup>. Through the programme, more than 70 schools were rebuilt or refurbished, 160 school buses purchased and thousands of new computers provided<sup>268</sup>. The public school system remains a challenge today, but everyone agrees the MAPS for Kids programme was an important first step.



### MAPS for Kids Bond Issue

Like several other states, Oklahoma uses Tax Increment Financing (TIF) as the basis of bond issues. In Oklahoma City residents pay city sales tax and city property tax. As the city was investing heavily in downtown Oklahoma City through the MAPS programme, the city designated two areas of downtown as TIF districts.

### Oklahoma City goes on a diet

In 2004, the city elected a new Mayor who would take Oklahoma City's renewal to the next stage. Mayor Cornett came from a non-political background. Most of the city knew him as the sports anchor from the local news for over two decades. In the last years he had also covered City Hall.

When Mayor Cornett took over, the city was in the early stages of its upswing. The investment in the downtown and city schools was creating a buzz about Oklahoma City. The city was starting to appear in national lists as a top ten city for business, or place to get a job<sup>269</sup>. Then in 2007, Oklahoma City appeared on a new list. Men's Health magazine listed Oklahoma City as one of the fattest city in America<sup>270</sup>.

The Mayor was worried. The city was just beginning to establish a positive new identity – that of a fun, outdoorsy Midwestern city. If nothing was done Oklahoma City could become short-hand for fat-America. As the Mayor caught his reflection in a mirror he realised Oklahoma City's problem was also his own; two years in office and he had already put on 20 pounds of extra weight<sup>271</sup>.

On New Year's Eve 2007 the Mayor gathered the city's press to make an announcement. In 2008, Oklahoma City was going on a diet. He challenged the city publically to lose one million pounds. To help, the Mayor launched a website, [www.thiscityisgoingonadiet.com](http://www.thiscityisgoingonadiet.com), with information on nutrition and exercise which cost a couple of hundred dollars.

Property values are measured on an annual basis and a new property tax is levied. As property values increase, so do property tax receipts, enabling the city to repay the principal and interest on bonds. This system works well in areas where property prices are depressed and there is significant investment planned to improve an area.





## The Fightback

Residents would log their current and target weight and track their progress. The website aggregated everyone's weight loss up to a city-level figure. The city took on the challenge. Mayor Cornett posted his weight-loss progress alongside 40,000 other residents<sup>272</sup>. Schools talked about nutrition. Churches started running clubs. Workplaces started exercise classes. Local restaurants including Taco Bell introduced 'Mayor's Special' healthy dishes. Ellen DeGeneres, a famous US talk-show host, covered the Mayor and his programme on national television, as did several national newspapers. It was brilliant publicity for the city. The story of Oklahoma City's turnaround became more well-known as people heard of Mayor Cornett and his city-wide diet. The city met its target of losing one million pounds just months into the challenge. The following year a (slimmer) Mick Cornett was re-elected Mayor with 87 percent of the vote, the highest of any mayoral candidate in Oklahoma City history<sup>273</sup>.

Mayor Cornett had been a great advocate of the previous two MAPS programme. As he and the city were undergoing their collective diet he had found it difficult to run and bicycle around the car-centric city. The city had come a long way, but more could be done to further improve the quality of life, particularly for people who liked to be outdoors. Following public consultation, the Mayor and his team identified eight major projects to take to a referendum for a third round of sales tax.

The timing was less than perfect. It was 2008 and the US was caught in the middle of a perfect storm of housing foreclosures and bank bailouts. Even when faced with the greatest economic decline since the great depression, Oklahoma City voted in favour of 'MAPS 3'. This is a testament to the power of direct local taxes paying for specific local projects.

Many of the projects were based in an area of the downtown called the 'core to shore' area. It is 750 acres of land squeezed between downtown and the Oklahoma River<sup>274</sup>. The land was scattered with empty warehouses and an Interstate cut the area in half. The city moved the Interstate to create one new area from core to shore.

On this land the city built a USD 130 million, 70 acre park and a major new convention centre (USD 280 million) to replace the aging Cox Convention centre<sup>275</sup>. Fifty miles of new running and bicycle paths were laid across this area and the rest of the city<sup>276</sup>. More than 70 miles of sidewalks were built to get people walking instead of driving between city neighbourhoods and sites<sup>277</sup>. Health and Wellness Centres designed specifically for seniors were built. The city spent all of the funds to improve the pace and quality of life in the city. More and more young people moved into the city. The brand-new bike trails, loft apartments, cool restaurants and sports teams lured them in.

## Oklahoma City and the NBA

Sports also helped Oklahoma City to get its magnetism back. When Mayor Cornett took office, the New Orleans Hornets had returned home. The Mayor and Oklahoma City's business leaders were determined to land their own NBA franchise. Oklahoma City had proven to the NBA that they could produce the ticket sales and television audiences required to support an NBA franchise of their own. With this in mind a group of Oklahoma City businessmen led by Clay Bennett went shopping. They quickly landed on the Seattle Sonics, owned by investors including the CEO of Starbucks, Howard Schulz. The Sonics' owners were in dispute with the Washington State government, owners of their home arena. The arena was run-down and the Sonic's owners weren't making adequate returns so Clay Bennett and the Oklahoma City investor group swooped in and bought the team. The NBA had been impressed by the city during the Hornet's period and readily signed off the transfer deal.

By 2006, Oklahoma City was a city with an NBA franchise. Considering the city had built the sports arena on a gamble, this was a pretty incredible result. During their first season, the Oklahoma City Thunder (the team was named for the region's frequent storms) had a tough time and lost game after game. Yet still, the arena was packed to capacity with total ticket sales for the first season exceeding 765,000<sup>278</sup>. Today the Oklahoma City Thunder regularly comes first in the Northwest Division of the Western Conference.





## The Fightback

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### Oklahoma City Business Improvement District

Another reason the city was attracting attention was because of the clever marketing of the historical districts. Oklahoma City, like many others, established Business Improvement Districts. A separate organisation, Downtown Oklahoma, provides services beyond what the city provides under statute; in return businesses pay 'dues'. For instance, downtown businesses pay for additional cleaning crews, city guides, security and targeted marketing of historical assets and streets to film production companies.



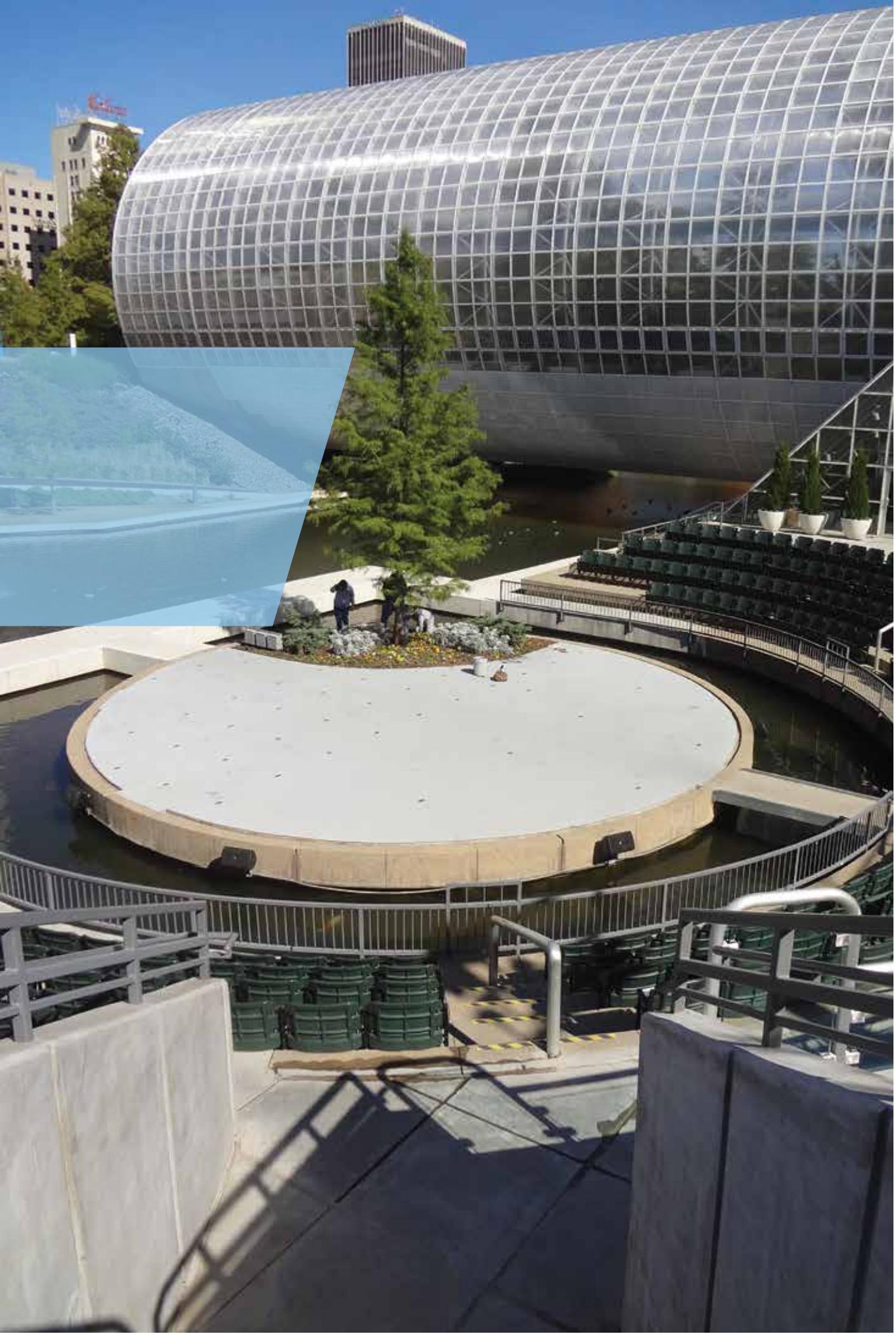
### Big business comes back

What is interesting about the Oklahoma City story is the fact the city did not pursue a specific commercial or economic development strategy. All of the renewal's focus was targeted on the city as a place to live, not as a place to do business. After the United Airlines debacle the city had taken a laissez faire approach to courting business: if you build an interesting city, they will come.

The revived Bricktown, new lofts, restaurants, core to shore, cleaned up river, bike trails, running trails, sports teams, great restaurants, and city-on-a-diet-mania drew young, educated people into the city. Some were young and out of college with no prior connection to the city. They were intrigued by the buzz about it. Some of the city's lost generation started to come home after years in other cities. They were proud of how their city had turned itself around and wanted to be part of it.

And as a direct result of this, businesses started to show-up on the city's doorstep. They were following the young and educated who were moving into the city. If their target employees wanted to live in Oklahoma City, then business was happy to accommodate. The war for talent forces companies to be flexible. The city's emphasis and investment in healthy, clean living was also very appealing to companies worried about the rising cost of health insurance for their employees.

Boeing Airlines moved a large facility from California to the city in 2012/13. Southwest Airlines and GE have established new operations. Northrup Grumman is expanding its existing operations. AT&T and Cox Enterprises have established Oklahoma City as their Regional Headquarters. These are companies Mayors across the land salivate over. Meanwhile home-grown gas and oil companies such as Devon Energy and Chesapeake Energy are now thriving Fortune 500 companies. Their growth is in part due to the wider pool of talented young that now live in the city. Young professionals who once would only consider living in New York, Boston, Dallas or Los Angeles are now happy to move to Oklahoma City.

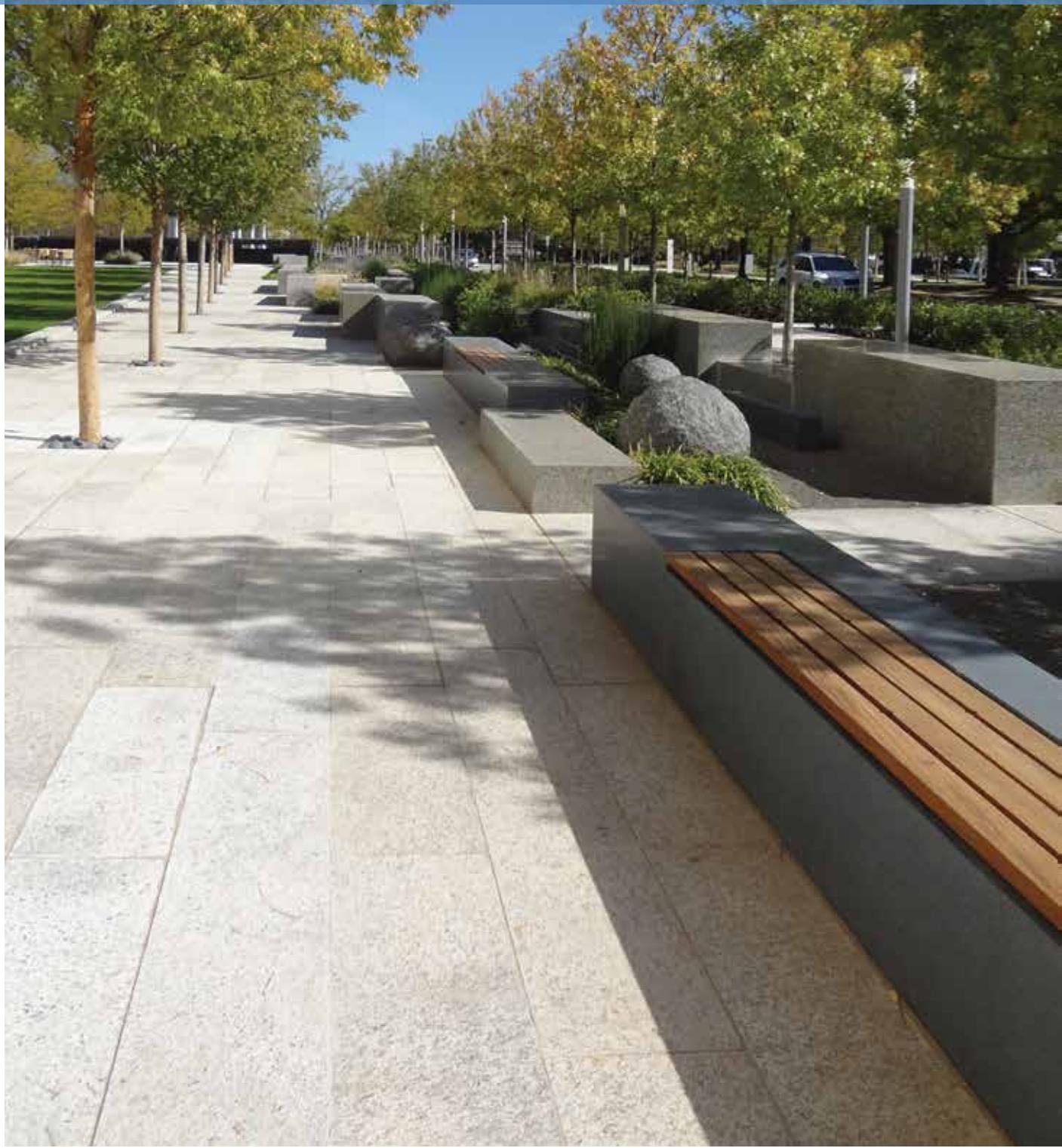




# THE VICTORY

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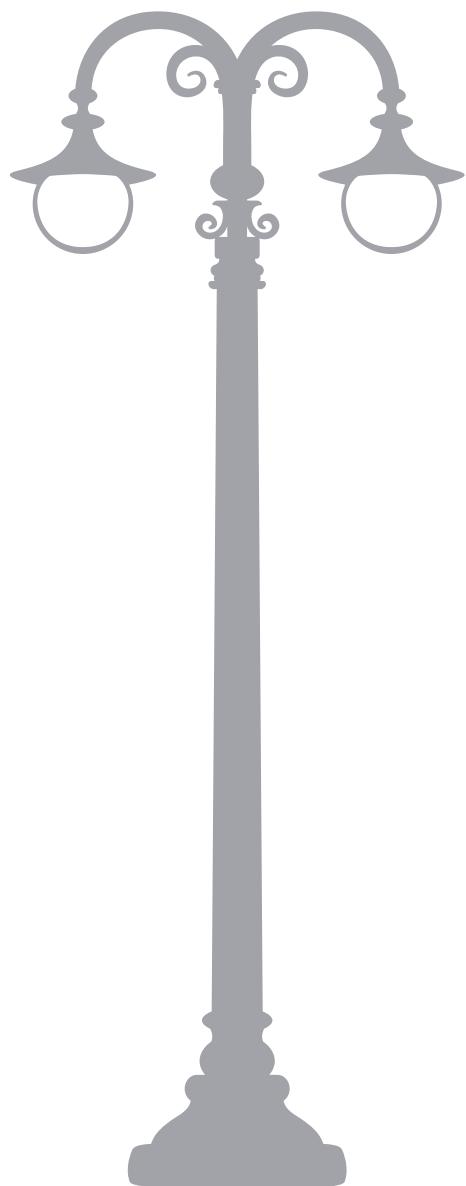
MAGNET CITIES | OKLAHOMA CITY



“The city’s GDP growth rate has outstripped the national average for eight of the last ten years.”

Today, the future of Oklahoma City shines bright. The city’s GDP growth rate outstripped the national average between 2000 and 2010<sup>279</sup>. Population growth has flipped from negative to positive and increases by about 1.3 percent annually<sup>280</sup>. But the real success of Oklahoma City is threefold. First, the city now attracts a new group of energetic and vibrant young people who breathe life into the city. Some live downtown, many use the downtown and most work downtown. They have put the magnet back into the downtown and magnetised the city.

Second, the city has improved dramatically to the benefit of all the city’s existing residents. This is a proud population who have all played a role to finance and shape their city’s changes. And feel good factor on that scale is very difficult to pull off. Third, young Oklahoma City natives who would once have left, are now choosing to stay in their city. Which is not a surprise given Oklahoma City has one of the lowest unemployment rates in the country amongst large cities<sup>281</sup>. The cost of living is significantly below the national average whilst wages are higher than the national average<sup>282</sup>. And to top it all, the city is also now one of the slimmest in America<sup>283</sup>.



# THE PRINCIPLES

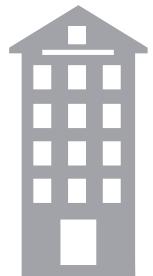
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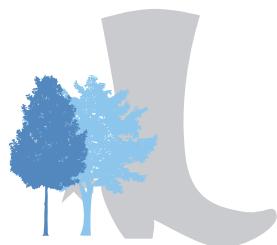
## Magnet cities attract young wealth creators

The overriding objective of Oklahoma City's renewal effort was to attract young and educated generations back into the city. They followed the philosophy that good jobs follow good people. To recover the city and its economy, the city first had to attract new people.



## Magnet cities undergo constant physical renewal

The city continues to reshape and redefine areas of the city. Old areas of downtown have been brought back to life, new attractions have been built, and the city has cleverly married urban living with outdoor pursuits. The current development of the 'core to shore' continues thus momentum. City leaders are already considering the next area of the city to tackle. They understand that to keep the city fresh and exciting, it must evolve and change.



## Magnet cities have a definable city identity

Oklahoma City's leaders have worked hard to establish a new clear identity for the city. The quirky combination of an old western town, with an urban downtown area and a healthy, outdoor living is proving popular.



## Magnet cities are connected to other cities

Oklahoma City has a modern, new airport which was completed in 2006. The airport is just 30 minutes from downtown and most US airlines fly to the city.



“To recover the city and its economy, the city first had to attract new people.”



### Magnet cities cultivate new ideas

Oklahoma City's economy is based on large corporates. With that said the city has rezoned historical areas of the city, like Automobile Alley, to encourage new young businesses to set up. The city has also actively encouraged the growth of native Oklahoma City businesses, such as Devon Energy, by supporting the development of a new USD 750 million complex downtown<sup>284</sup>.

### Magnet cities are fundraisers

Much of the city's renewal has been paid for private investment and developers. The city effectively used public funds as seed capital to leverage private investment.



### Magnet cities have strong leaders

The city has benefited from a series of strong Mayors each of whom took personal ownership of the city's renewal. The city is run on a day to day basis by a City Manager. This structure enables the Mayor to focus on the future of the city.



# TIMELINE

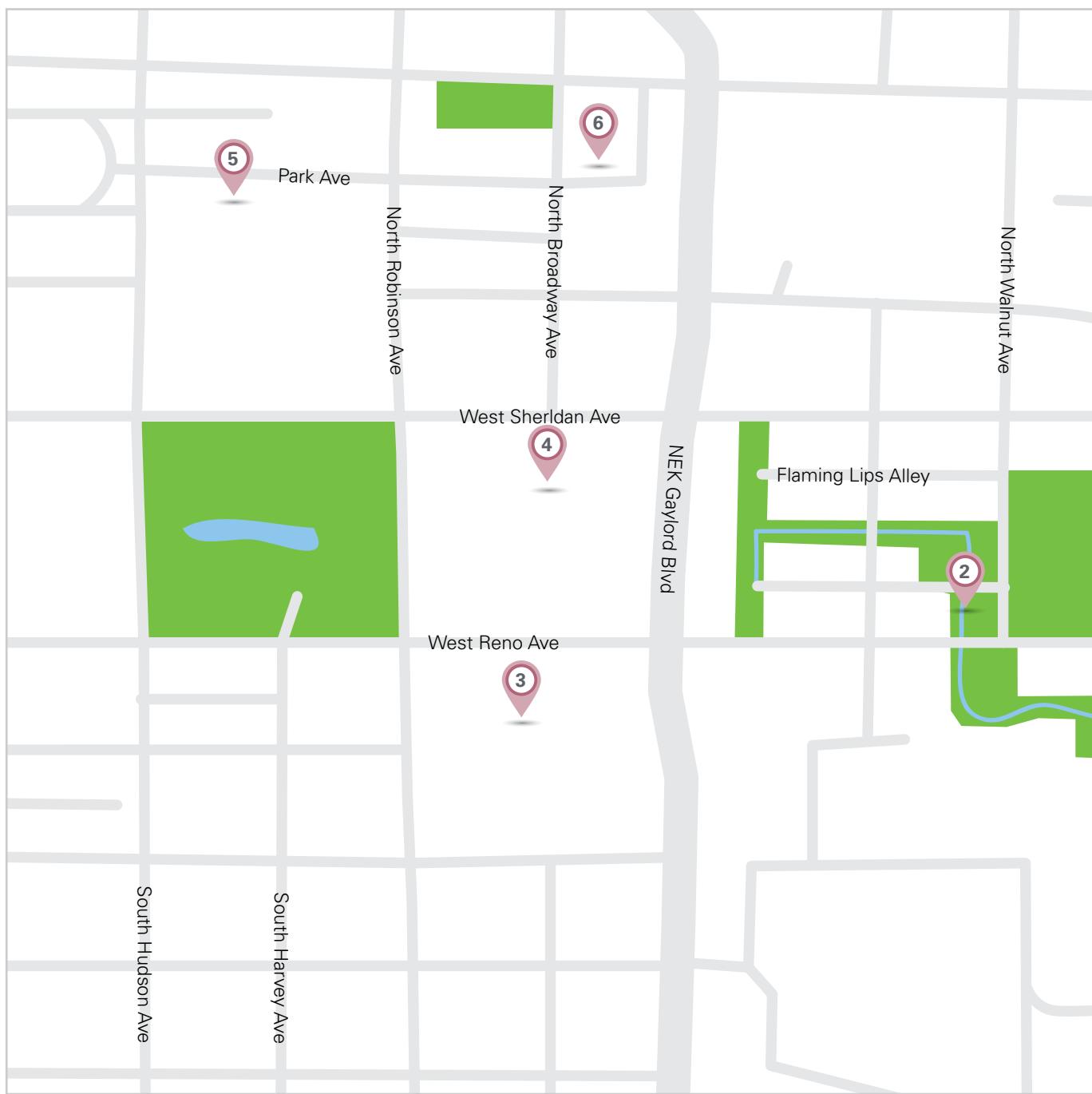




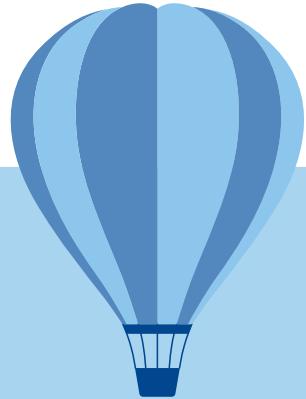
# MAP

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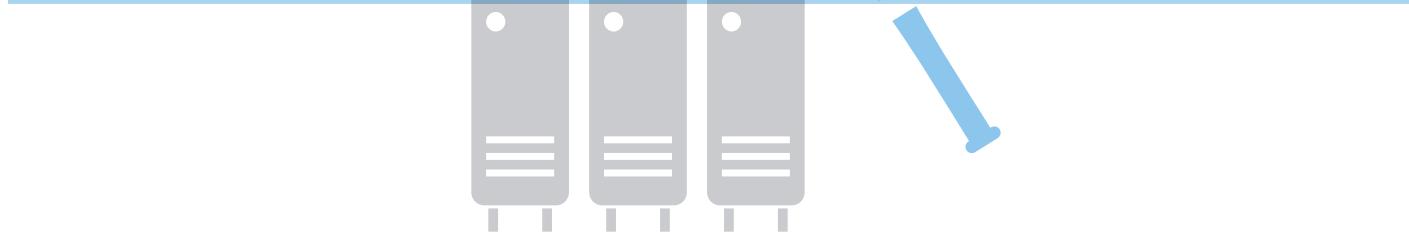


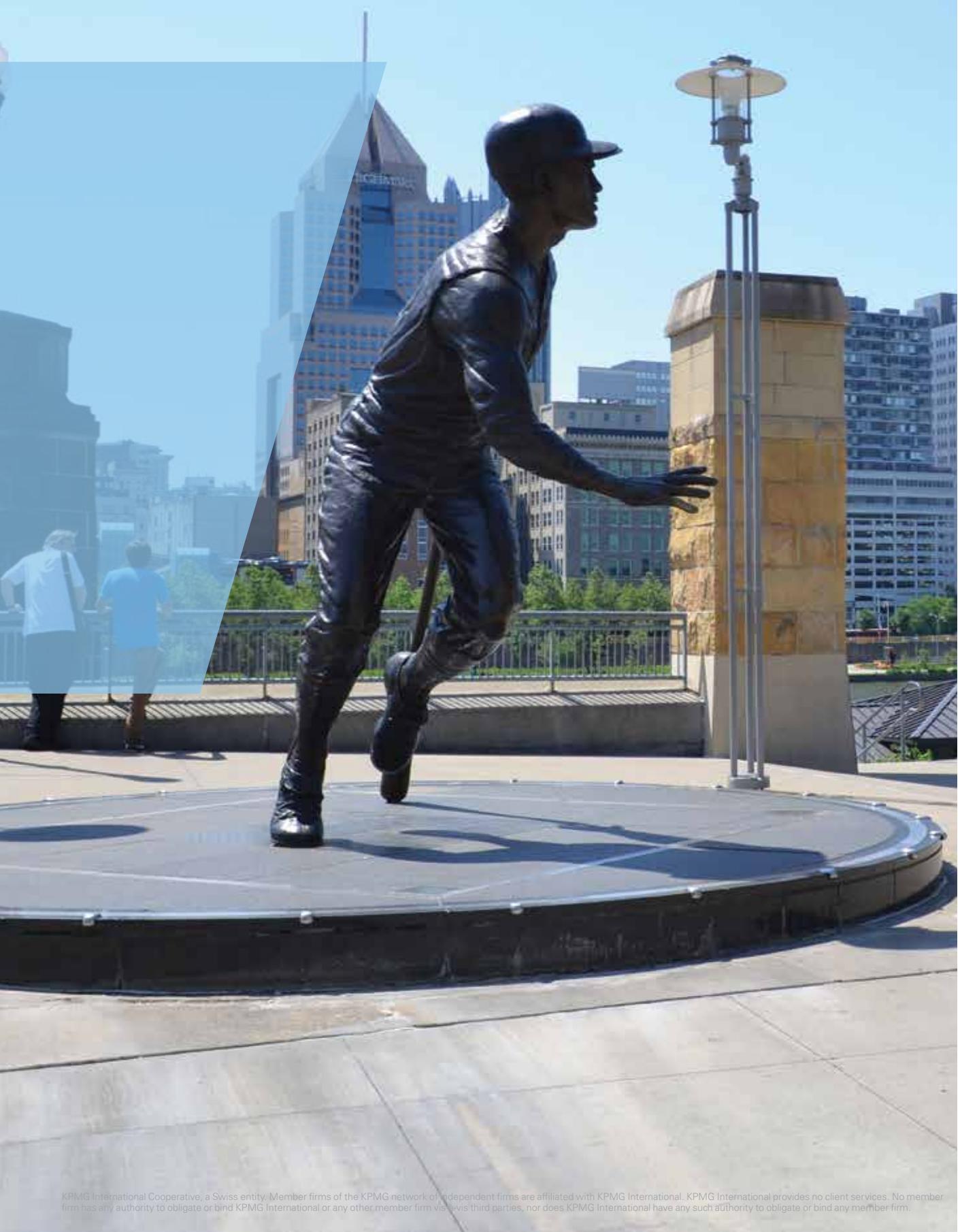




# Pittsburgh

The city that was reinvented by universities





# INTRODUCTION

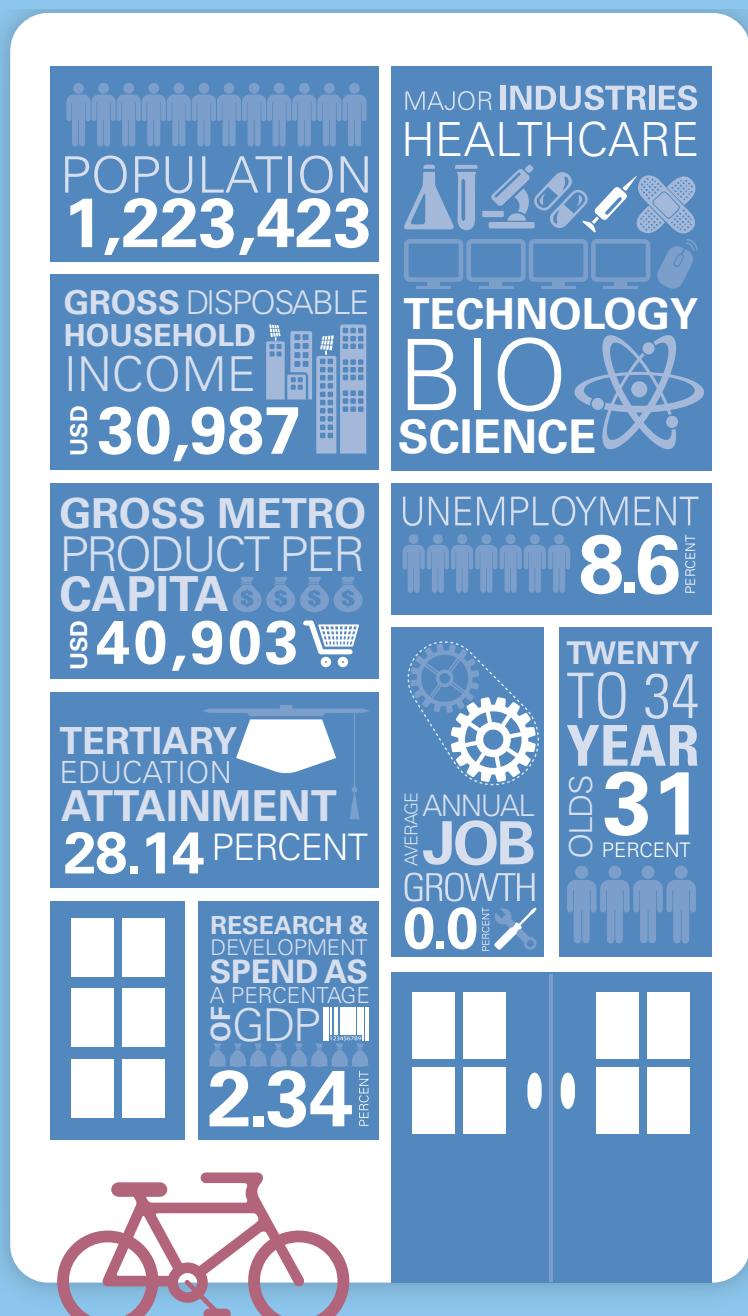
Pittsburgh is a lively city in western Pennsylvania filled with busy young people, two major universities and an array of epicurean bars and restaurants. The downtown of the city is squeezed into a triangular point between the confluence of two rivers; as a result the sprawling city is a web of bridges and different distinct neighbourhoods dotted on either side of the riverbanks. Even though the city has the economic mite of other large American cities, its people are as courteous and friendly as their small town neighbours. It is this mix of small town charm and new economy nous that gives modern day Pittsburgh its character. And Pittsburgh's new city character is drawing a lot of attention.

For the first time in decades, Pittsburgh is in the news for all the right reasons. The city will always be known as the heart of the US steel industry. Art aficionados know the city as the home of Andy Warhol, the American pop artist who used Pittsburgh-produced products like Heinz ketchup in his artwork. But in the last few years Pittsburgh has become known for something brand new; the rapid growth of its new economy. The city has become home to a generation of young people who are forming innovative new businesses in artificial intelligence, medical robotics, 3D printing and big data. And this is the reason Pittsburgh is frequently in the news. As America laments Detroit's demise, another single industry city, many are asking how Pittsburgh avoided the same fate. After all, the city's economy is today growing at a rate of 4.6 percent against the national average of 2.5 percent for US metropolitan economies<sup>286</sup>. And it is Pittsburgh's new economy, not its old economy that is driving much of this growth.

To those who have always lived in Pittsburgh, this turnaround in economic fortunes is astonishing. In the 1980s, when the bottom fell out of the steel industry, it looked like Pittsburgh was a city in terminal decline. While the federal government chose to support the ailing automobile industry in Detroit through subsidies and handouts, the same support was not given to Pittsburgh. Many argue this is the reason for Pittsburgh's success today. The city was given no choice but to reinvent itself.

This is the story of how one city recovered its economy by leveraging its educational assets to grow and attract new businesses. Pittsburgh's revitalisation was driven not just by Mayors and civic politicians; it was also driven by its universities and the two forward-thinking men who led them as well as a thriving and engaged business community. The story shows that a city can be reinvented by non-political leadership, but that leadership must be coordinated and prepared to lead from the front.

## PITTSBURGH METRICS<sup>285</sup>



# THE DECLINE

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## "The bottom literally fell out of Pittsburgh's economy."

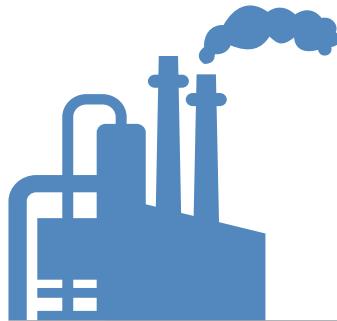
By American standards, Pittsburgh is an old city. The land on which Pittsburgh stands was the focus of a number of disputes between the English and the French during the latter half of the eighteenth century and was eventually won in battle by the British who named the city Pittsburgh after William Pitt the Elder in 1758.

Over the next century, Pittsburgh's entrepreneurial residents made a fortune by mining and processing raw materials as the land surrounding Pittsburgh was rich with iron. To convert iron into more malleable steel, iron ore content was reduced in blast furnaces. This required immense amounts of fuel. Fortunately the land around Pittsburgh was also full of soft coal, which when converted to coke becomes pure carbon. In the early years, Pittsburgh was not just a capital of iron mining, but also a capital of coal production. At its peak, 39,000 beehive ovens that converted coal to coke were dotted throughout the city<sup>287</sup>. Pittsburgh's coal business was so significant that the value of coal production to Pittsburgh's economy exceeded the value of all gold and silver ever mined in the US.

In the 1860s an Englishman called Henry Bessemer, working with an American called William Kelly, invented a simple new process to decarbonise iron in what was called a 'Bessemer converter'. The invention opened the door to the mass production of steel. Overnight Pittsburgh's coal and iron economy became the epicentre of the steel industry. The timing was perfect as there was huge demand for the product. America had just entered the age of the train and companies were competing to lay rail tracks across the country and establish dominant routes; this drove unprecedented demand for steel to produce the rails and tracks.

A Scottish Pittsburgh resident by the name of Andrew Carnegie headed up the Pennsylvania Railway company. He could see the potential of Pittsburgh's nascent steel industry, so left Pennsylvania Railway and set up Carnegie Steel, what was to become the country's largest steel company. Eventually the company was merged with several others into J.P. Morgan's U.S. Steel, which went on to become the main producer of US steel. And most of the country's steel was produced in Pittsburgh; by 1910, the city of Pittsburgh was producing 60 percent of the nation's total steel output<sup>288</sup>.

As a result, Pittsburgh became an incredibly wealthy city. The success of the steel industry drew new industrialists into the city. Pittsburgh natives went on to build a staggering array of American companies. It was the Silicon Valley of the industrial age. George Westinghouse founded Westinghouse Electric; the company first invented air-breaks for trains and alternating currents for light and power. Henry J. Heinz founded and built the largest pickle and condiment manufacturer in the world. Andrew Mellon established a large bank and became one the most important financiers of the age by taking care of Pittsburgh's money.



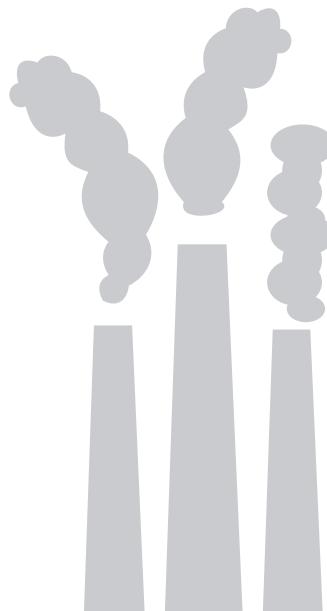
## The Decline

The rich industrialists built large mansions, some of the most gilded of the age, throughout the city. Many of Pittsburgh's wealthy citizens became committed philanthropists and established trusts which donated large sums to build theatres and museums in the city, often in their names. Andrew Carnegie founded a series of technical schools to help Pittsburgh's young prepare for industrial jobs. It looked as if Pittsburgh would sit in the pantheon of great American cities like New York, Boston and Chicago.

The businesses created during Pittsburgh's golden era of 1870 to 1910 went on to drive much of America's growth in the 20th century. And as a result the city has always been home to a staggering array of corporate headquarters, many spin-offs or corporate children on the great industrial companies formed at the turn of the 20th century. For instance Alcoa, Allegheny Ludlum, Consolidation Coal, Crucible Steel, Fisher Scientific, Gulf Oil, Harbison Walker, H. J. Heinz, Mellon National Bank, Mesta Machine, National Steel, Pittsburgh Chemical, Pittsburgh National Bank, Pittsburgh Plate Glass, Pittsburgh Steel, Rockwell International, United Engineering and Foundry, United States Steel, Westinghouse Air Brake and Westinghouse Electric were all headquartered in Pittsburgh in 1970.

But the majority of these businesses were concentrated in the production or use of steel. Not only was Pittsburgh's economy and labour force relatively undiversified, it had also become heavily unionised. Tensions between the wealthy industrialists and their workers went back to the Carnegie days; however unionisation had sped up after a long half-year strike in the late 1950s. Pittsburgh became a capital of the union movement and United Steelworkers, the powerful steelworkers union, established its base in Pittsburgh. Pittsburgh was no longer just a steel producing city. It was also a union city.

By the late 1970s and early 1980s, the cost of Pittsburgh-produced steel was becoming unsustainable. A combination of high labour costs and old-fashioned production techniques made Pittsburgh steel uncompetitive. In 1983 the situation became untenable. General Motors, one of the largest steel consuming businesses in the world, announced they would stop buying US produced steel if prices didn't come down. The Steelworkers Union threatened to strike. Overnight Pittsburgh's steel companies began to fall like a row of dominoes. Bethlehem Steel Corp announced it was cutting 10,000 jobs; LTV Corp announced it was closing its steelworks; US Steel announced major refinery closures<sup>289</sup>. The bottom literally fell out of Pittsburgh's economy. In one year alone 50,000 people left the region and the unemployment rate sky-rocketed to 18 percent<sup>290</sup>. Pittsburgh steelworkers and metal workers packed up their families and left. In just one year, Pittsburgh had become a negative magnet.





# THE FIGHTBACK

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## “Just as their fathers and grandfathers had before them, the younger generation decided to take matters into their own hands”

When Pittsburgh entered its dark years, the city was led by a young Mayor, Richard Caliguiri. Caliguiri had risen through the ranks of city government and had for a time run the city's parks. In the years after the crash, the bad news continued. Several large companies headquartered in Pittsburgh became targets of hostile takeovers, some companies couldn't survive the dire economic climate and others exited the city. Chevron bought Gulf Oil and promptly moved its headquarters out of the city. Westinghouse filed for bankruptcy. Rockwell International packed up and moved to California. As the years passed, jobs and people poured out of the city.

Caliguiri decided the city should invest in itself. It was an opportune moment to consider the future of the city's now empty downtown. Pittsburgh was to kick off an urban renaissance. This was not the first time the city had been down this particular road. The first urban renaissance took place in Pittsburgh at the end of World War II, and as a result the phrase and concept was well known across the city. At the end of WWII Pittsburgh had been in a state of some disrepair. The city's steel mills had played a pivotal role in America's war effort. The city's refineries and metal working factories had churned out steel tanks, trucks and guns throughout the war. But the city had paid a high price. Dense smoke blanketed the city and the small triangular downtown was congested with streetcars and traffic.

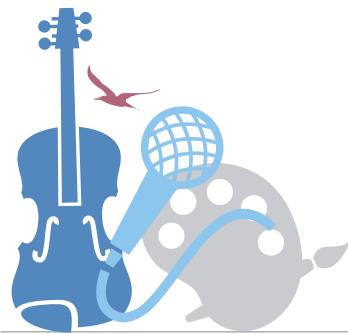
The children and grandchildren of Pittsburgh's original industrialists were now the city's business leaders and philanthropists. Just as their fathers and grandfathers had before them, the younger generation decided to take matters into their own hands. The group organised a large meeting called the 'Allegheny Conference on Community Development' in 1943 to discuss post war plans for the city.

Over 150 community leaders attended, including all of the city's most important corporate leaders and was led by Richard Mellon, heir of the powerful Mellon banking family. The group steered through a bold plan to redesign downtown Pittsburgh. Mellon personally cajoled local companies and railways to reduce air and water pollution levels. A new sewage treatment plant was built and highways were laid out to connect the downtown Pittsburgh triangle to its suburbs.

The great challenge was the redesign of downtown Pittsburgh. The tip of the triangular downtown was obscured by two large converging bridges. A number of railway warehouses, an unused convention centre and a large facility for impounded vehicles littered the surface under the two bridges. What should have been a clear, beautiful point overlooking the city was little more than an urban dump.

The Allegheny Conference agreed a new master plan for the downtown area was needed. The tip would be cleaned up and converted into a new 36-acre park. The two bridges that converged on the tip area like metal braces were to be dismantled; new bridges would be built upstream. The city's Urban Redevelopment Authority started to buy up land and almost immediately the impact on downtown could be felt. A 23-acre plot of land neighboured the 36-acre park plot which had been derelict for years. Suddenly with the advent of the Urban Renaissance master plan, the plot was hotly contested for. New developers came into Pittsburgh for the first time including Hilton Hotels. It is said that Conrad Hilton personally chose the plot of land on which the new Hilton Hotel was built. Over the course of the next decade a number of high-rise office building were built as well as residential apartments. All Pittsburgh residents are well versed in the impact Urban Renaissance had on the shape of Pittsburgh.

So when Caliguiri faced the post-1983 crisis, he pulled out the history books and suggested Pittsburgh begin a new era, that of 'Urban Renaissance Two'.



## The Fightback

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### Pittsburgh invests in the downtown

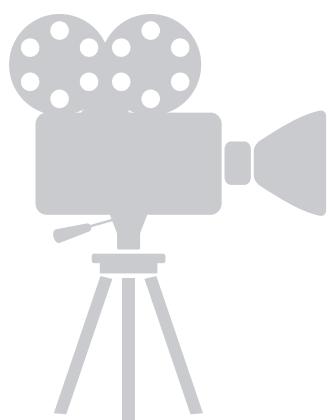
One of the reasons 'Renaissance One' worked so well was because City Hall and the Allegheny Conference worked hand in hand. This was not the case when 'Renaissance Two' was launched. The Allegheny Conference was still a very important Pittsburgh institution to which most businesses were still members. However the conference didn't think city government had done enough to prevent the city's economic troubles. For this reason, during the early years of Renaissance Two, City Hall led the programme on its own. The mayor commissioned a new convention centre and a light-rail transit line. By declaring specific buildings as blighted, the Mayor was able to execute compulsory purchase orders and sell the plots to developers. A number of Pittsburgh's tallest buildings went up during this period.

The exodus of population, with over 150,000 residents leaving during the mid 1980s, meant there was little left to do in terms of social entertainment and culture<sup>291</sup>. Mayor Caliguiri instinctively knew that if the city was going to compete against the great American cities once again, it had to offer a similar range of things to do. At about the same time, the federal government had invoked a number of rules and tax incentives to discourage the destruction of empty historic buildings, which frustrated the Mayor. It meant the Mayor could not rip down a ten block area of old warehouses and mercantile buildings at the centre of the downtown. The area was used mainly by purveyors of illegal night-time activities and gave the city a dangerous core. The city made some attempts to preserve the buildings and convert the area into a new cultural quarter although these didn't fully solve the problem. After a few attempts were made, the Allegheny Conference stepped in and created the Pittsburgh Cultural Trust. The Trust took over the redevelopment of the entire area and created a new unified cultural quarter that reuses the historical buildings. A new performing arts centre was built and art galleries and theatres were opened. A whole new vibrant quarter was established at the centre of the city which drew in residents from across the suburbs and brought people back into the downtown for the first time in years<sup>292</sup>.

Renaissance Two only lasted a decade and came to an end with the unexpected death of Mayor Caliguiri. While everyone is agreed that Renaissance Two did not quite live up to the ambitions of the original Renaissance programme, the Mayor's clear and decisive steps paved the way for what happened next.

### Pittsburgh makes room for the new

As Mayor Caliguiri and the Allegheny Conference debated Renaissance Two, the presidents of Pittsburgh's two main universities, Carnegie Mellon University (CMU) and the University of Pittsburgh were also putting their heads together. Carnegie Mellon was originally established by Andrew Carnegie as a group of technical schools designed to educate the city's young. A few years later the schools were merged into the Carnegie Technical Institute and eventually into Carnegie Mellon University, a private university. During the 1980s, CMU was led by Richard Cyert. Cyert was an economist and statistician and spent his research years analysing the behavioural theory of organisations. Literally next door to CMU's campus lay the University of Pittsburgh, one of the oldest universities in America. The University of Pittsburgh (UoP) had long been known as a leading research institution, particularly in medicine. During the 1950s the school's researchers had created the Pitt Vaccine, a vaccine which protected against polio, one of the great breakthroughs of the age. During the 1980s, UoP was led by a tough ex-Brigadier General, Wesley Posvar, Chancellor of the university.







## The Fightback

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Educated at West Point, Harvard University and at Oxford University as a Rhodes Scholar, Posvar was a no-nonsense man. CMU and UoP had been rivals for many years. However, at the point when Pittsburgh's outlook looked bleakest, the two men sat down and agreed both universities should drive the city's economic revival. But first, the schools would need to cease all intra-city competition. From that moment on, the two universities worked hand in hand to drive the diversification of Pittsburgh's economy and to establish it as an important centre of research and development.

Cyert decided that if the plan was to succeed, CMU would once again have to specialise. Over the years CMU had drifted away from its technical origins and started to offer faculties and degrees associated with liberal arts curriculums. Cyert believed the university should once again specialise to compete; the city would return to its technical and scientific roots and become one of the best in the world. Cyert oversaw the closure of a number of faculties, which was controversial at the time. He then used the freed-up funds and space to go after new faculty members from Stanford and MIT, many of whom were undertaking cutting-edge research. One of Cyert's early targets was Herbert Simon, a political scientist, economist and sociologist. Simon was one of the world's leaders in the areas of artificial intelligence and received the Nobel Prize for Economics in 1978.

Cyert lured Simon from Stanford University to work at CMU; quickly the young and bright followed him over. Simon was the magnet that drew young researchers and developers to Pittsburgh.

Early on, Cyert thought innovatively about the relationship between universities and economic growth. His concern was not theory, but how to practically convert university research into real-life jobs and wealth. One of his early experiments was the establishment of the Robotics Institute in 1979. Not only was it the first robotics institute established in the US, it was the largest academic research institution of its kind. From the outset it was a success. Not long after it was established, America experienced a large and scary melt down of a nuclear reactor not far from Pittsburgh at Three Mile Island in Harrisburg, Pennsylvania. The scientists at the Robotics Institute designed a joy-stick manned robot that was placed into the partially melted reactor to take pictures and readings. The robot was a success and the Institute's research programme was immediately validated. Today the Robotics Institute is home to 500 scientists and researchers exploring the application of robotics to defence, health and commerce.



## Robotics Institute

The scientists, researchers and the Robotics Institute continue to establish an astonishing array of new uses for robots and nano-robots across a range of disciplines. In 1996 the National Robotics Engineering Centre was added to the Robotics Institute to provide a commercialisation arm for the institute. Since then a number of successful robotics companies have been established and spun-out. These include:

- **Carnegie Robotics:** the company produces small robots that can be used to pick strawberries, or small berries, essentially mechanising a process that today requires human labour;
- **Aethon:** the company produces robotics solutions to help solve logistical issues in hospitals; and
- **RedZone Robotics:** the company produces small robots that travel through sewage pipes and identify cracks and other issues.

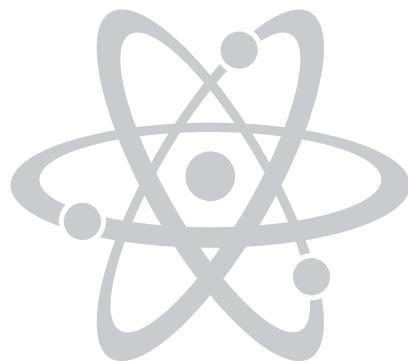


## The Fightback



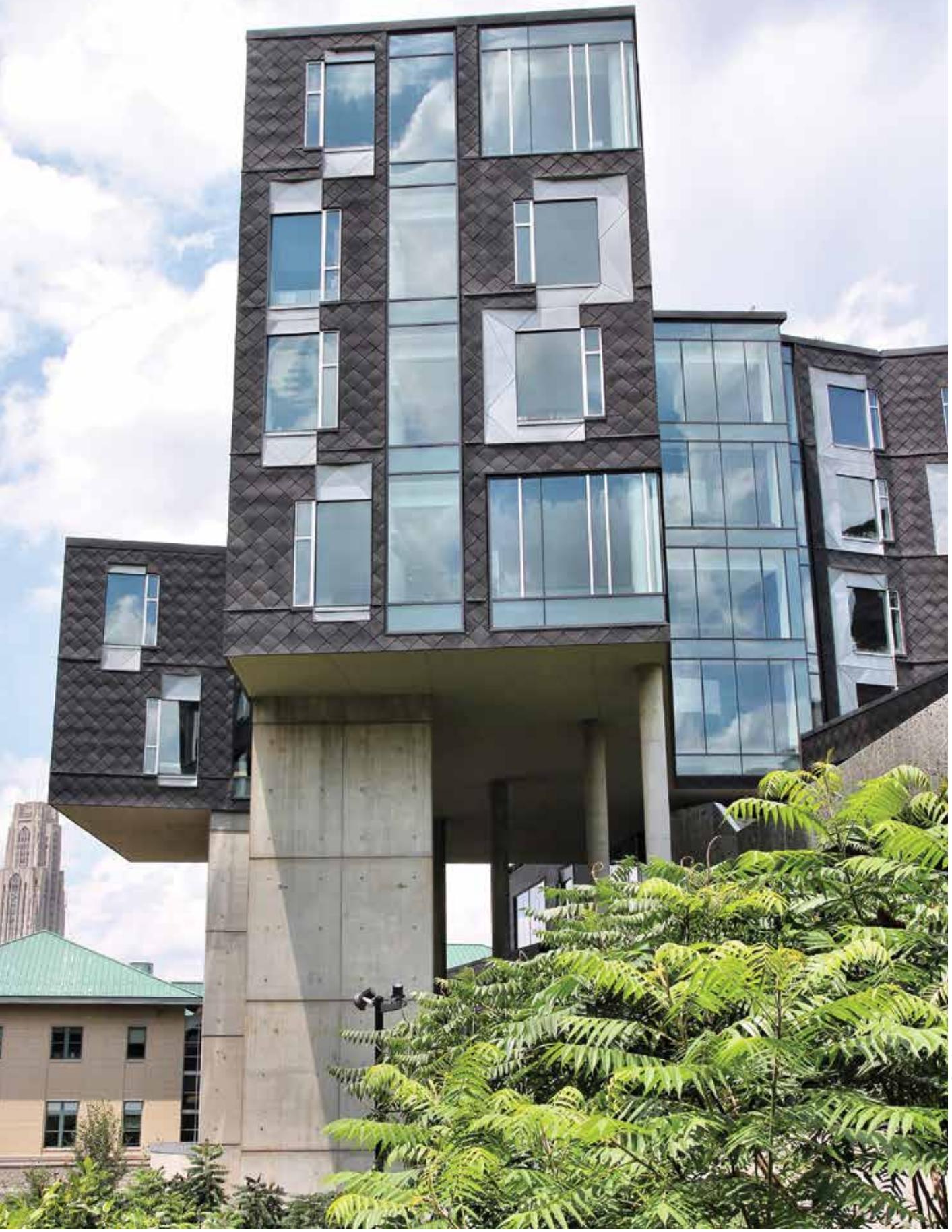
Following the success of the Robotics Institute, Cyert next turned his attention to the emerging area of computer science; in 1988 he established the School for Computer Science. Like the Robotics Institute before it, the School made a significant achievement quickly. IBM partnered with the School for Computer Science to develop the 'Andrew Project', a distributed computing environment that covered all workstations. This was one of the first large-scale networking systems and it established CMU's School for Computer Science as an important centre for computing and networking innovations. Four professors at the school formed a new company called FORE Systems that led the market for ATM switching equipment and created routing protocols. The company was bought by GEC Marconi and while it gave the city a high profile buy-out, it also was an unhappy marriage. As FORE Systems and Marconi struggled to get on, Cisco Systems, a similar networking technology company formed by a group of undergraduates from Stanford went on to dominate network computing.

However, the school proved to be a strong magnet for some of the country's leading computer science entrepreneurs. Steve Jobs, founder of Apple Computers, often slept on a couch in the School as he worked with computer scientists and the young founders of a company called Bluefish, a company he went on to buy. Bill Gates would visit professors and graduate students to work through new concepts and ideas. Soon, some of the country's most innovative companies were setting up operations in close proximity to CMU to be close to the university's world-leading researchers and computer scientists.



This relationship between academia and business ran deep with collaboration across a range of activities which supported the new economy. CMU worked with business to develop and refine new programmes, developing joint curricula, collaborating on research and supporting graduate access into full time work. For high tech business this represented an opportunity to access the best talent available and for the university it represented an opportunity to drive forward innovation and be a front runner in the new economy. Through this close, collaborative relationship the fundamentals were put in place to drive forward spin outs and start-ups and boost economic growth.

One of the reasons Cyert's efforts had such a great impact on Pittsburgh's economy is because they were supported by the actions of an astute governor and very determined state representative named Tom Murphy. Tom Murphy had been a community organiser, activist and steel company employee. As Cyert's efforts at CMU started to make ripples, Murphy could see a role for the state to invest in the emerging technologies and research. Murphy drafted legislation to set up what was to be called the Ben Franklin Regional Partnership and persuaded the state's Governor, Dick Thornburgh, to support it. The idea was to provide state funds to help create high-technology jobs. In 1982 the legislation was passed and the Ben Franklin Technology Partners, as it is known today, was subsequently established. The Partners network provided investment capital, incubation support, business services and targeted support for entrepreneurs. Unlike many other state efforts to support high-tech jobs, the Ben Franklin Technology Partnership was different because it was run like a venture capital firm; it was run by venture capitalists employed by the Partnership and made actual cash investments. Returns were reinvested. Here was a state putting its money where its mouth was and taking a risk on innovation. Whereas other economic interventions look to 'buy the most jobs', this approach aimed to focus on building greatest value by supporting innovation, which in time could flow through to the wider economy. Such a policy is not without risk; many new businesses in this space fail. However it shows an aspiration and a commitment to the sector which stands out in economic planning.





## The Fightback

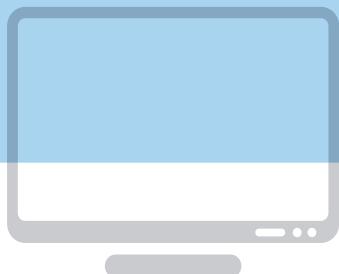
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### Ben Franklin Technology Partners

The companies founded by the Ben Franklin Technology Partners (BFTP) have had a significant impact on Pennsylvania's economy. Since 1989, BFTP has boosted the state's economy by more than USD 17 billion through the creation of 80,160 net additional jobs years<sup>293</sup>.

The programme was deemed a great success and has been replaced by Innovation Works, the state's new generation investment and support vehicle.



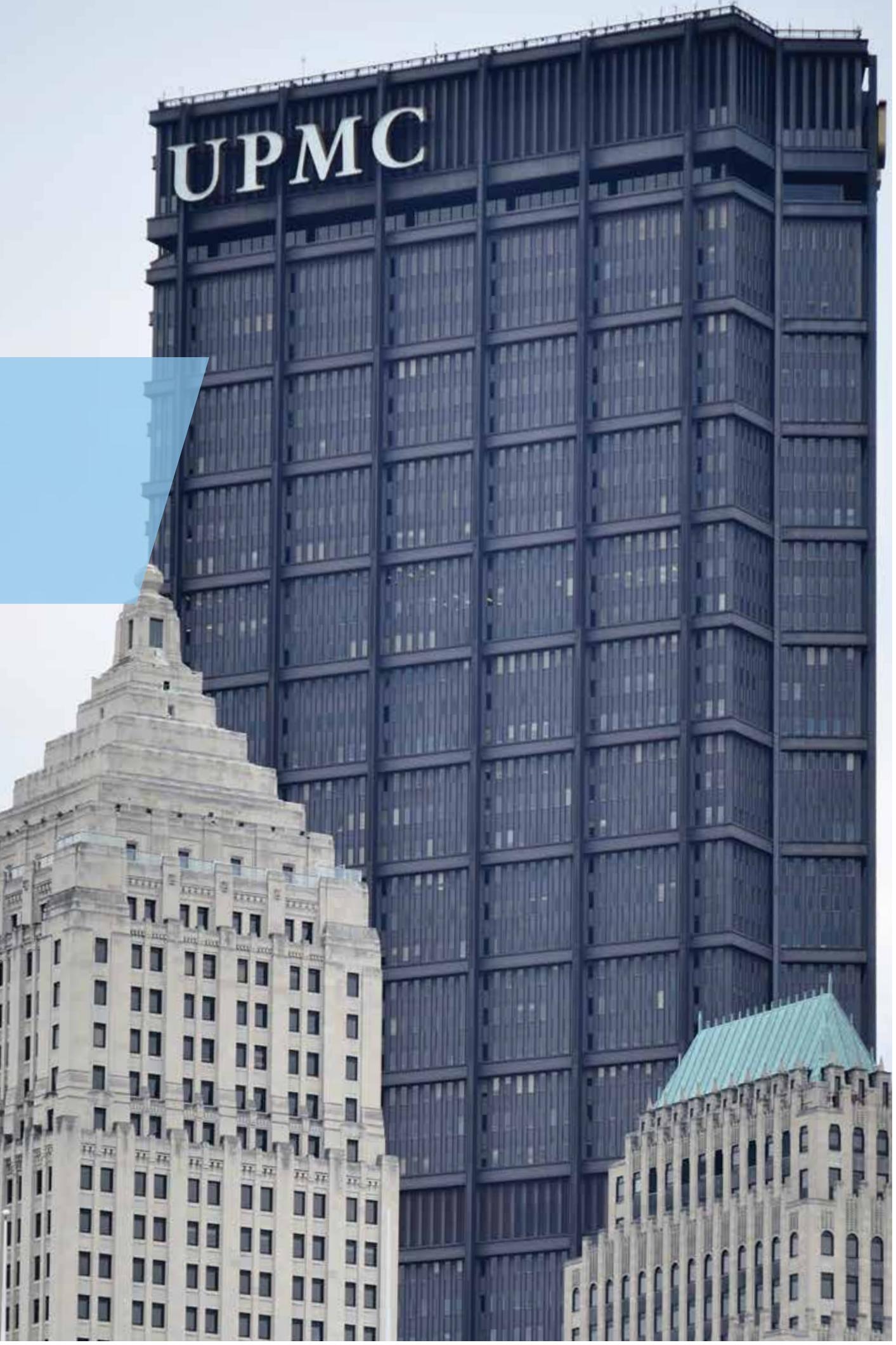
Meanwhile, the University of Pittsburgh was also going through a similar era of civic commitment and inventiveness. Thanks to its industrialist philanthropic origins, Pittsburgh had a wide range of medical facilities dotted around the city, many of which had links to the university. In 1986, under Chancellor Posvar's encouragement, all of the city's hospitals, teaching hospitals and research facilities were brought together under one roof. The new group was named the University Health Centre (today it is the University of Pittsburgh Medical Centre, or UPMC for short) and headed up by a progressive psychiatrist called Thomas Detre. The new health centre would be run as a non-for-profit. All clinical revenues would be reinvested into research and clinical support. Quickly the University of Pittsburgh, an academic institution already well known for medical research thanks to the Pitts Vaccine, became renowned globally. Just as CMU went after star Nobel prize winning academics, UoP went after trail-blazing medical professors. Thomas Starz, one of the great pioneers of organ transplantation, became a Professor of Surgery at the university.

Not long after, he performed the first simultaneous heart and liver transplant, undertook significant research on immunosuppression and established Pittsburgh as a transplant research capital.

Dr Benjamin Spock, the world famous paediatrician authored his ground-breaking books on childhood medicine at Pittsburgh as did Peter Safar, the pioneer of CPR and world renowned expert in intensive care medicine.

As a result of all of this activity, the University of Pittsburgh's Medical School became one of the most lauded in the country. And very quickly the University of Pittsburgh Medical Centre grew into a major American medical hub. Soon hospitals and research institutes across other states were asking to join the centre. Today, UPMC is a USD 10 billion non-profit health conglomerate that employs over 62,000 people across 22 hospitals<sup>294</sup>; more people work in Pittsburgh's health sector today than in the steel industry at its high water mark. In 1998, UPMC started to offer its own health insurance which gave access to treatment across UPMC's hospitals.

In fact the whole operation became so large that the University of Pittsburgh had no choice but to legally separate; the tail was starting to wag the dog. Today the university and UPMC still work closely together. All clinical care is overseen by UPMC, while the university oversees faculty-based research.





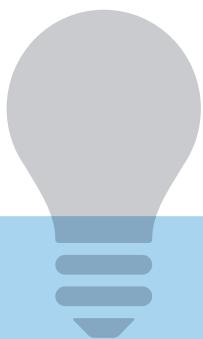
## The Fightback

Meanwhile back over at CMU, the university was continuing to attract interest from large companies. By the mid 2000s the city and university understood that companies wanted to be based close by to the CMU campus, and not just fly people in and out of the city. It was time to invest in a dedicated site where businesses could base themselves. The Robert Mehrabian Collaborative Innovation Centre was funded with state, university and private money and opened in 2005. Its purpose is it to provide flexible space where companies and CMU researchers can work collaboratively. Those who were involved in its creation wish they had had the foresight to make it bigger. Shortly after opening, the building was fully occupied and the city continues to cast around for additional space, a sign of its growing magnetism.

And interest by technology companies and investors remains unabated. Google recently opened a 45,000 square foot office in an old Nabisco warehouse<sup>295</sup>. Some speculate it is to stay close to its biggest rival in the driverless car space; CMU has partnered with Cadillac to build a robotic car which can occasionally be seen on test runs outside of the city.

## Big business rebounds

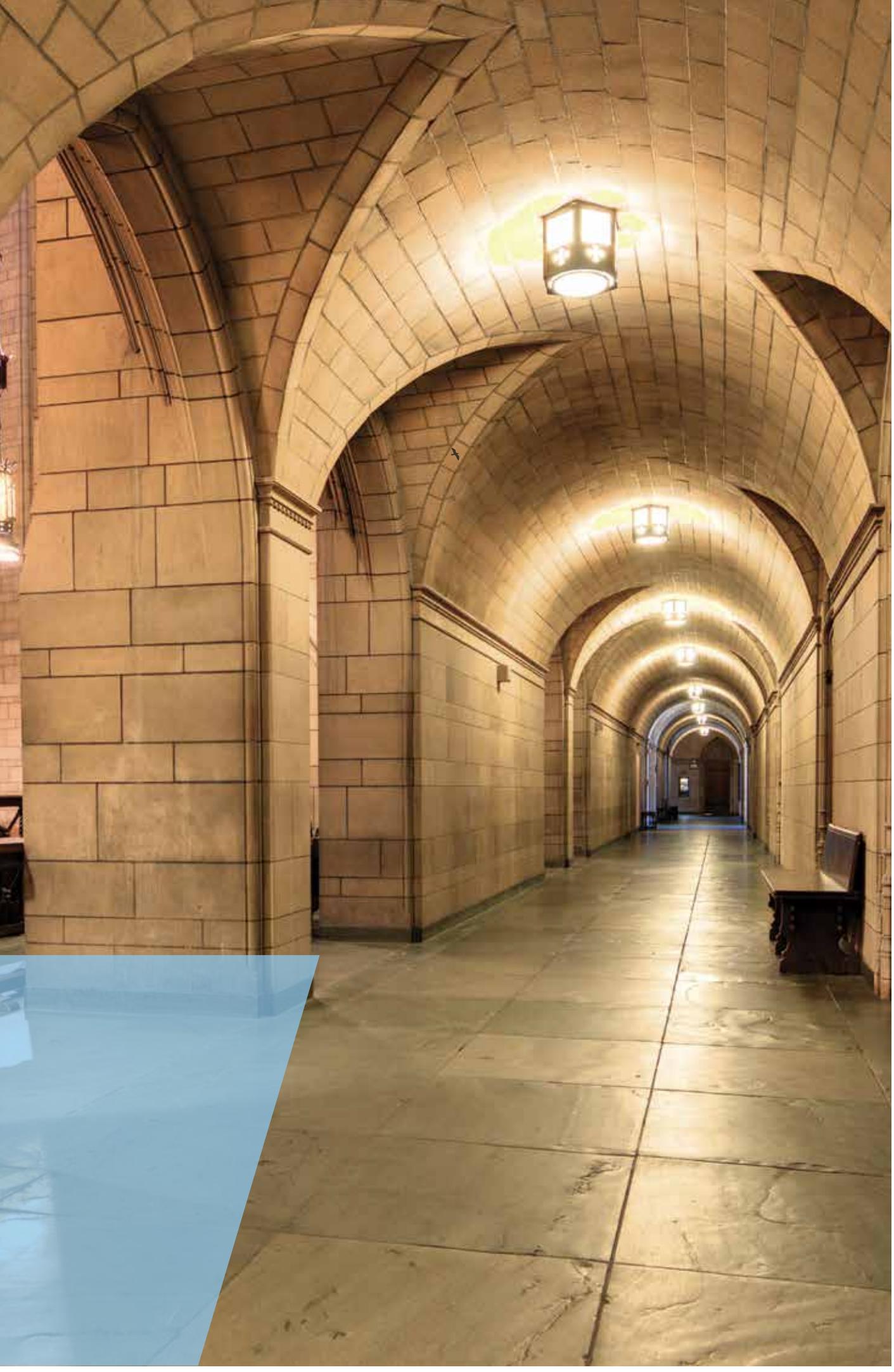
It would be unfair to assume that Pittsburgh's economic recovery was entirely fuelled out of Oakland, Pittsburgh's academic neighbourhood. As new jobs were being created by university spin-outs and young entrepreneurs, Pittsburgh's core industries were fighting back. Following the 1983 collapse of the steel industry, the US's output of steel started to increase, but very slowly; America's door had opened to steel imports and they were proving popular with US manufacturers. Fortunately Pittsburgh's large steel companies were able to hang on and compete; US Steel and Alcoa continued as major producers of industrial metals. Both continue to maintain significant operations in Pittsburgh and both built landmark building in the downtown area. Meanwhile the younger generations of Pittsburgh's original large industrial companies continued to grow and reshape, employing many native Pittsburgh residents.



## Current tenants of CMU's Collaborative Innovation Centre

- **Apple Pittsburgh:** New product development research;
- **Disney Research Pittsburgh:** Laboratory undertaking research on the convergence of computer science and fine arts to create improved cinematic graphics;
- **Intel Research Lab Pittsburgh:** One of four Intel labs. Research directed by CMU Professor of Computer Science, Todd Mowry;
- **Centre for Innovative Robotics:** Lab created in partnership with Microsoft Robotics Group to develop software to control robots;

- **Data Centre Observatory:** Part of the Parallel Data Lab, it is a large scale collaborative effort between CMU's College of Engineering, School of Computer Science and a range of industry and government partners; and
- **Carnegie Mellon CyLab:** Cyber intelligence lab that contains two National Science Foundation Centres as well as host researchers from 46 organisations.





## The Fightback

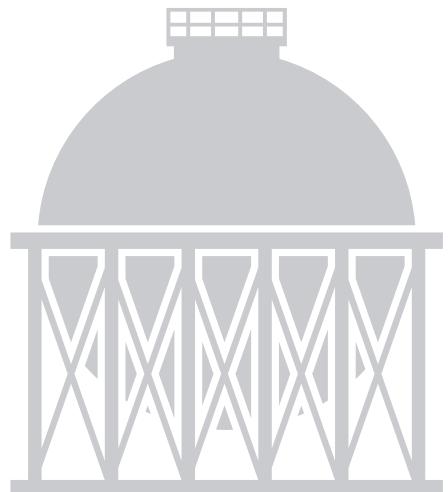
For example, Westinghouse Electric recovered from bankruptcy and moved into nuclear energy. PPG Industries, once the Pittsburgh Plate Glass Company, continued to produce chemical coatings. The Calgon Carbon Corporation, once the Pittsburgh Coke and Iron Company, transformed into a major water purification and waste treatment company. The city wasn't just growing new jobs. It also recovered a good number of the old industrial jobs that employed many in the city.

Pittsburgh's old economy has also been greatly helped by the discovery of one of the largest natural gas reserves in the world. Three quarters of Pennsylvania state sits atop the Marcellus Shale, the third largest natural gas field in the world. This has created great excitement and immediate economic benefits. Companies with drilling rights are basing operations in Pittsburgh and spending money. Local landowners are earning significant sums and in turn spending that money locally.

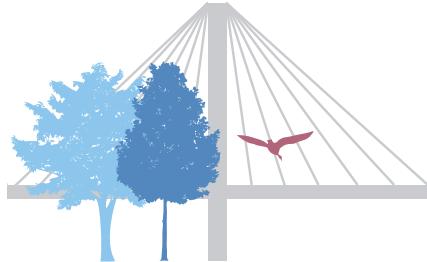
However, some are concerned that in the few years since the Marcellus Shale was discovered, the city's economy has benefited from the drilling, pumping and shipping of natural gas, but has not yet made the most of the strategic opportunity. For instance, ensuring processing of the gas, not just extraction, takes place in the state would greatly increase the value added. The Allegheny Conference would like to see large factories relocate to the city to take advantage of the cheap energy to heat and power machinery. Chemicals and plastics producers could be lured to the city to access cheaper natural gas, a significant production input. The first city located over the Marcellus Shale that begins to think in this way could make huge economic gains.

And despite Pittsburgh's growth and recovery, the city itself has not completely recovered financially. The fact that many residents live in the suburbs, means the city does not collect their residence taxes, but still provides the infrastructure for their working life in the downtown. Additionally, the downtown area needs more private corporations to set down roots.

Downtown Pittsburgh is in the peculiar position of having a thriving and commercially vibrant downtown, but is unable to earn adequate tax receipts to cover the cost of running it. Because of the city's long links to medical and research institutions, a number of the companies based in downtown Pittsburgh are not-for-profits. In addition there are a number of museums, cultural and education spaces. This puts pressure on the city's fiscal position as these organisations use municipal services, but pay a lower marginal tax rate. This has left the city in a challenging position. To help rectify the fiscal situation, the city has imposed a USD 52 per person per year tax on all people who work in the downtown; to cover the costs of emergency services and core municipal services.







## The Fightback

### Welcoming the new wealth creators

As the city's university quarter teemed with new students, academic researchers and R&D employees, Pittsburgh's leadership became concerned. For the city to make the most of its economic assets, the quality of life of the city would have to improve. To keep world-leading professors from moving to Boston and Apple researchers from moving to San Francisco, Pittsburgh as a city would have to offer a quality of life that was comparable; different, but comparable.

In the 1990s as the universities embarked on their bold plans, the city entered the era of the 'three Toms'. Tom Murphy, the state legislator who had shepherded through the legislation to establish Ben Franklin Technology Partners, was now Mayor of Pittsburgh. Tom Ridge, an Assistant District Attorney had become the state's Governor. And Tom O'Brien, the Chief Executive Officer of PNC Bank, had become head of the still all-powerful Allegheny Conference. O'Brien commissioned a professor at CMU to review the business support structure and economic planning across the Allegheny Region. The paper identified 200 separate economic development agencies, none of whom shared the same goals or vision for the area<sup>296</sup>. The paper sent shock waves across the region. How could they make the most of the innovations coming out of universities and research institutes if the business support infrastructure was so weak? Many of the development agencies were in fact competing with each other, creating a race to the bottom with incentives thrown at business to relocate to the next county in a zero sum game. Within a short period of time most of the agencies were shut down or merged and those that were left were tasked to work together and develop a collaborative vision for economic growth; one that competed in the global economy, not against their neighbour.

Next the Mayor commissioned a group to look at the quality of life of the city. Projects were identified that would make the greatest impact on city life. Tom Murphy, an avid environmentalist was also known across the city as the 'cardiovascular Mayor'.

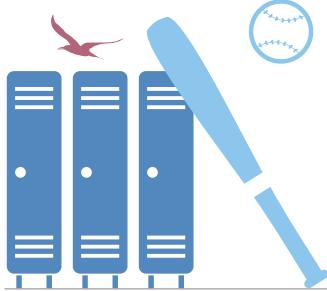
He was particularly concerned about the state of the city's rivers which hugged downtown Pittsburgh's shores. Residents could not get close to the waterfront as large corporate buildings sat along the direct shoreline. Tom Murphy established a Riverlife taskforce which was tasked with designing a master plan for Pittsburgh's rivers and the miles of surrounding shorelines. Murphy was enamoured by the idea of developing a waterfront bike trail that ran from Pittsburgh all the way to Washington DC. Whilst most of the land between the two cities was available, it was the land around downtown Pittsburgh that created the greatest headache.

Murphy went to speak to O'Brien and persuaded him to physically move his bank's headquarters away from the shoreline. Next he knocked on Alcoa's door. The large aluminium manufacturer was building a large new headquarters that abutted the shoreline. Again Murphy persuaded Alcoa to move their building back 40 yards and grant a public right of access in front of their building. With these two large corporates lined up, all of Pittsburgh's other large companies quickly followed suit. Pittsburgh was going to open its rivers back up. Against the odds, Murphy oversaw the creation of the 150-mile Great Allegheny Passage. A series of riverside pocket parks were dotted around the city and zoning laws were changed to encourage developers to build a mix of residential and commercial buildings along the waterfront.

Sport plays an important role in all American cities. For many years Pittsburgh's baseball team, the Pittsburgh Pirates had been based in an aging stadium called the Three Rivers Stadium and were threatening to leave the city. Murphy was determined to prevent this from happening and set up a group of business and civic leaders to consider where the new stadium should be based. After much consultation and public debate, the city decided to build the new stadium on the city's north shore, directly overlooking the city's new vibrant centre.







## The Fightback

The Three Rivers Stadium was also home to the Pittsburgh Steelers, the city's NFL football team. If they were to stay in the city, they also required a new stadium. Suddenly Murphy was looking at a steep bill. But if the city was going to punch above its weight, it needed to have sports franchises and therefore stadiums that competed with the best. He decided to see if the people of Pittsburgh would fund the construction of two new stadiums and refurbish the city's aging conference centre. Murphy went out and asked the residents of Pittsburgh to vote for a one cent increase in local sales tax for a fixed period of time to fund all three projects. And to his surprise, the voters came back and said no. The vote wasn't even close, three people voted 'no' for every 'yes'. Murphy had to come up with a Plan B.

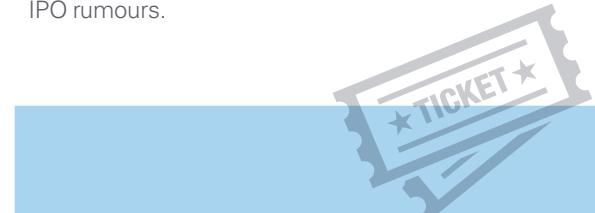
And Murphy's Plan B, as it became known, raises eyebrows even today. Denied tax receipts through a referendum, Murphy set up a special purpose vehicle called the Allegheny Regional Asset District. He then allocated one percent of all Allegheny Sales Tax to the vehicle through his Mayoral powers. And this is how the PNC Ballpark, home to the Pittsburgh Pirates, was funded; how Heinz Field, home of the Pittsburgh Steelers was funded; and how the David L. Lawrence Conference Centre was built. Many across the county were angry. The Mayor had held a public referendum and failed. Yet he managed to access the same funds through a different route.

Time has now passed and many of Pittsburgh's residents are more forgiving of Murphy's tactics. When the Steelers played their first game at Heinz Field over 57,000 people showed up<sup>297</sup>. PNC Ballpark proved equally popular. The ballpark is considered one of the best in the US and is used by the major league and other local teams. The impact both stadiums have had on the economy of the north shore is huge. On game days tens of thousands of people pass through the streets and use the bars and restaurants; the stadiums have led to a resurgence of the entire area.

When America hosted the third G-20 meeting on the collapse of the world economy and financial markets in 2009, President Obama chose Pittsburgh as its new location. The choice of location was significant. Obama firstly chose Pittsburgh to demonstrate to world leaders that economic recovery is possible.

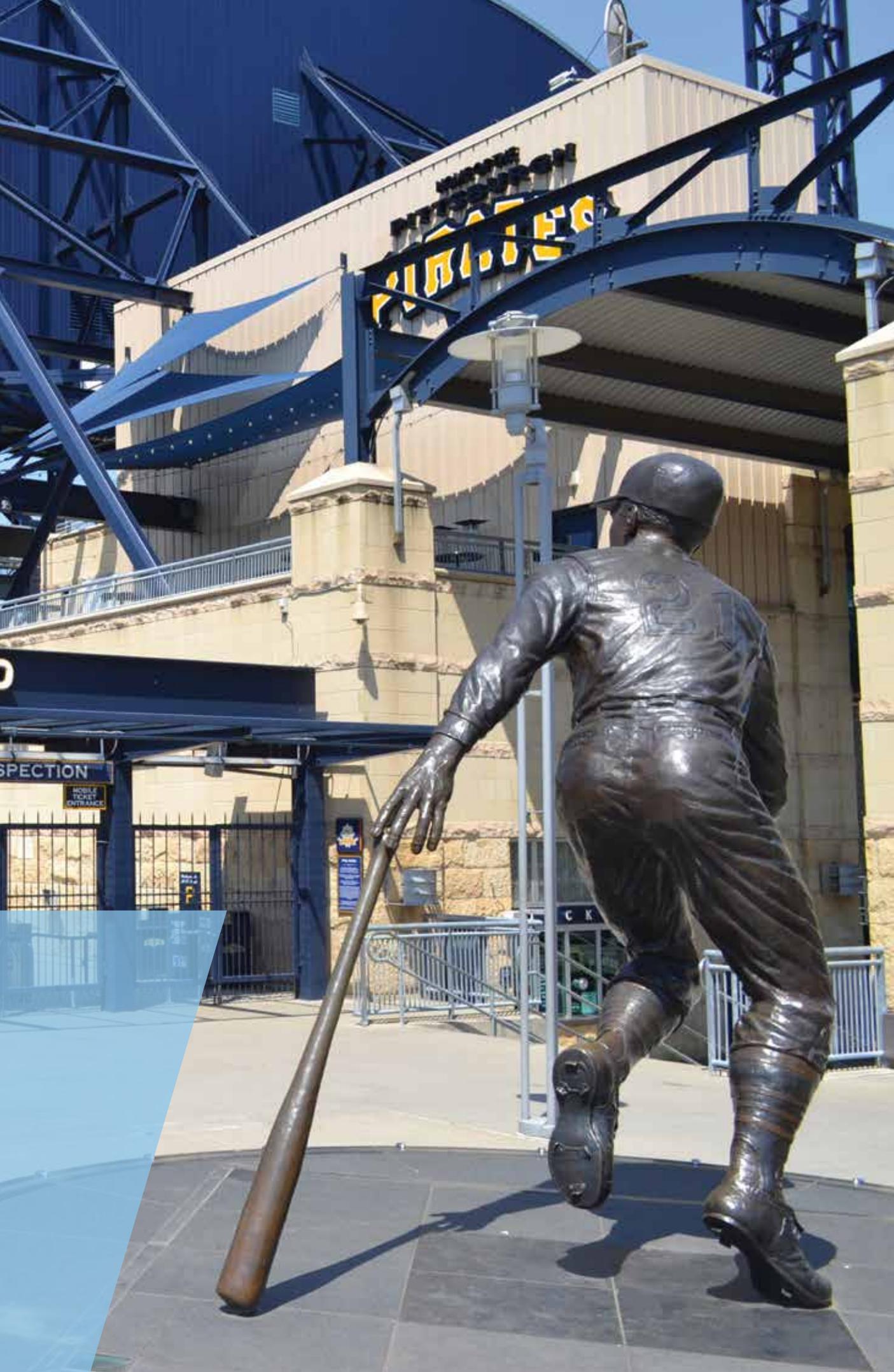
After all, if Pittsburgh could come back from the brink, so could the world's major economies. Secondly, Obama chose Pittsburgh because it had new and good facilities. If Mayor Murphy had not pushed through Plan B, perhaps the new convention centre wouldn't have been built.

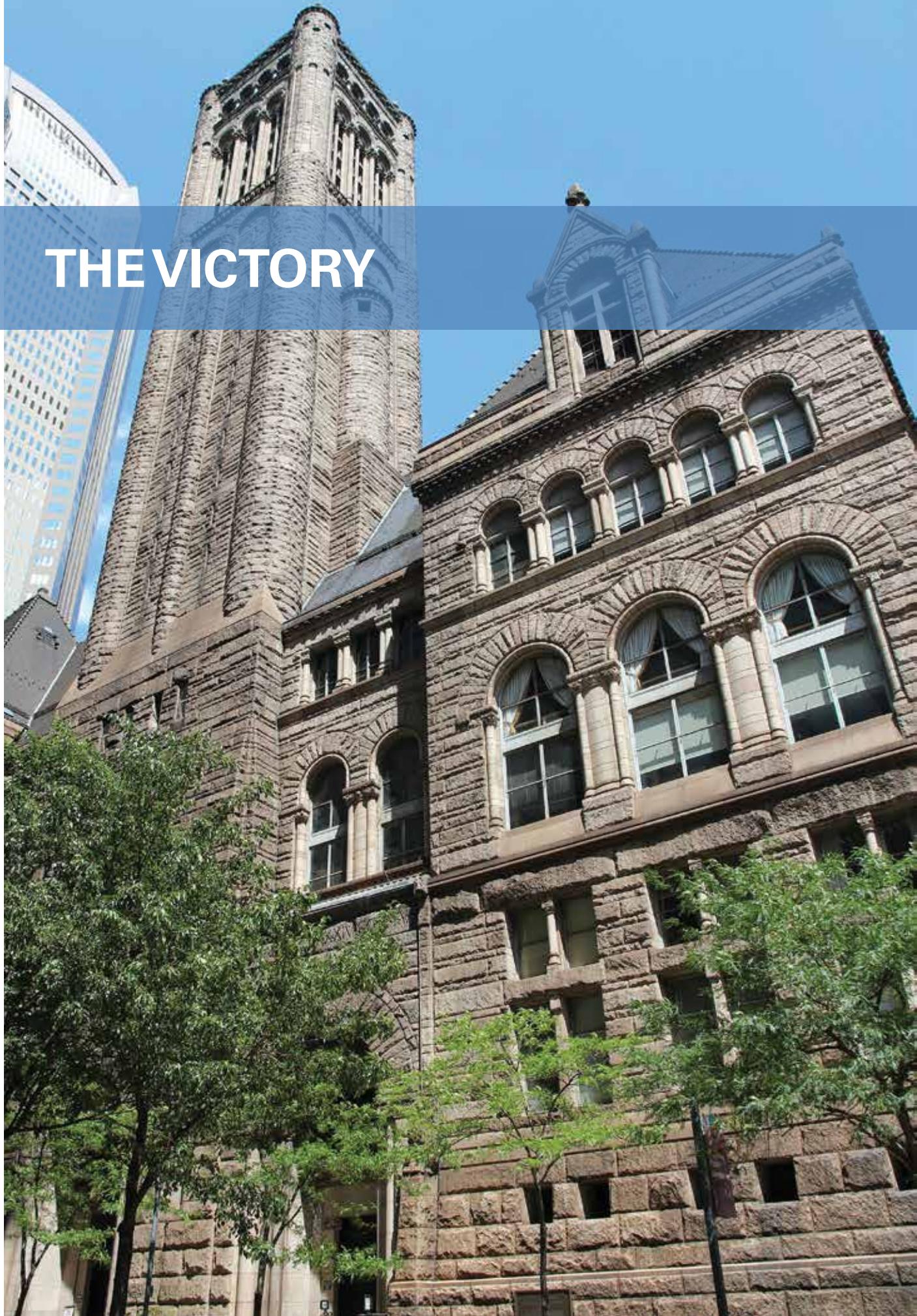
The G-20 meeting combined with the spin-out and research and development buzz of the university quarter started to draw new residents in. Young entrepreneurial wealth creators who didn't have previous links to Pittsburgh moved into town. Others who had been to university in Pittsburgh decades ago moved back. They were moving to Pittsburgh to be part of its reinvention story. The cost of living was much lower than Boston or Chicago and the city was becoming a magnet for ambitious and interesting young people. Affordable urban housing was available. Young chefs started to open cool restaurants that offered modern twists on Pittsburgh food. Bars and coffee shops opened across the city, filled with young wealth creators comparing notes on developments in 3D metal printing and the latest IPO rumours.



## Innovation Works

The Ben Franklin Technology Partners (BFTP) had been wound up and replaced with a new programme called Innovation Works. Unlike BFTP, Innovation Works offers a series of structured acceleration programmes that provide office space and support. AlphaLab was set up to provide support for software and gaming entrepreneurs. The enterprise has already been a great success and a number of start-ups developed through the programme have received significant venture capital investment. Innovation Works launched its second lab, AlphaLab Gear, earlier in the year. This hardware start-up accelerator provides physical product start-ups with investment, mentorship and connections. Already the young companies are developing prototypes for a range of highly innovative products such as shoes that convert energy into small cell renewables.





# THE VICTORY

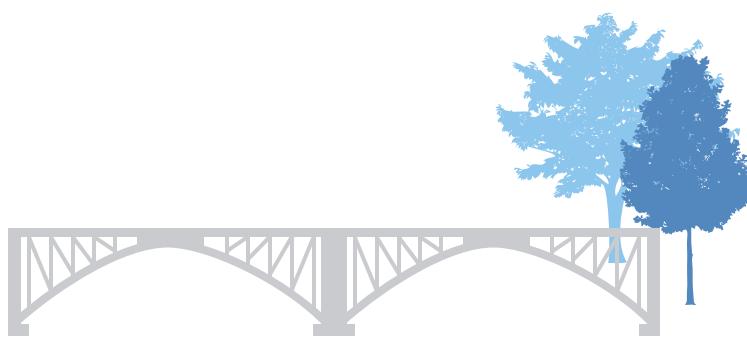
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MAGNET CITIES | PITTSBURGH

“The combination of old world business and new world business is proving to be a powerful mix.”

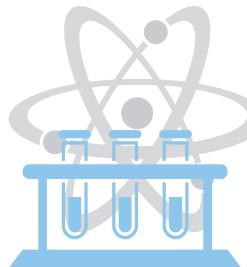
Against the odds, today Pittsburgh is a city on the upswing. Its economy outgrew the national average between 2005 and 2010<sup>298</sup>. It is frequently named as one of the best places for young people to start businesses and the city's quality of life once again ranks as one of the best in the country<sup>299</sup>. And media pundits are lining up behind the city; commentators like Forbes have declared the city to have an economy with the most economic momentum<sup>300</sup>. Last year alone, Pittsburgh's academic and research institutions received over USD 1.5 billion in federal and non-for profit grant funding<sup>301</sup>. The combination of old world business and new world business is proving to be a powerful mix. And for the time being the gap between the cost of living and earning remains significant. Pittsburgh's workers are paid well and spend less than their counterparts in other cities. However, as the city draws more people in, this gap will be difficult to maintain. And this is the reason why Pittsburgh's new Mayor, businesses and universities must continue to focus steadfastly on the city's reinvention plan. Now is not the time for the city to rest on its laurels.

Detroit's demise has put Pittsburgh under the urban renewal microscope. Hundreds of newspaper pieces have been written on why Pittsburgh succeeded when Detroit failed. Different pieces identify different silver bullets – robotics, state investment or high tech start-ups are all cited. But the truth is it was none of these things that saved Pittsburgh. What saved Pittsburgh was the tenacity and leadership of a handful of civic leaders and politicians who fought against the odds over the course of decades: Mayor Caliguiri and his Renaissance programme; Mayor Murphy and the Ben Franklin Technology Partners; CMU President Cyert's decision to refocus teaching around computer science and technology; the creation of UPMC; the generation of business leaders who led the city through the Allegheny Conference; and the new generation of business leaders who invest and nurture Pittsburgh's start-ups. Pittsburgh's success today is thanks to the accumulated efforts of many visionary leaders over decades.



# THE PRINCIPLES

## How Pittsburgh applied the Magnet City Principles



### Magnet cities attract young wealth creators

The leaders of Pittsburgh's academic institutions were focused from the outset on attracting new researchers and graduate students, the people who would create new jobs and future economic growth. The Universities worked closely with political leaders and the city Mayor to help reshape the entire city into an interesting place for younger people to live and work. Critical in this was keeping those students in the city and giving them the opportunity to use their skills and creativity in Pittsburgh

### Magnet cities undergo constant physical renewal

Pittsburgh has gone through two extensive periods of urban core renewal, the two Renaissance programmes. Under these programmes, the city created new city parks, changed the zoning of areas and moved infrastructure like bridges around to make the city more walkable and accessible. A particular success was the creation of the Pittsburgh Cultural District which was redeveloped through private funds. In recent years the city has focused on bringing more outdoor elements into city use, like river walkways and bicycle paths.

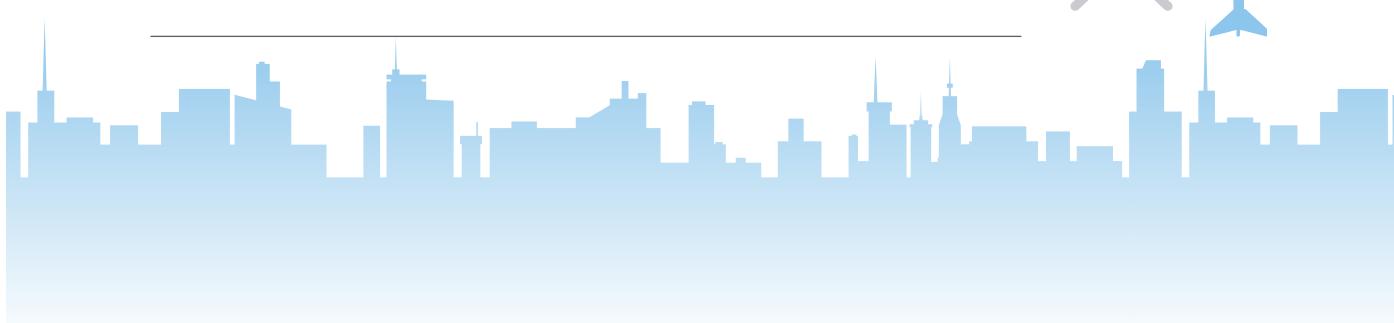


### Magnet cities have a definable city identity

Pittsburgh is becoming well known as a research and technology hub, particularly in the areas of robotics and artificial intelligence. Because the city had such a strong identity as America's steel city, it will take some time for Pittsburgh's new identity to be established. But for younger generations, the city's new identity is already well known.

### Magnet cities are connected to other cities

Pittsburgh is well connected to many other cities through its airport which is 20 minutes from the city centre, as well as a number of railway stations. It is on major highways and close to other cities in Pennsylvania. Over half the US population and output is within 500 miles<sup>302</sup>.



“The universities worked closely with political leaders and the city mayor to help reshape the entire city into an interesting place for younger people to live and work.”

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### Magnet cities cultivate new ideas

Pittsburgh's reinvention story centres on the way it leveraged its economic assets – educational institutions and sources of funds (primarily philanthropic) – to create a range of new businesses and spinouts. This has been supported by a number of funds and incubators set up by the state, of which the Ben Franklin Technology Partners (Innovation Works today) is one of the most progressive.

### Magnet cities are fundraisers

Across all of the city's different programmes, the mayor and state Governor have seen themselves as fundraisers on behalf of the city. They have worked to maximised federal research funds that flow into the city, as well as corporate tax receipts. Innovation Works and similar organisations have attracted significant venture capital funds to the city, acting as a magnet for innovative investors

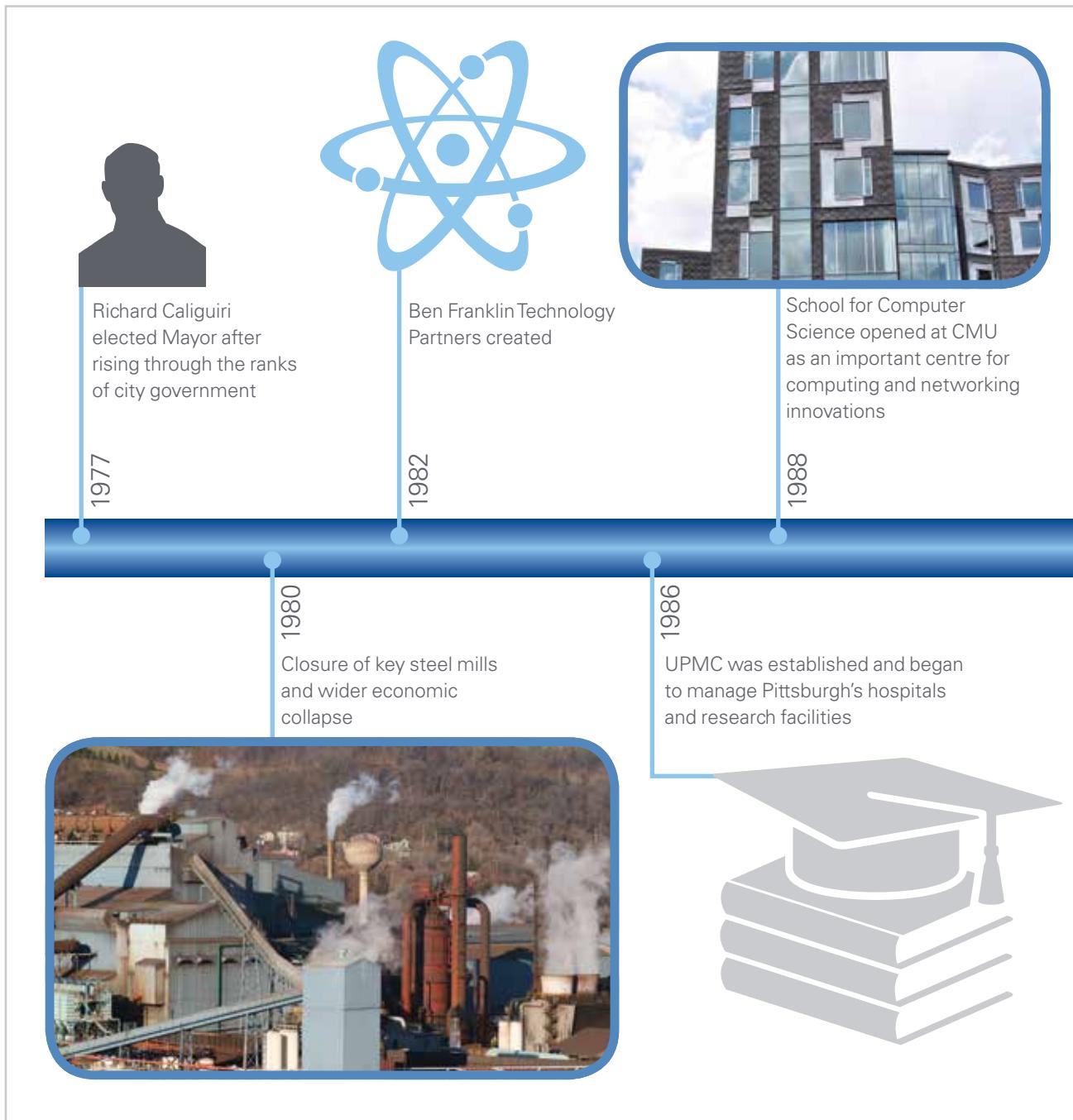


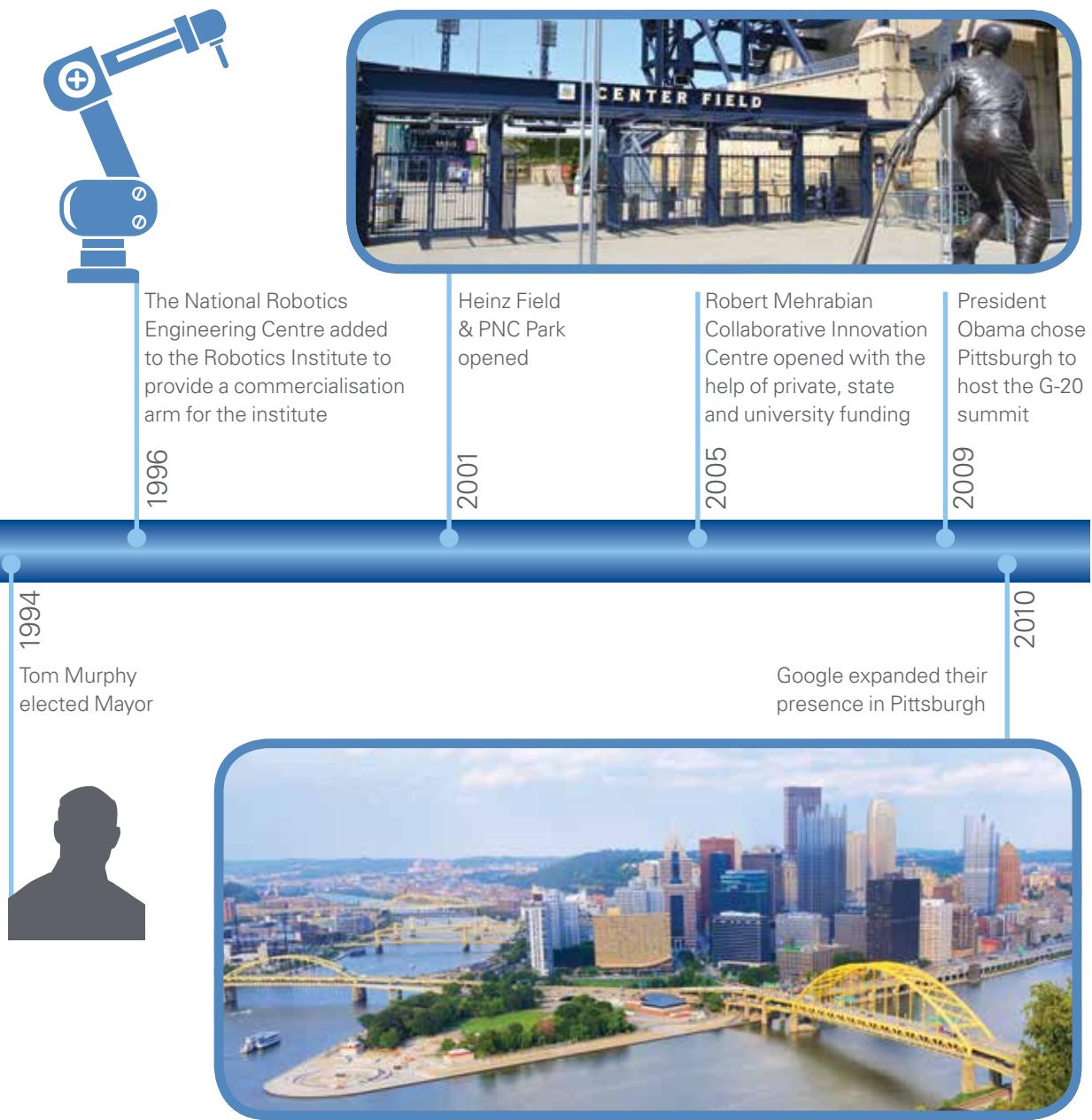
### Magnet cities have strong leaders

The city has benefited from a series of strong leaders, almost since its inception. However the city's political, business and academic leaders played an instrumental role. Each one made difficult decisions that were not popular, but stayed the course. The success of Pittsburgh today is thanks to the controversial and daring decisions many of these leaders took years ago.

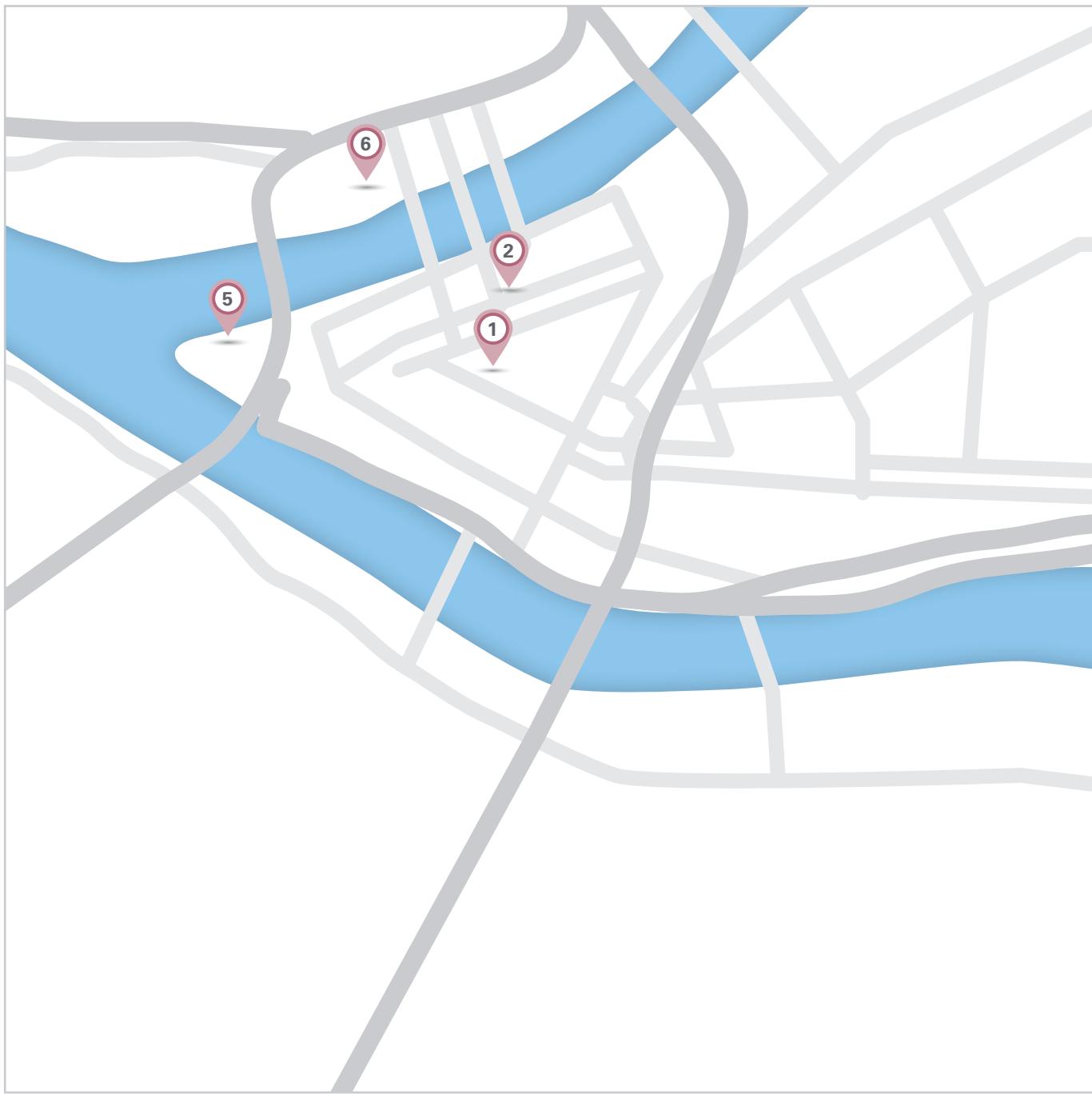


# TIMELINE





# MAP



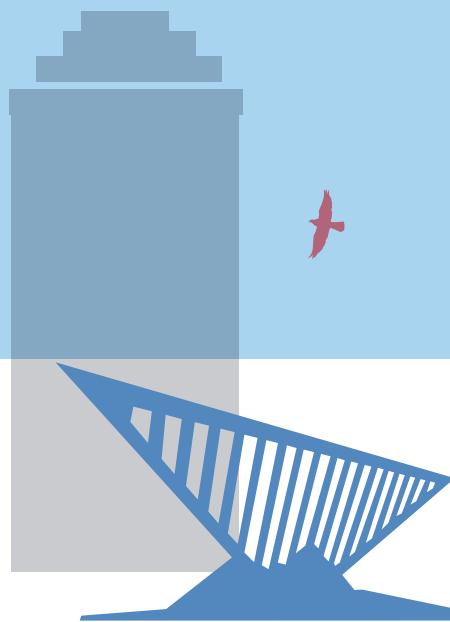


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MAGNET CITIES | TEL AVIV

# Tel Aviv

The city for new economic pioneers





# INTRODUCTION

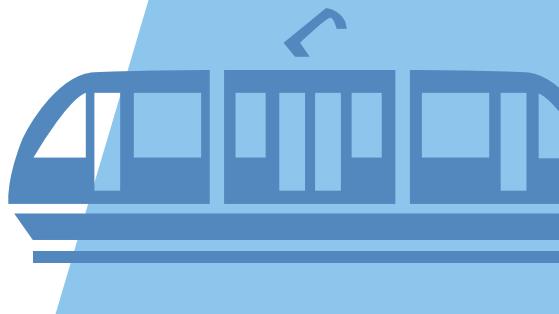
The evolution of Tel Aviv<sup>304</sup> mirrors the chutzpah of its residents, a Yiddish word that best translates as a mixture of fearlessness and audacity. Tel Aviv was founded in 1909 by 60 pioneer families who bought a swathe of unforgiving desert land and hand-built a new town originally called 'Housing Project'. In the century since it was founded, people have flocked to Tel Aviv from all over the world swelling the population to over 400,000 today<sup>305</sup>. And despite the diverse origins of the residents, they all share one common characteristic. Chutzpah.

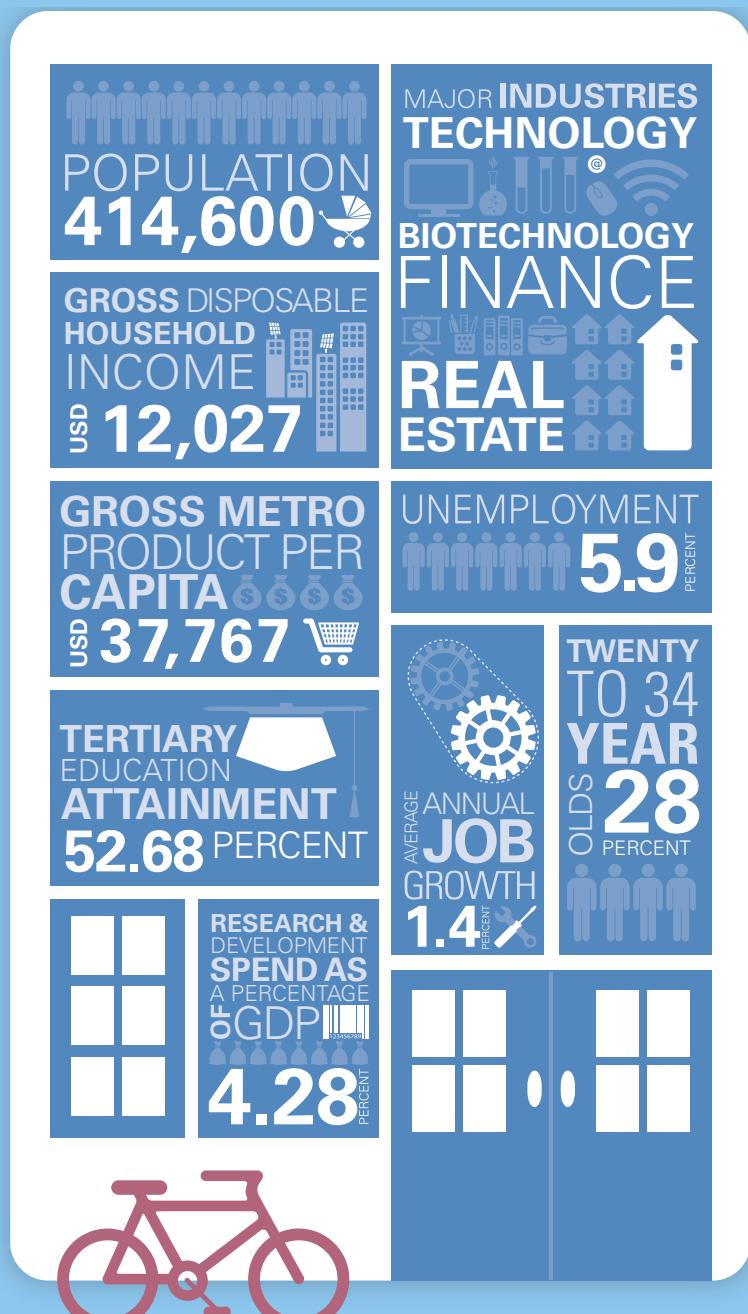
To many around the world, Tel Aviv and Israel connote struggle, politics and violence. And Tel Aviv's history has been indelibly marked by periods of conflict. However that perception could not be further from reality. Today Tel Aviv is a highly magnetic city. The young residents of Tel Aviv pride themselves on a 'work hard, play hard' culture. At six in the morning, hundreds of Tel Aviv's young professionals can be found surfing and swimming before the start of the business day. Bars and restaurants are open all night to serve the young entrepreneurs from the 700 early-stage start-ups in Tel Aviv who busily code until 2am and then need to blow off steam<sup>306</sup>.

This dynamic city is not just incubating a home-grown generation of gifted high-tech entrepreneurs. It is also attracts smart mavericks from all over the world; people who are attracted to the 'nothing is impossible' mind-set of the city. Tel Aviv has such magnetic pull property prices rose 30 percent in the last three years<sup>307</sup>. As a result Tel Aviv is now spawning satellite high-tech cities such as Ramat Gan, Herzliya and Petach Tikva that are located just far enough outside of Tel Aviv's city centre to access cheaper property, but still close enough employees can make regular use of the bars, nightclubs and restaurants.

Tel Aviv did not face a protracted period of industrial decline like so many other cities. After all, it is a young city. However, it did experience two decades when the population shrank and the future of the city looked bleak. Its magnet flipped from positive to negative.

This is the story of how a city in chaos transformed itself into a global capital for the new economic pioneers. Much of this is down to the way the city itself was replanned and restructured and how it leveraged Israel's unique assets to become highly competitive.



TEL AVIV METRICS<sup>303</sup>

# THE DECLINE



During the 1960s Tel Aviv was booming. In just over 50 years the city had grown from a handful of people to a population of 390,000<sup>308</sup>. The huge influx of people put significant stress on the infrastructure and housing in the developing city. To meet the unrelenting demand for roads and houses, the city expanded quickly and somewhat haphazardly.

The centre of Tel Aviv, what is referred to today as the White City, was designed in the 1920s by a Scottish city planner, Sir Patrick Geddes. Under Geddes' master plan, large city blocks and a series of artery roads were created. During the 1930s as a number of influential German Jewish architects fled Germany, Geddes' city blocks were filled with Bauhaus-style apartment buildings. However, Tel Aviv's population quickly outgrew the Geddes plan and the city sprawled beyond it.

## "To meet the unrelenting demand for roads and houses, the city expanded quickly and somewhat haphazardly."

Basic three to four story flat-roofed apartment buildings made of cement and concrete were thrown up and the quality was sometimes perceived to be low. Yet demand for property continued to outstrip supply and house prices continued to rise. The 1970s was the turning point when families began to be priced out of the Tel Aviv property market; businesses soon followed and relocated to the perimeter of the city. Over the next twenty years Tel Aviv's population fell by nearly 20 percent<sup>309</sup>.

The city began to look bedraggled. The painted stucco on apartments peeled, roads were perpetually congested, smog filled the air, parked cars and bins covered the pavements and there were few open green spaces for residents and families. As property prices continued to rise alongside the deteriorating conditions, the city's younger residents started to leave in droves.

The long term trend of population decline was halted temporarily by a large influx of migrants from the Former Soviet Union (FSU) countries in the late 1990s. During the 1970s and 1980s highly educated Jewish immigrants from the FSU countries chose to move to America over Israel. People chose the higher wages and lower rents available in US cities. However in the 1990s the US put in place a strict immigration quota system. As a direct result of this, skilled Jewish FSU immigrants moved instead to Israel in large numbers. Tel Aviv alone absorbed 42,000 new residents from the FSU, many of whom came from academic, scientific, medical or mathematic backgrounds<sup>310</sup>. For instance, the number of engineers in the city more than doubled during this period<sup>311</sup>. The city was not well prepared to absorb and welcome the new population. Tel Aviv's shrinking tax base meant there were few funds available to invest in the city's deteriorating infrastructure. By 1998 Tel Aviv was on the "verge of bankruptcy"<sup>312</sup>.

In 1998 Ron Huldai was elected Mayor of Tel Aviv. Mayor Huldai is a tough character who came from a non-political background. He spent 26 years serving in the Israeli Air Force, beginning as a combat pilot and in later years as a Commander in charge of two critical airport bases.

He retired from active service with the rank of Brigadier General and subsequently became headmaster of one of Israeli's most famous high schools. His primary goal was to place Tel Aviv on a firm financial footing and to balance the budget in order to free funds to invest back in the city.

His plans were temporarily disrupted when the dot com bubble burst in 2000. Respected Israeli high tech companies such as NICE, Gilat Satellites and Comverse were forced to make mass redundancies. The number of high tech employees fell from 66,000 in 2000 to approximately 53,000 during the following years<sup>313</sup>. The Second Intifada from 2000 to 2005 further impacted the economy of Tel Aviv with suicide attacks becoming a frequent occurrence in Tel Aviv, as they were across all of Israel. In Tel Aviv nightclubs, buses and open markets were targeted multiple times and resulted in hundreds of deaths and serious injuries. Foreign investors who had been crucial in the development of the high tech industry were driven away.

The combination of mass immigration from the FSU, the dot com bubble burst and the Second Intifada on the Israeli economy was acute. In 2000, Israeli GDP growth was 8.7 percent. The following two years it was negative<sup>314</sup>. Foreign Direct Investment dropped from USD 5 billion in 2000 to USD 1.7 billion in 2002 and foreign tourists to Israel fell from 2.7 million in 2000 to 718,000 in 2002<sup>315</sup>. By the time the Intifada came to an end, the city of Tel Aviv required a major reinvention plan.

# THE FIGHTBACK

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**“Tel Aviv will safeguard its central position in Israel and, in parallel, become an exemplary city for the quality of life provided to its residents.”**

In 2004 Mayor Huldai oversaw the development of a city master plan, which was published as a book entitled *City Plan for Tel Aviv*. This document outlined a strategic framework for the development of Tel Aviv as a city. At its core was a new vision for the city: “Tel Aviv will safeguard its central position in Israel and, in parallel, become an exemplary city for the quality of life provided to its residents<sup>316</sup>.”

Interestingly, given the start-up revolution of the last few years, the Tel Aviv City Plan focused almost entirely on improving the quality of life for its residents; start-up support was not particularly part of the plan. However, this does not mean there was no cause and effect between the two.

The city sent out a snapshot of the emerging city vision to all households and stakeholders in the city, together with a questionnaire. The response was favourable and it started the process of building a relationship between Tel Aviv's City Council and its residents.

At the core of Tel Aviv's city plan was an understanding that in order to compete and grow, Tel Aviv needed to become more attractive to young families and younger generations. And younger generations would move back into Tel Aviv only if the quality of life was significantly improved (although they would still face high housing prices). Three priorities were outlined to achieve this: improve the urban environment; create a new city identity; and ensure it is a city for all of its residents.



## **City Plan for Tel Aviv**

Tel Aviv's city plan was coordinated by the City Engineer and was designed to be a highly participative process. After all, if the views of residents were not fed into the plans, the changes made to the city would not necessarily appeal to its residents. In total 600 individuals participated in 15 workshops<sup>317</sup>. The individuals included residents, city council members, municipal officials, central government officials, economic and social organisations as well as environmental groups.

All of the participants were placed into mixed workshops that covered Tel Aviv's Economy, Culture, Society, Education, Public Participation, Land-Use, Urban Design, Traffic & Transport and the Environment. In addition six workshops were run to look at the six areas of Tel Aviv (City Centre, North West, North, East, South and Jaffa) in order to identify what could be improved.



## The Fightback

### Tel Aviv becomes an outdoor playground

The first priority was to turn Tel Aviv into an attractive urban environment. Tel Aviv had to become a city where people could easily and enjoyably walk and bicycle through the city, instead of drive. The city was congested with cars and traffic. Parking spaces were so difficult to find the running joke in Tel Aviv was "I'm thinking of running for Mayor because I hear it comes with a parking space."

The city made significant investment in major boulevards like Rothschild Boulevard and HaNevi'im to widen them and add attractive pedestrian corridors. Lamps and public lighting were placed around the city as part of the Mayor's 'light theory' that where there is light, there is less crime. Bicycle routes 110 kilometres long and a bike rental scheme called Tel-O-Fun were introduced<sup>318</sup>. Cafes and restaurants throughout the city provided 80 free wifi hotspots to encourage people to work and congregate<sup>319</sup>. Today Tel Aviv is extending this idea by putting in place the first ever city-wide, free wifi network which will provide all Tel Aviv's residents and visitors with free internet access.

Compared to other Mediterranean towns and cities, Tel Aviv had very few open squares or pedestrianised shopping streets. And parts of the seafront – arguably Tel Aviv's greatest natural asset – had been almost entirely blocked from residents' view by high-rise hotels, marinas and large municipal structures. As a result not only could Tel Aviv's residents not look over the seafront, they could not even approach the seafront along many parts.

Significant effort was focused on redeveloping Tel Aviv's coastline. For a city located on a beach, very little of it was used. To rectify this, the beach was closed to traffic and the seafront was redeveloped to provide a coastal esplanade where people could walk, run and bike. A suitable array of hotels, residences and restaurants were agreed and limited building rights were granted, including guidelines on the maximum height of buildings. Alongside this, Tel Aviv's shopping streets were remodelled and particular streets were given reductions on local rates for a period of time to draw retailers back. Investment was made in large public spaces such as Rabin Square, a large square next to Tel Aviv's City Hall, near the site where Yitzhak Rabin, the fifth Prime Minister of Israel, was assassinated.

Alongside this, the city invested to improve housing in areas of the city that had suffered particular underinvestment. The investment programme continues today and after many false starts work is beginning on a mass transit system and the first line is due to be completed in 2016.







## The Fightback

### Tel Aviv gets a new city identity

The second priority was to establish a new and distinct identity for Tel Aviv. The brand 'Israel' suggests in the words of one interviewee "Jews and Jerusalem". If Tel Aviv was going to attract the young it would need to reposition the city's brand away from that of Israel. And to accomplish this, the city took some bold steps.

Since 1998 Tel Aviv had played host to a Love Parade, the first gay pride parade in Israel. In the early years the parade was a vehicle for activists and had no link to the city. However, the city realised the parade presented a significant opportunity to rebrand Tel Aviv. In 2008 the city opened an LGBT Centre in Tel Aviv to coincide with the annual parade. That year tens of thousands of people from around the world attended the parade, including representatives from Google and Microsoft. Overnight the world's perception of Tel Aviv changed and the city appeared for the first time as a top tourist destination for the pink pound or dollar.

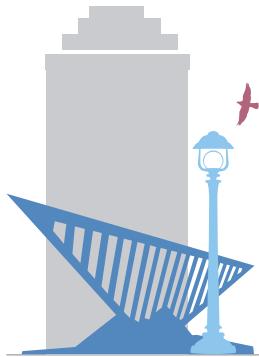
Another example, the White Night Festival, was introduced in 2003 to celebrate the designation by UNESCO of Tel Aviv's White City as a world heritage site. Under the nurturing of Tel Aviv City Council, the Festival has grown into an internationally recognised event that draws in people from all over the world. During the festival the city remains open all night and is filled with concerts on the beach, mass dance events and open public spaces.

Alongside Tel Aviv Pride and White Night, the city has helped to develop a whole host of jazz festivals, music festivals and arts festivals. These events have helped to confirm Tel Aviv's new identity as a 24 hour 'non-stop city'; a city where you can eat, drink and dance all night.

The third priority was to make Tel Aviv feel pluralistic. In the words of one interviewee "the city itself and the people who live in Tel Aviv must feel free". The intent was to contrast the liberal and free atmosphere of Tel Aviv against that of more conservative Israel. However, this aspiration was also born out of Tel Aviv's demographic legacy. Tel Aviv is a city whose residents are a mix of Jewish Israeli nationals, Jewish foreign nationals, secular Israeli nationals and Arab Israelis. For many years the south of Tel Aviv was home to the Arab Israelis and less well-off new immigrants. If Tel Aviv was to thrive, not only did it need to make itself attractive to prosperous middle class families, but it also needed to improve the quality of life for those who lived in the more deprived areas of Tel Aviv, such as southern Tel Aviv. The city set aside funds to improve neighbourhoods and services in particular areas and tax breaks were offered to encourage businesses to move into particular areas. However, in truth these efforts have not made a great impact; pockets of Tel Aviv remain relatively deprived and there is a perception by those who live there that municipal money is steered to other parts of the city.







## The Fightback

### Tel Aviv opens its doors

A series of measures were also taken to open up access to Tel Aviv and its institutions. The city worked with the central government to increase the capacity of Ben Gurion airport and in 2004 a third terminal was added. In conjunction with this the Israeli Antitrust Authority started to make rulings that El Al, the Israeli national airline was anti-competitive and this paved the way for international airlines to access the main global routes in and out of Tel Aviv. Pressure has remained on El Al in the last few years and soon Ryanair, the Irish airline will start flying regularly to Tel Aviv following the recent success of easyJet's entry into the market. International passenger numbers at Ben Gurion airport have increased from 11.1 million in 2008 to 13.5 million in 2013<sup>320</sup>.

Efforts were also made to link Tel Aviv's residents to city government. Not only were citizens involved in the creation and dissemination of the City Plan, but residents are encouraged to use municipal buildings alongside the government. For instance the reception area of Tel Aviv's City Hall on Rabin Square is opened to children to play in once a week; the escalators have been decorated by local graffiti artists; and play areas have been built. While these may seem like minor actions they have done much to make residents feel that city government is open and accessible.

One of the reasons Mayor Huldai and his team were able to make all of the improvements to the urban landscape, introduce festivals, cultural events and other measures that improved the quality of life in Tel Aviv quickly, was because they had direct control over funds to invest. When the Mayor took office, Tel Aviv's budget was firmly in the red. Through tight management and years of discipline, the budget was brought back into the black.



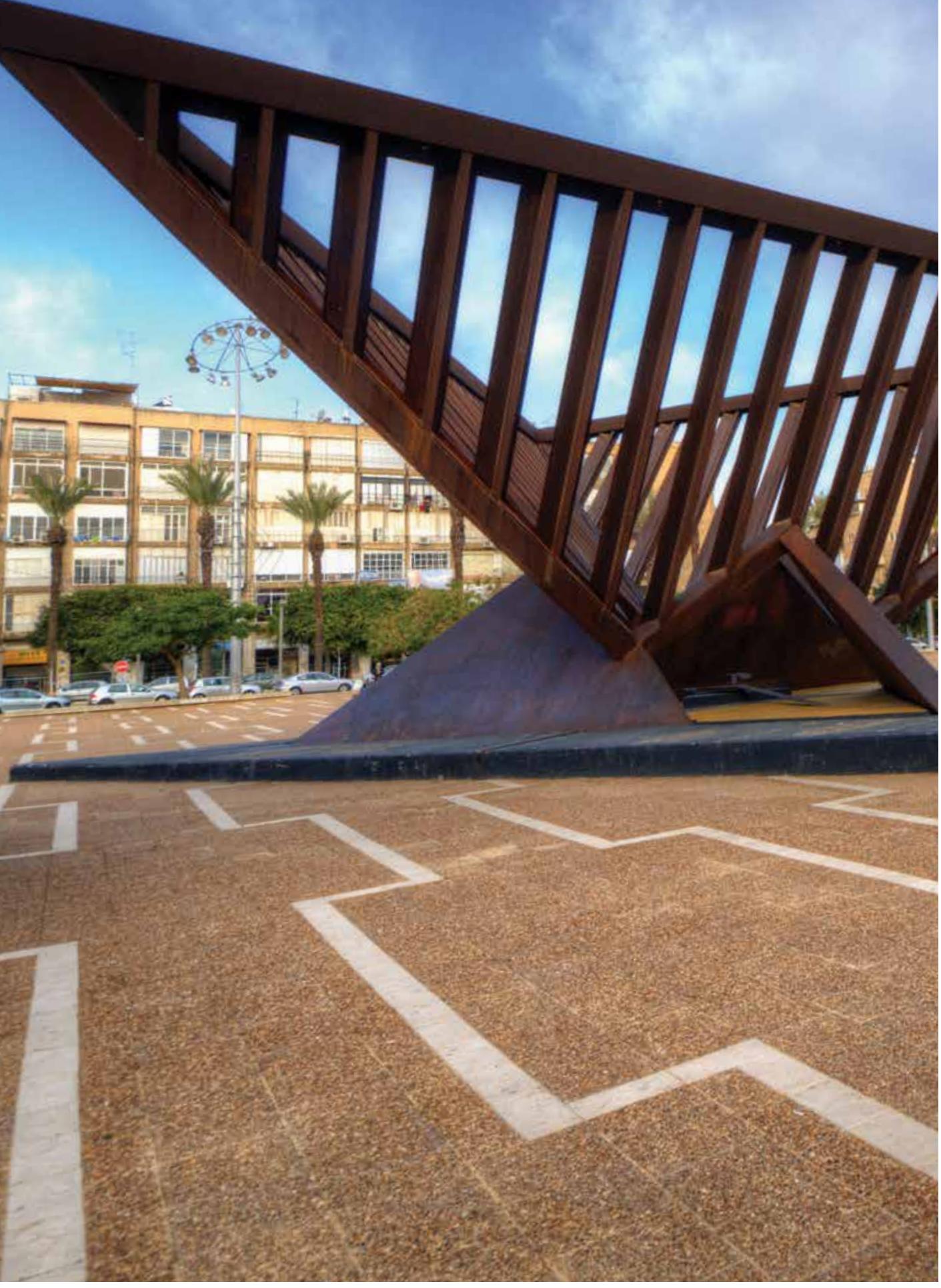
Tel Aviv's direct tax raising powers provided most of the funds used to redesign the city. The city of Tel Aviv levies a local real estate tax, the Arnona municipal tax. The Arnona tax is collected per square meter of residential and commercial property. The rates vary by the four local authorities that make up Tel Aviv and as a result can vary significantly by neighbourhood. This tax base makes up 50 percent of Tel Aviv's annual budget for services and activities provided by the city, and as a result 50 percent of Tel Aviv's budget has no central government strings attached<sup>321</sup>.

Of course with this tax structure, the most obvious way to increase the city's tax base is to increase the population and the total square footage of real estate. This combined with the sky rocketing cost of Tel Aviv property, has forced City Hall to reconsider zoning. Most of the city's apartment blocks have been built to a maximum height of four stories. However, new zoning rules are being considered which would allow an additional three stories to be built atop existing buildings and new high-rises will be allowed a maximum of ten stories. As a result, a construction boom is underway and Tel Aviv's skyline is midway through a remarkable transformation.

### Factories of the new age

So far the story of Tel Aviv is one of extensive physical renewal. And it was this renewal that paved the way for Tel Aviv to become the current start-up capital, not just of Israel, but of the world.

Israel has long had a reputation for cultivating gifted technology entrepreneurs. In 1994 NICECom, a company specialising in a communication diagnostic tool, was sold to 3Com for USD 54 million<sup>322</sup>. Four years later in 1998 AOL purchased a small Israeli company, Mirabilis, a pioneer of ICQ instant messaging technology, for more than USD 400 million<sup>323</sup>. Gilat, one of Israel's earliest major IPOs entered into a multi-million joint venture with Microsoft in 1999 to deploy a satellite communication network, a deal which garnered international headlines<sup>324</sup>. These companies placed Israel firmly on the global technology map.





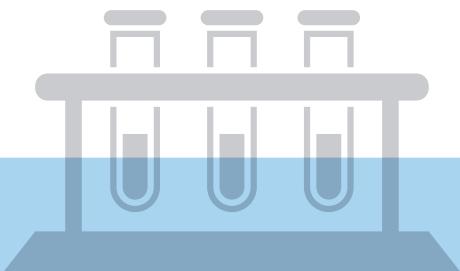
## The Fightback

The Israeli proclivity for technological innovation and entrepreneurship is born out of unique circumstances and progressive central government policy. First, for obvious reasons, Israel is a highly militarised country. All Israeli citizens serve in the Israeli Defence Force (IDF) for at least two years from the age of 18. In addition to army and air force units, there are a number of Intelligence units. IDF's intelligence corps have produced generations of Israeli citizens steeped in the practical use of cutting-edge technologies including the founders of NICE and Gilat.

As one interviewee put it, "[IDF] was like working in a high-tech start-up, but wearing a uniform." IDF's Intelligence units do not just use existing communication and analytic technologies, but also originate them. The intelligence units, of which 'number 8200' is the most famous, provide young Israelis with the technical training of an MIT PhD programme, the acumen of a Harvard Business School education and the discipline and focus of the IDF, one of the foremost military services in the world. It is an extraordinary means of hot-housing Israeli talent and some suspect the IDF Intelligence units today select individuals not just on the basis of their suitability for the unit, but also for their potential to establish and grow new businesses in the future. Economic growth, which was once a happy by-product of Israel's military services, is now becoming one of its drivers.

Second, the IDF's Intelligence Corps alumni became recruitment targets by the major US technology houses such as IBM, Cisco, Microsoft and Google. After military service and university, many Israelis spent several years working for technology multinationals abroad. After a few years they would return to Israel to either launch start-ups or continue work in conjunction with the technology powerhouses. This created a strong network between these global firms and Israel's talented labour force. The list of global technology firms that have established major R&D facilities in Israel to tap into the well qualified talent pool is staggering; in Tel Aviv alone Google, Yahoo, Oracle, General Motors, Microsoft, Cisco, IBM, McAfee and Paypal all run global R&D facilities.

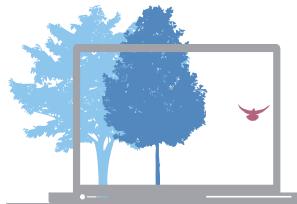
Third, the Israeli government had the foresight to invest in a venture capital infrastructure to help Israeli companies gain funding in Israel and therefore stay. For instance, Yozma, a USD 100 million part government owned venture capital fund was set up in 1993<sup>325</sup>. Within five years more than 60 venture capital groups were active in Israel, managing over USD 10 billion in funds<sup>326</sup>. In addition, development R&D funding was granted through the Chief Scientist office to provide guaranteed loans to encourage R&D facilities to locate in Israel.



## Chief Scientist R&D Development Fund

This innovative programme gives new R&D facilities access to guaranteed loans and potential investors by using a pre-investment evaluation. Evaluators from the Chief Scientists office visit and assess new R&D facilities and evaluate their technological development programmes. If the R&D's projects are deemed viable, the government grants interest free loans of between USD 150 thousand to USD 250 thousand to match private investment<sup>327</sup>. The loans are structured so they are repaid only once revenues from the R&D programme's resultant technology had reached the pre-agreed range.





## The Fightback

### Yozma Fund

The Yozma Fund was set up to attract foreign direct venture capital investment into Israel. To incentivise inward investment, foreign investors were offered matched funding at a rate of two to one. That is for every dollar a foreign investor committed to an Israeli entrepreneur, the government committed an additional two. To provide further up-side incentive, the government offered investors the option of buying out the government's stake in the fund after a set period of five years<sup>328</sup>.



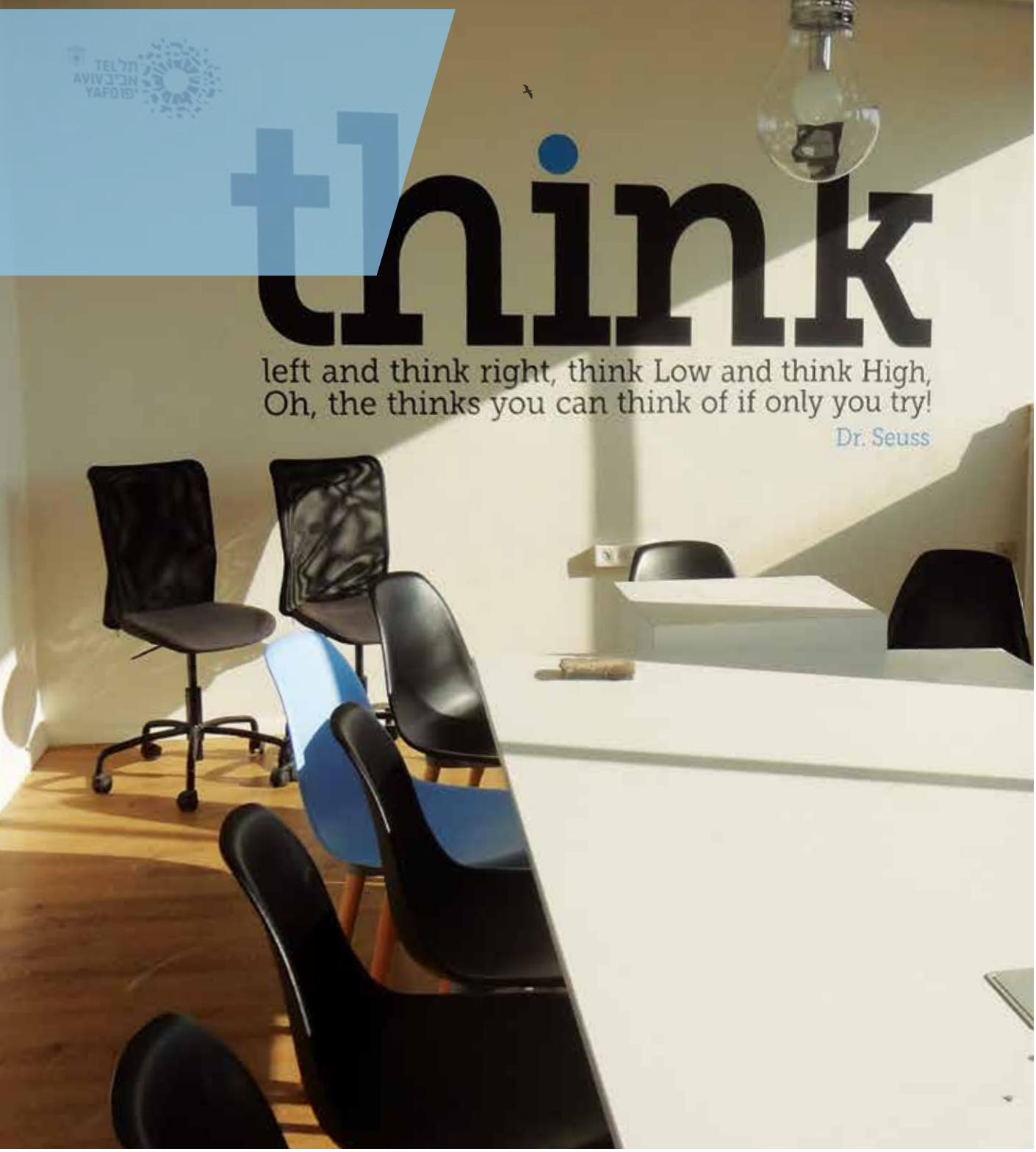
The initial offering was extremely successful. A total of ten venture capital groups managed a combined pot of USD 3 billion which was invested directly into Israeli start-up businesses<sup>329</sup>.

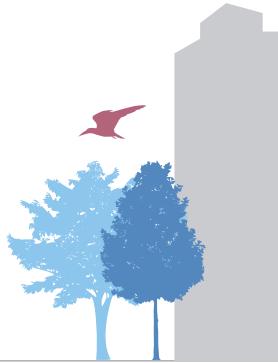
The results have been staggering: in 2008, venture capital investment in Israel per capita was 2.5 times greater than the US and 30 times greater than Europe<sup>330</sup>. That year the same amount of foreign venture capital flowed into Israel as it did into the UK<sup>331</sup>.

So, what is the link between Israel's high-technology boom and Tel Aviv? If Israel is the start-up nation, then Tel Aviv is its capital. When the programme to redesign Tel Aviv and make it a more liveable city was launched, its architects understood one important thing. That the founders of start-ups and artists have much in common. They are young, they need cheap space to work and they like to hang around together in bars and nightclubs. The two communities attract each other. Tel Aviv's leaders understood that for the city to succeed it had to appeal to both young creatives and tech entrepreneurs. And it is because Tel Aviv has hit this note successfully – it is a cool city for the urban hip – that Tel Aviv and its surrounding satellite start-up cities have become the nation's start-up nucleus. Had Tel Aviv not invested in the city it is highly possible that one of Israel's other cities would have taken the start-up crown.

In other words, Tel Aviv would not have been able to capitalise on Israel's wider start-up boom had it not reshaped the city to attract the urban young, the wealth creators who are driving Tel Aviv's high-tech revolution.

Once it became clear the plan was working, and young wealth creators were moving back into the city, the city government took a number of steps to support new businesses; after all it was important they succeed if Tel Aviv was to become the new Silicon Valley, or 'Wadi Valley'. Israel has a long history of shared working, a legacy of the agricultural kibbutz movement. This practice is now being used by Tel Aviv City Council to incubate young entrepreneurs. A number of municipal facilities such as city libraries have been converted into incubator start-up spaces. For example the municipal library at the top of Shalom Tower was underused so the city converted half of the floor space into a co-working space for entrepreneurs. Not only do aspiring entrepreneurs develop prototypes and business plans alongside each other, but guest speakers are brought in and seminars are held. This model is also being used by venture capital funds such as Genesis Partners. This Israeli venture capital firm runs a co-working accelerator in Tel Aviv called 'The Junction' where start-ups are coached through to the investment pitch. As of summer 2013, there were ten co-working spaces for entrepreneurs in downtown Tel Aviv alone.





## The Fightback

### The Library

The Library in the historic Shalom Tower provides a shared working space and hub facilities for teams dedicated to developing internet start-ups and new technology companies. The Library offers a professional infrastructure for young entrepreneurs which includes networking events, meetups and seminars.

Teams of start-ups apply to be based at The Library for a period of about four months. The idea is for a matriculating group of start-up teams to work together in the shared space for a set period of time and then graduate to another co-working space. In return, start-ups teams pay a subsidised rate of USD 70 per month for the facilities<sup>332</sup>.

### The Junction

The Junction is an accelerator that was set up by Genesis Partners, an Israeli Venture Capital firm, in southern Tel Aviv. On average 150 companies compete for one of the coveted 20 places on a three month wave<sup>333</sup>. The aspiring entrepreneurs work together in a modern loft-style space, coding prototypes and writing business plans.



In addition to creating physical spaces for start-ups to work and meet, the city has helped to foster a city culture in which start-ups are cherished. Tax incentives are provided to encourage start-ups to inhabit particular neighbourhoods and the city curates a programme of events focused on start-ups. For example the city coordinates an 'Open Start-Up' day where many of the city's start-ups open their doors to Tel Aviv's residents and business neighbours. By opening up these small offices of hyper-activity to the wider city, young entrepreneurs are demystified and the city is introduced to new technology innovations. In addition, the city sponsors a number of international start-up conventions and funding events as part of its roster of international events.

Partners and Directors from Genesis Partners coach the aspiring entrepreneurs as they develop their propositions, business and funding plans. Though a loss leader, Genesis Partners believes that the accelerator provides an important window during which it can identify high potential investment opportunities early on, whilst also injecting commercial acumen into nascent businesses other funds may choose to invest.

Tel Aviv city officials are now working hard not just to keep Tel Aviv's burgeoning entrepreneurs in Tel Aviv, but to attract the world's entrepreneurs to Tel Aviv, a city where "nothing is impossible." To attract entrepreneurs from overseas, the city has set up a practical website in conjunction with the Marker and sponsored by Bank Hapoalim.

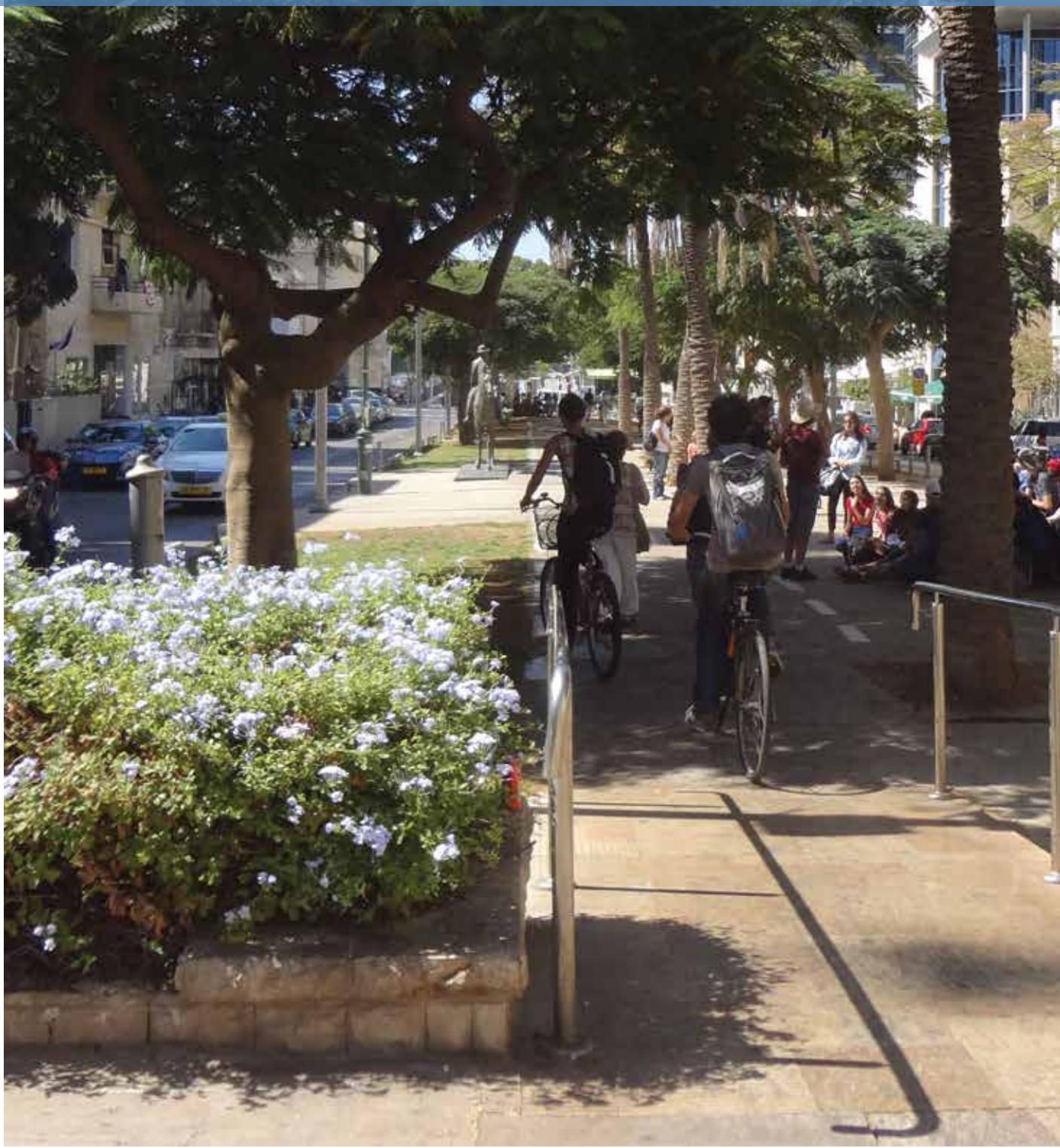
The TLV Biz website is aimed at providing entrepreneurs with a comprehensive one stop source of information. It features an interactive map of Tel Aviv where users can obtain information such as an area's average age, number of businesses and number of residential units. The user can then view the prices per square foot of the chosen area and even calculate the associated Arnona tax.



# THE VICTORY

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## "It is impossible to overplay the sense of start-up fever that pervades the city."

Today Tel Aviv is a city full of young, educated and highly ambitious residents. The cafes along Rothschild Boulevard, once a traditional financial services road, are full of aspiring entrepreneurs working on business ideas. Restaurants are full of start-ups thrashing through ideas and networking. Tall and shiny high rises dot the skyline with names like Google and Microsoft emblazoned on them. It is impossible to overplay the sense of start-up fever that pervades the city.

Sixty-something drivers of ancient taxis, sometimes missing the odd seat, pick up passengers using the technology of a Tel-Aviv based start-up, GetTaxi. GetTaxi is a mobile-based taxi cab ordering application that connects customers to taxi drivers using a proprietary GPS system that enables customers to order cabs with smart phones. The application has been rolled out to 20 cities in four different countries (Israel, United Kingdom, US and Russia)<sup>334</sup>. Tel Aviv's taxi drivers, unlikely early adopters, are start-ups' advocates.

The city's residents source services, such as gardeners and odd jobs using Fiverr.com a website that was launched in Tel Aviv in 2010. Fiverr is an Amazon-type marketplace for services that is now one of the 200 most visited websites in the world<sup>335</sup>. And all of Tel Aviv's drivers feed information into Waze, a crowd-sourced real-time information GIS system that helps to navigate the city. Tel Aviv drivers adopted Waze's prototype technology in droves and in summer 2013 the Tel Aviv start-up was sold to Google for a staggering USD 1.3 billion<sup>336</sup>.

As a result of Waze and other recent deals, Tel Aviv has become 'exit' mad. Exit is the term used to describe when a start-up is sold or IPOd. There is some concern that Tel Aviv's start-up kings and queens are too focused on the exit pay-day and don't have enough interest in growing successful start-ups into large globally competitive businesses.

However, it is worth emphasising that the strategic plans of the city and the significant efforts made by Tel Aviv city council to stop the decay and make the city a highly liveable city for the young, paved the way to Tel Aviv's current technology renaissance. And the numbers support this.

Today 28 percent of all residents are aged between 20 to 34 years old<sup>337</sup>. Instead of losing residents, Tel Aviv is now gaining residents at a fast rate and has a population of more than 400,000<sup>338</sup>. Recent statistics show a 6.29 percent population growth from 2007-2012<sup>339</sup>. The monthly income per household is 11 percent higher in Tel Aviv than the average income in Israel<sup>340</sup>. Moreover, the city that was on the verge of bankruptcy today runs a budget surplus and maintains a credit rating of AAA+.

And Tel Aviv's GDP growth has exploded. While the start-up icing on the Tel Aviv's economic cake is drawing the most attention, multinational R&D facilities, financial services, tourism and leisure have all thrived in the reinvented Tel Aviv and have played an important role in redeveloping Tel Aviv's economy and turning it into the powerhouse it is today.



# THE PRINCIPLES

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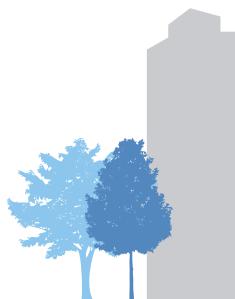
## Magnet cities attract young wealth creators

The cornerstone of Tel Aviv's plan was to attract young people back into the city. The city leader's understood that to succeed as a city, young people with families had to be lured back in.



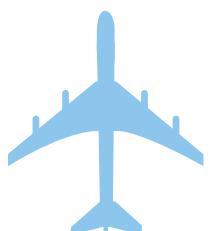
## Magnet cities undergo constant physical renewal

The city undertook an ambitious programme of refurbishment across the city. The idea was to reshape Tel Aviv into a lively playground for use by the young. The shoreline was remodelled and walkways introduced so bicycles and runners could use the city's main physical asset, boulevards and squares pedestrianised. Today the city continues the renewal programme and new districts are being built in the north of the city as well as a large new business area.



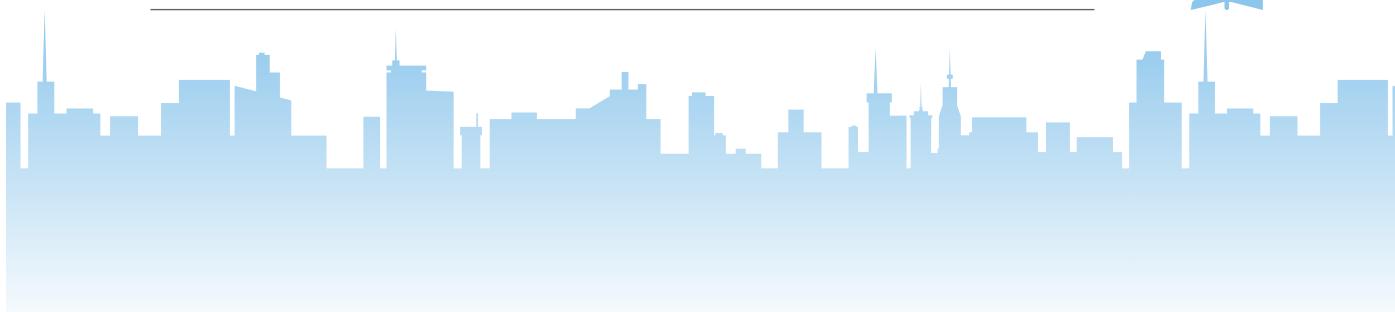
## Magnet cities have a definable city identity

The city worked hard to establish a new separate identity to that of Israel. The city settled on the concept of the 'non-stop city' to encourage young people to see the city as a place to work hard and play hard. By introducing new festivals and encouraging restaurants, bars and nightclubs to stay open late the city now appears regularly in lists that are great for young residents and visitors.



## Magnet cities are connected to other cities

To open up the city to more people, significant investment was put into the airport and deregulation of the Israeli airline industry has opened the door to more airlines establishing flights into the city. These now include budget airlines as well as the more established airlines, which will help to bring different groups of visitors into the city.



**"The city leader's understood that to succeed as a city, young people with families had to be lured back in."**

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### Magnet cities cultivate new ideas

Tel Aviv's government proactively supports entrepreneurs and start-ups through a series of physical investments and events to further cultivate the start-up industry in the city. In addition the national government has helped to create a pipeline of investment funding through progressive ideas such as the Yozma Fund.

### Magnet cities are fundraisers

The city paid directly for much of the refurbishment of the city. However, the Mayor and city government plays an active role to fundraise and secure investment funds and investors for the city's new generation of businesses. In addition, the city works hard to help multinationals like Google and Microsoft find sites for new research operations.



### Magnet cities have strong leaders

Much of the city's renewal has taken place under the stewardship of Ron Huldai, the Mayor of the city. Huldai is a strong leader who set a clear vision for the city and has fought hard to make it into a reality. His 'take no prisoners' style of leadership has been immensely effective and many attribute much of the city's revival in fortunes to his leadership.



# TIMELINE





White Night Festival commenced to celebrate the designation of Tel Aviv's White City as a UNESCO World Heritage Site

2003

2004

Mayor Huldai oversaw the development of a city master plan

Third Ben Gurion Airport Terminal opened



[www.shutterstock.com](http://www.shutterstock.com)



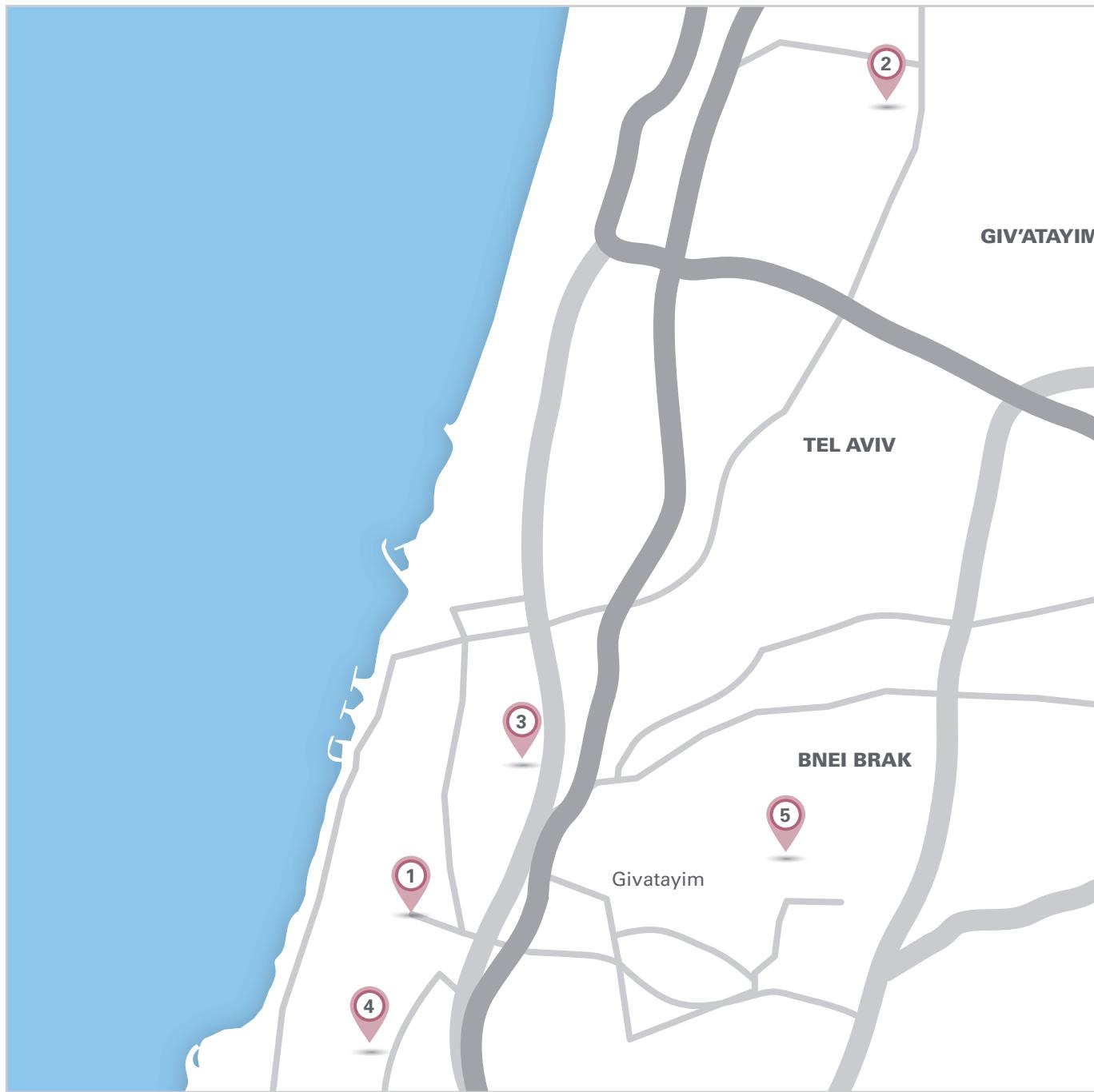
Google purchased Waze for a staggering USD 1.3 billion

2013

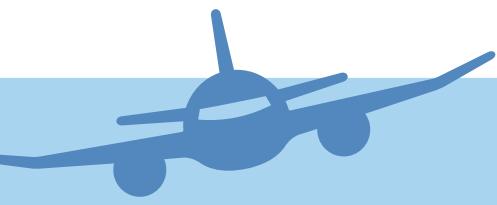
# MAP

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# Appendices





# APPENDIX 1

## COMPARATIVE DATA

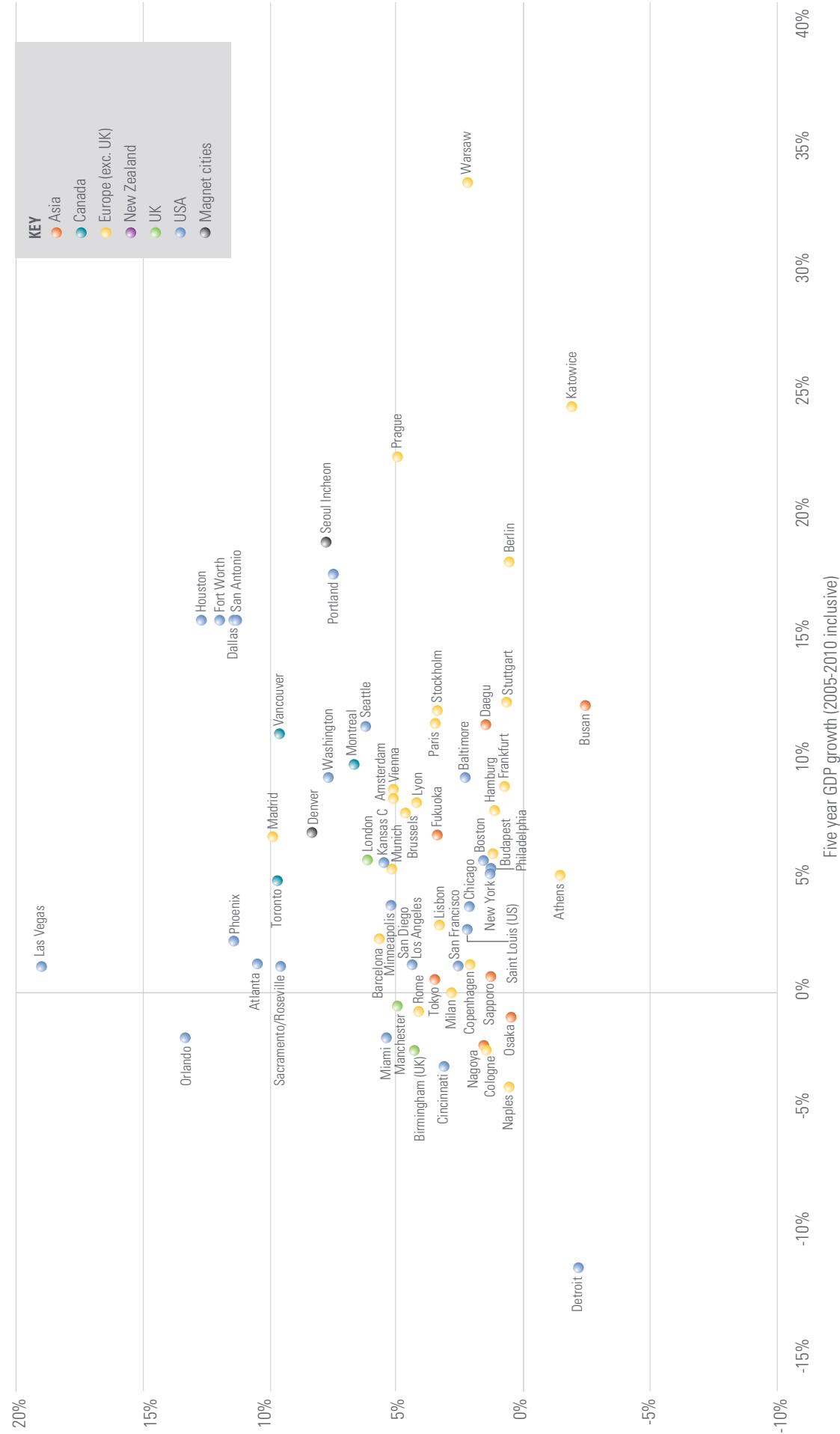


Malmö, Sweden

# POPULATION AND GDP GROWTH

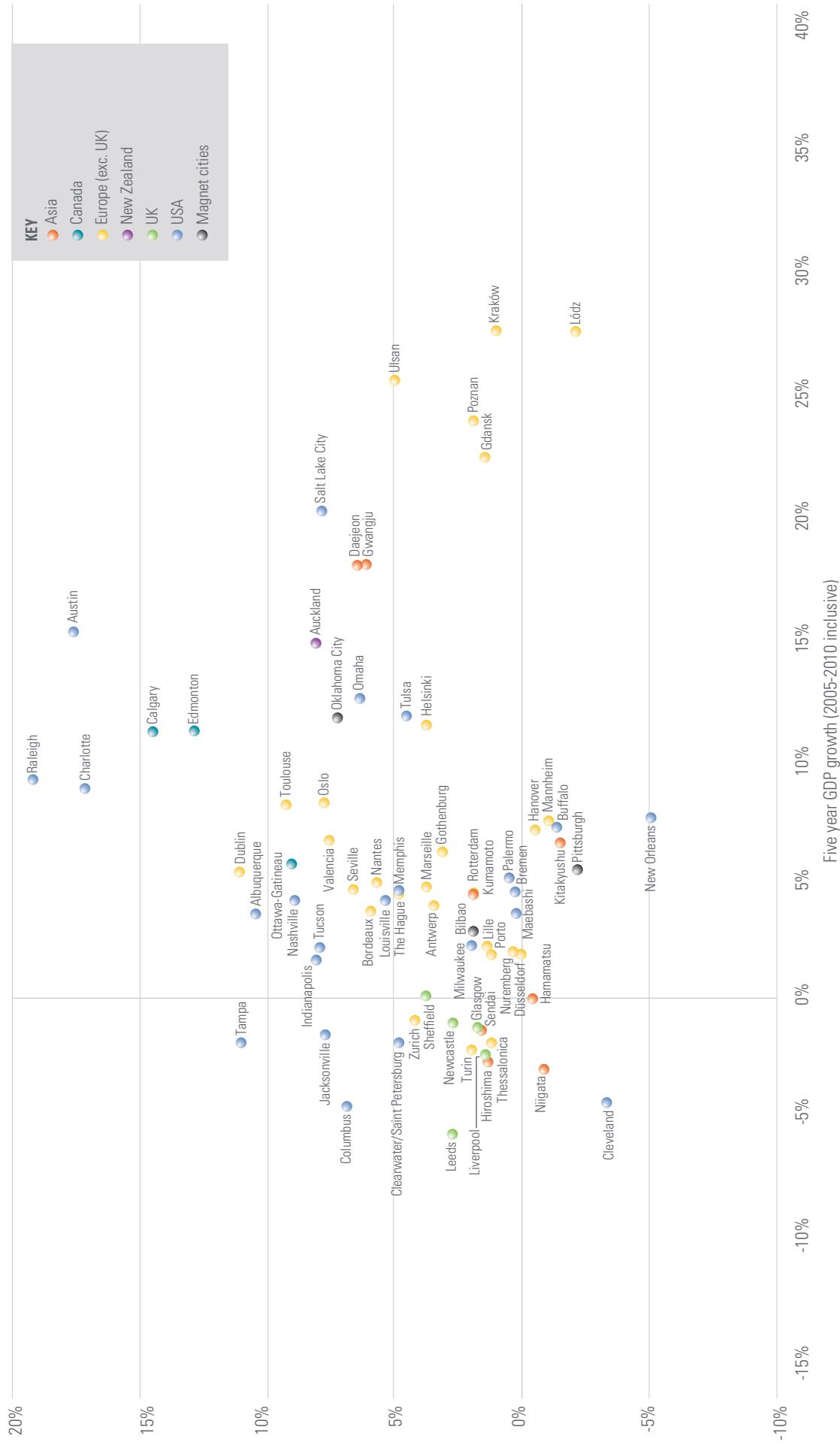
## Large cities – population over 1.75 million

Five year population growth (2005-2010 [inclusive])



## Medium cities – population between 850,000 and 1.75 million

Five year population growth (2005-2010 inclusive)



## Small cities – population under 850,000

Five year population growth (2005-2010 inclusive)

20%

15%

10%

5%

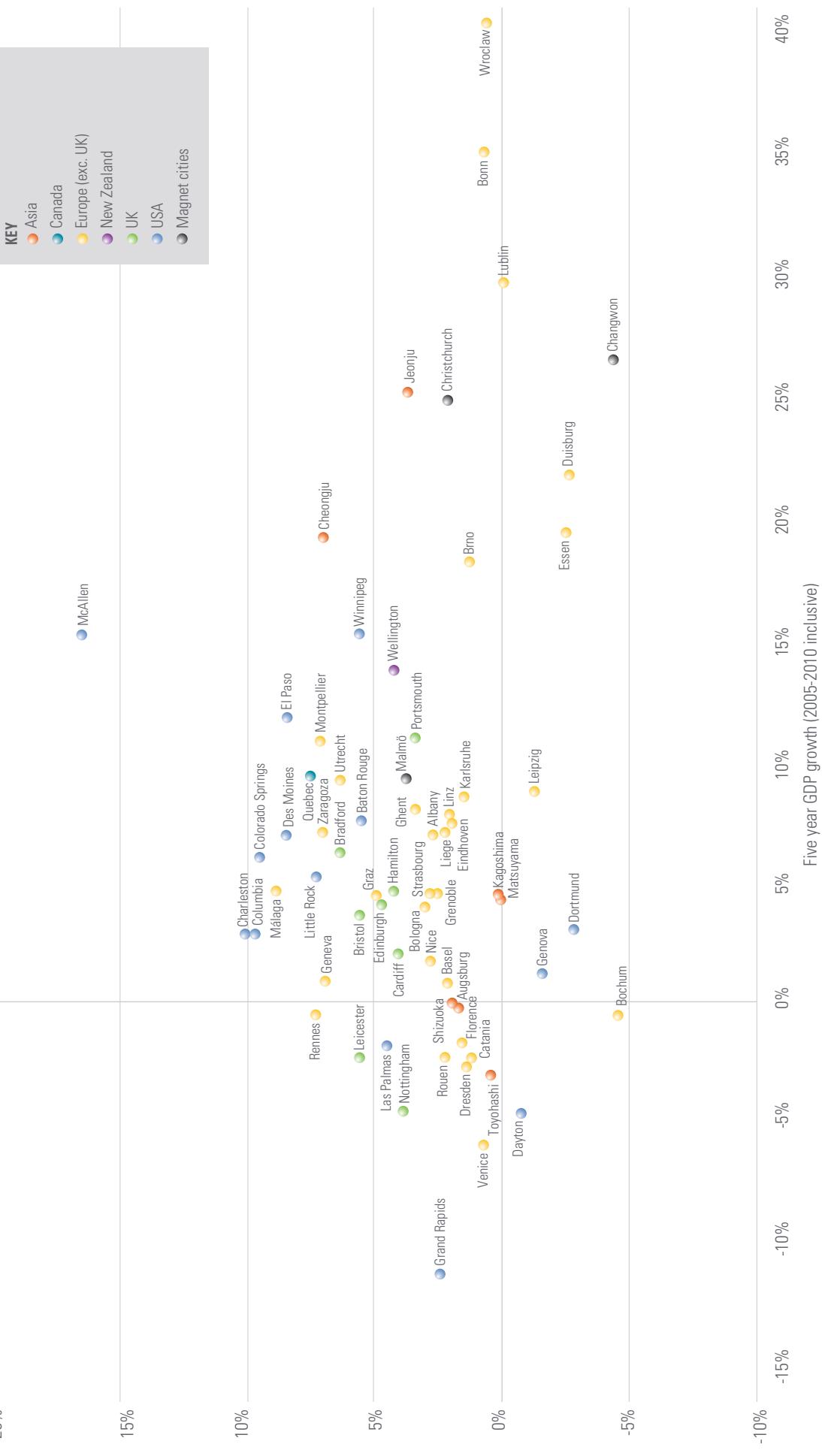
0%

-5%

-10%

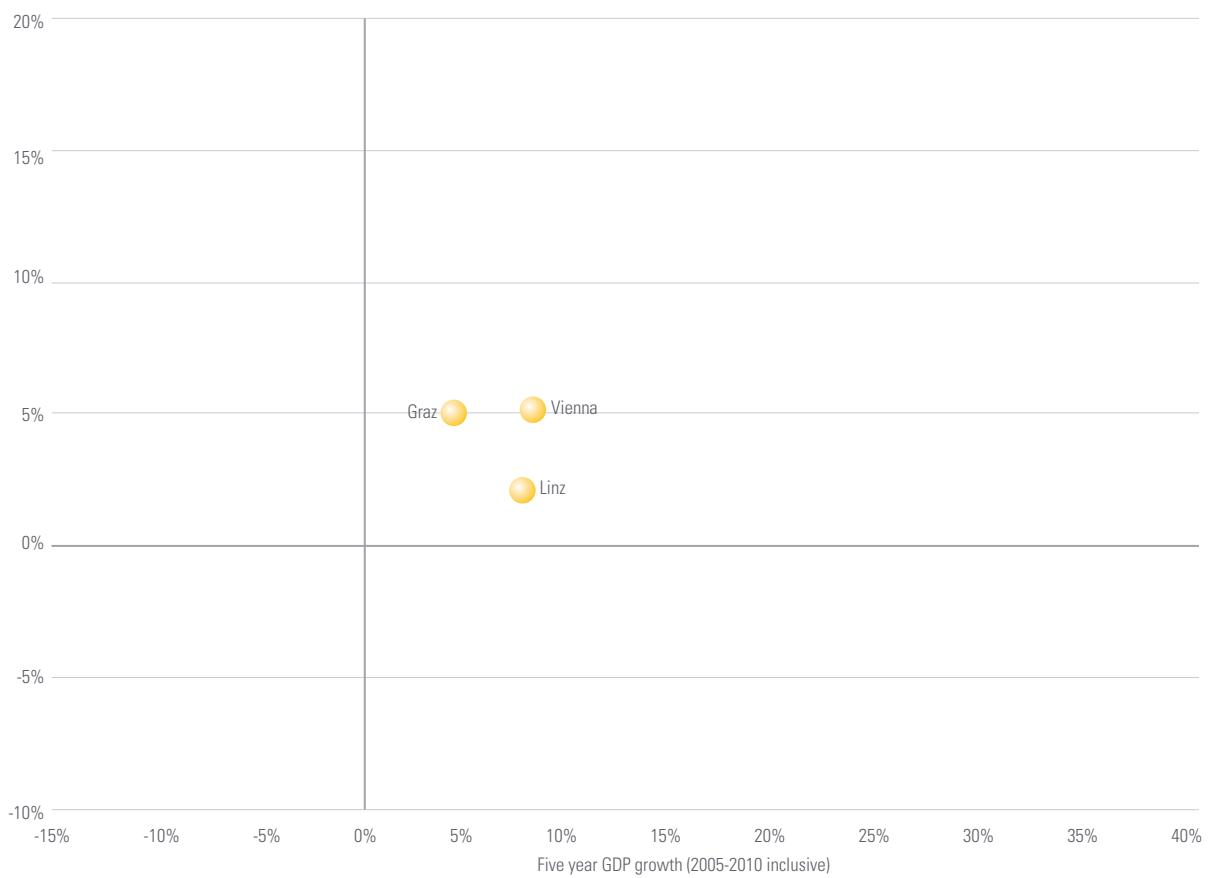
-15%

-20%



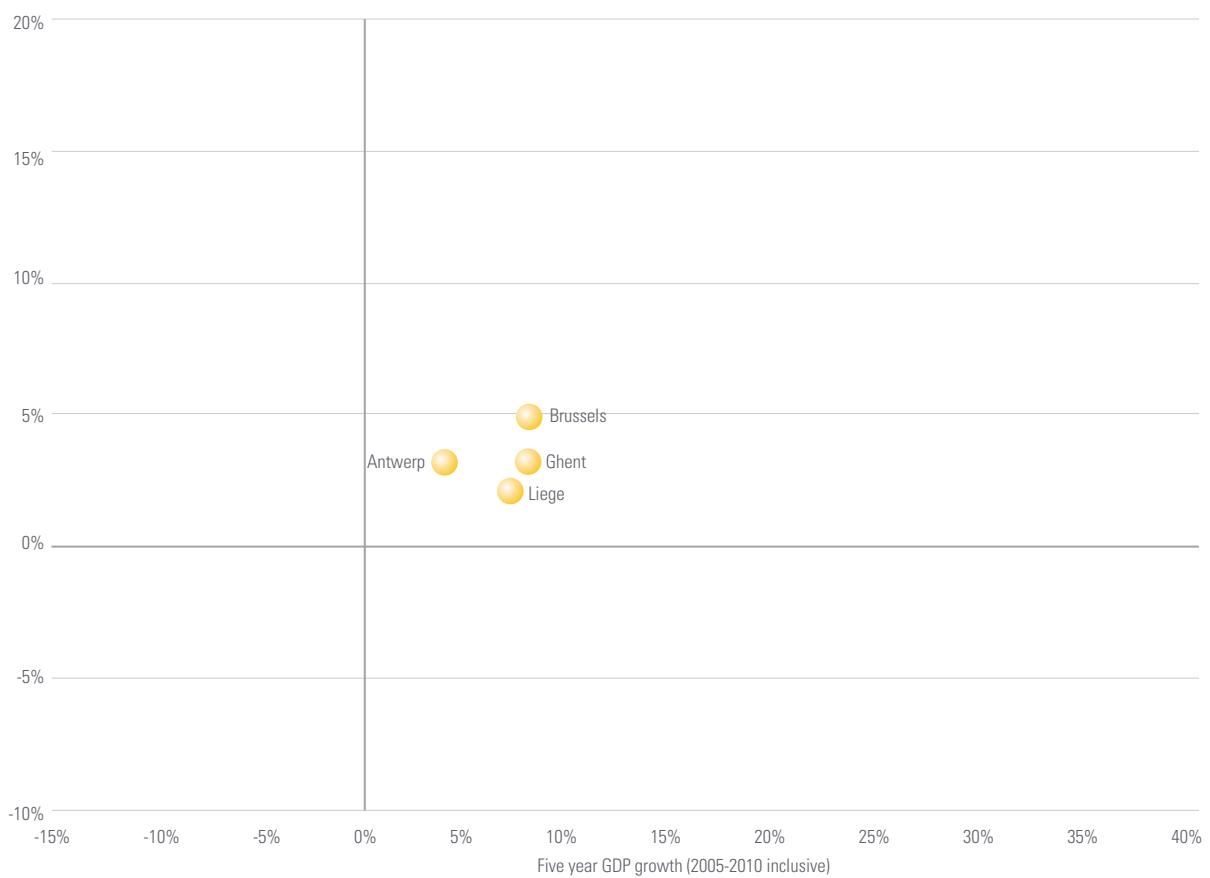
## Austria

Five year population growth (2005-2010 inclusive)



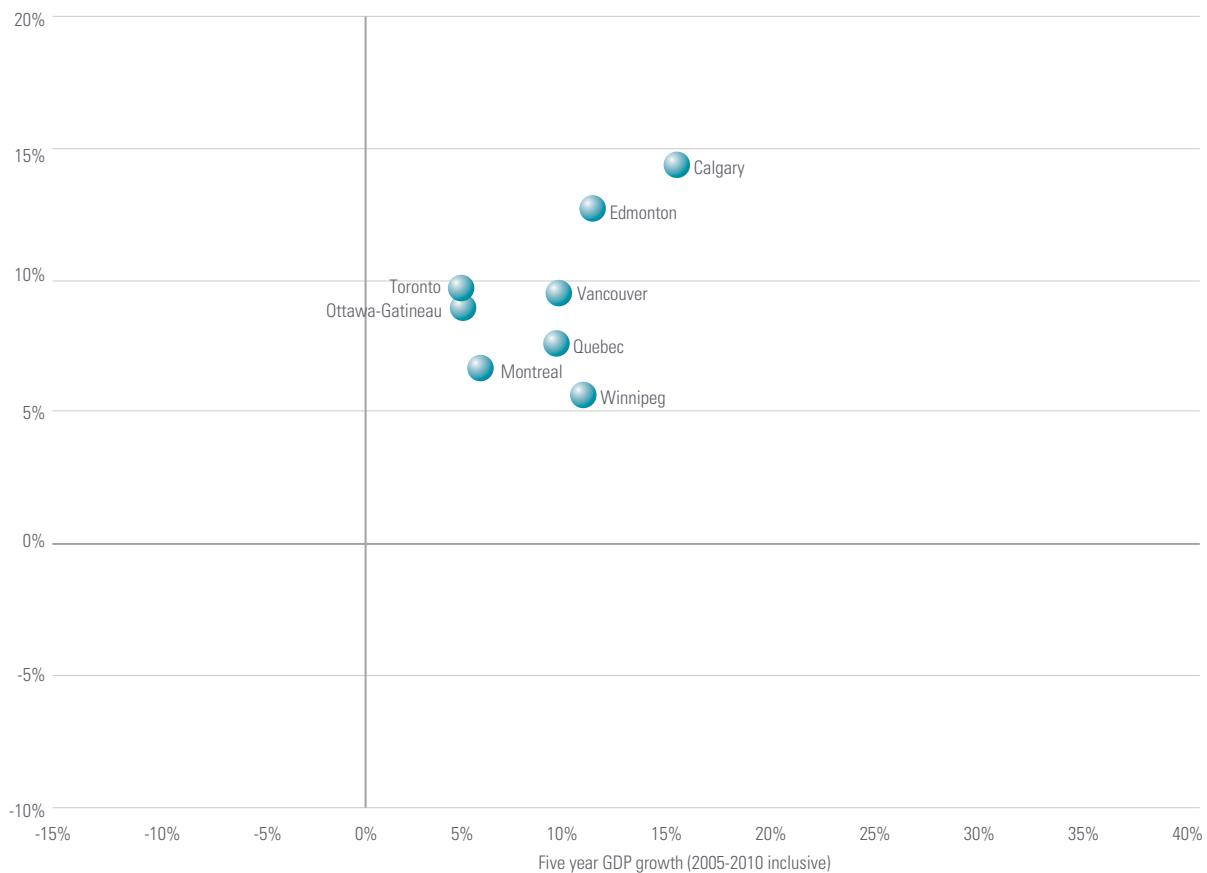
## Belgium

Five year population growth (2005-2010 inclusive)



## Canada

Five year population growth (2005-2010 inclusive)

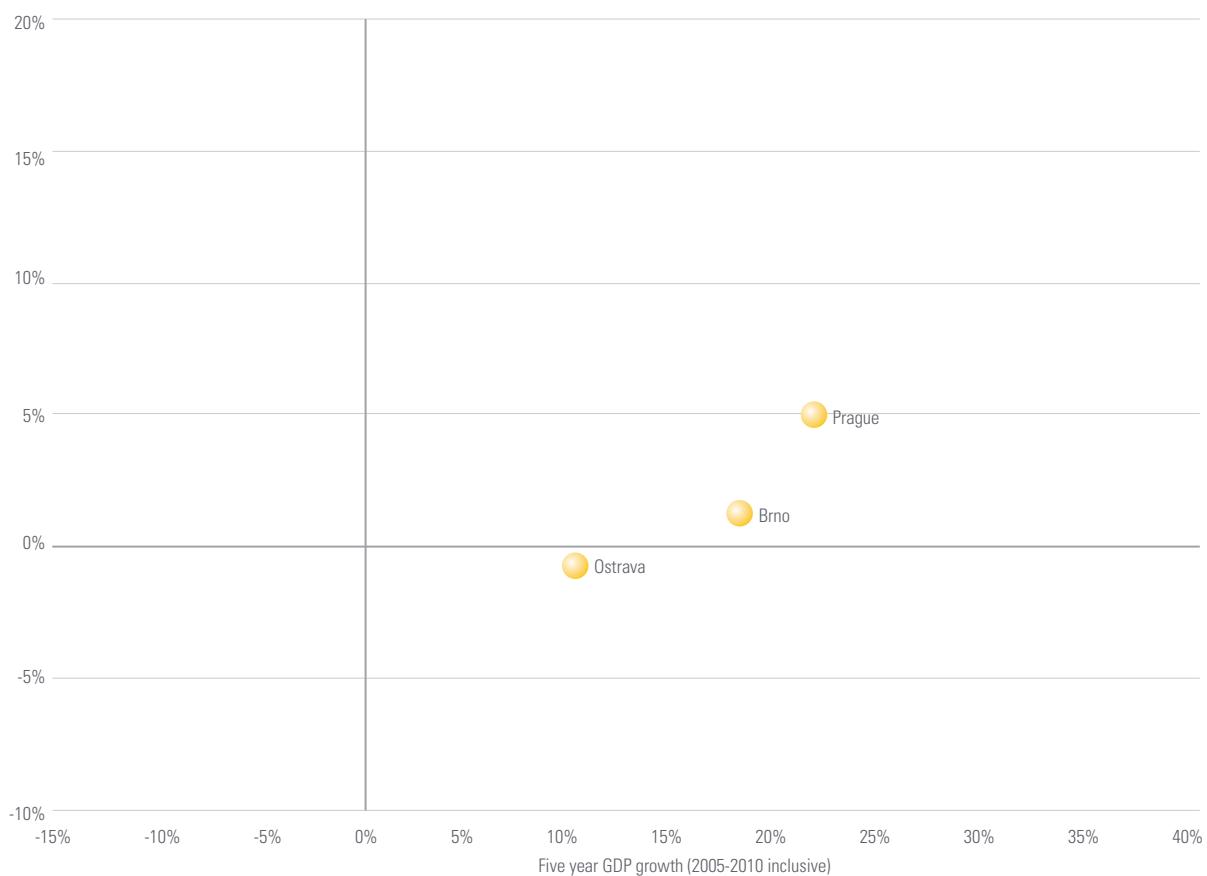


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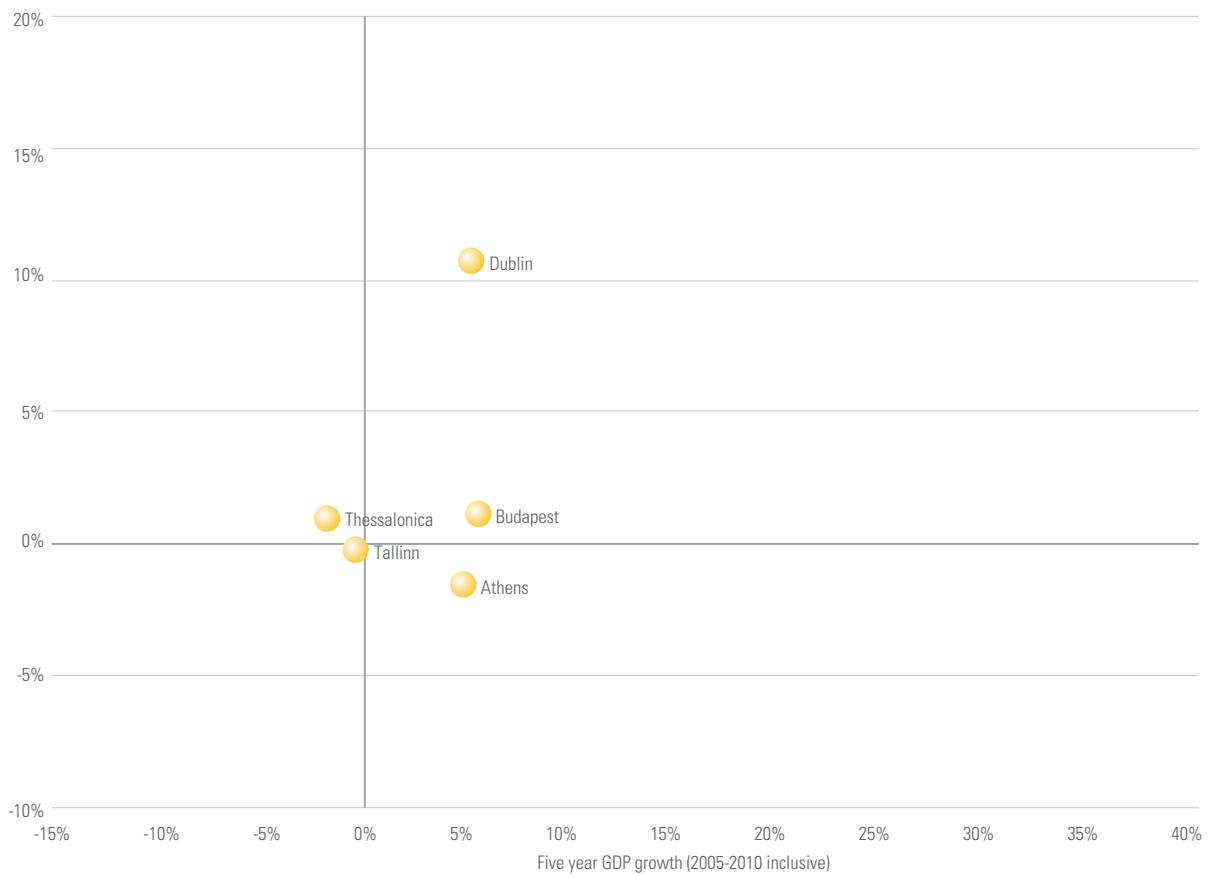
## Czech Republic

Five year population growth (2005-2010 inclusive)



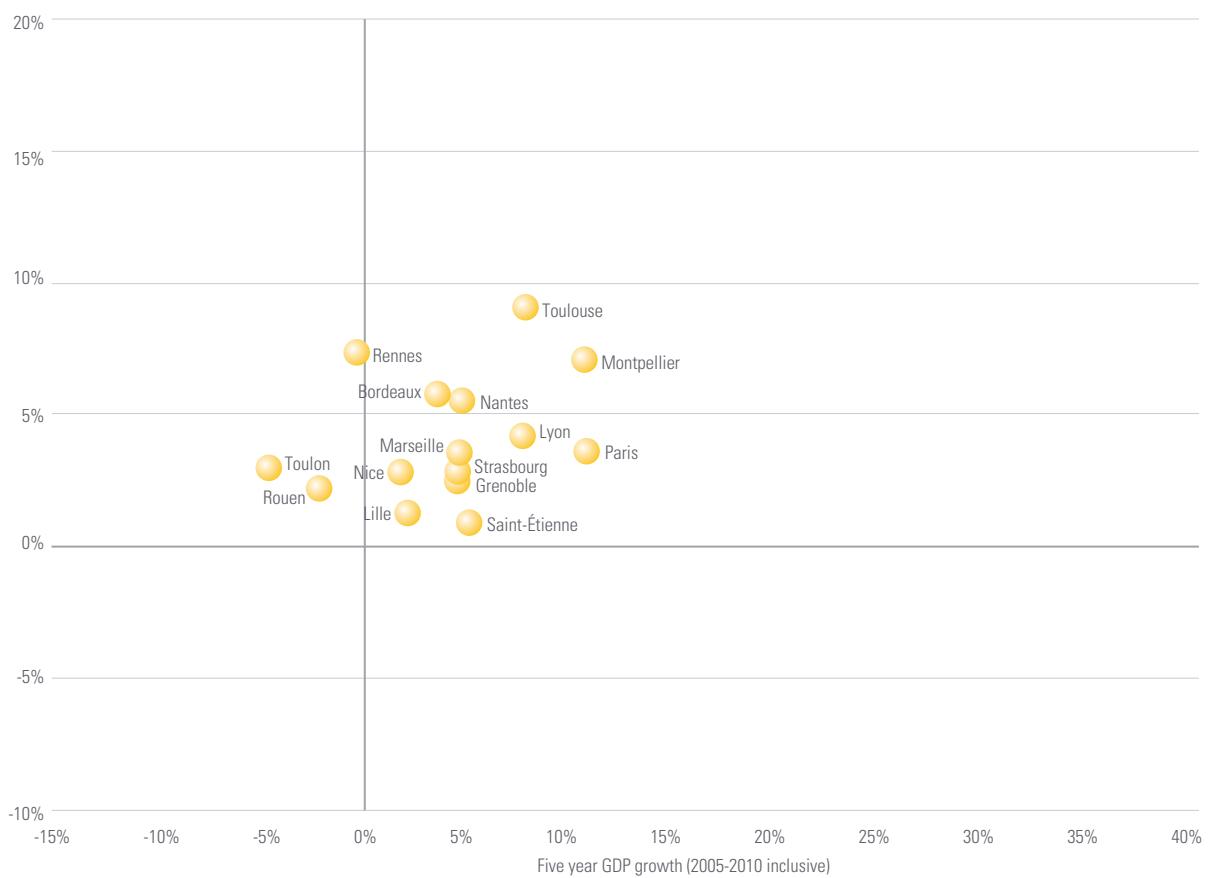
## Estonia, Greece, Hungary and Ireland

Five year population growth (2005-2010 inclusive)



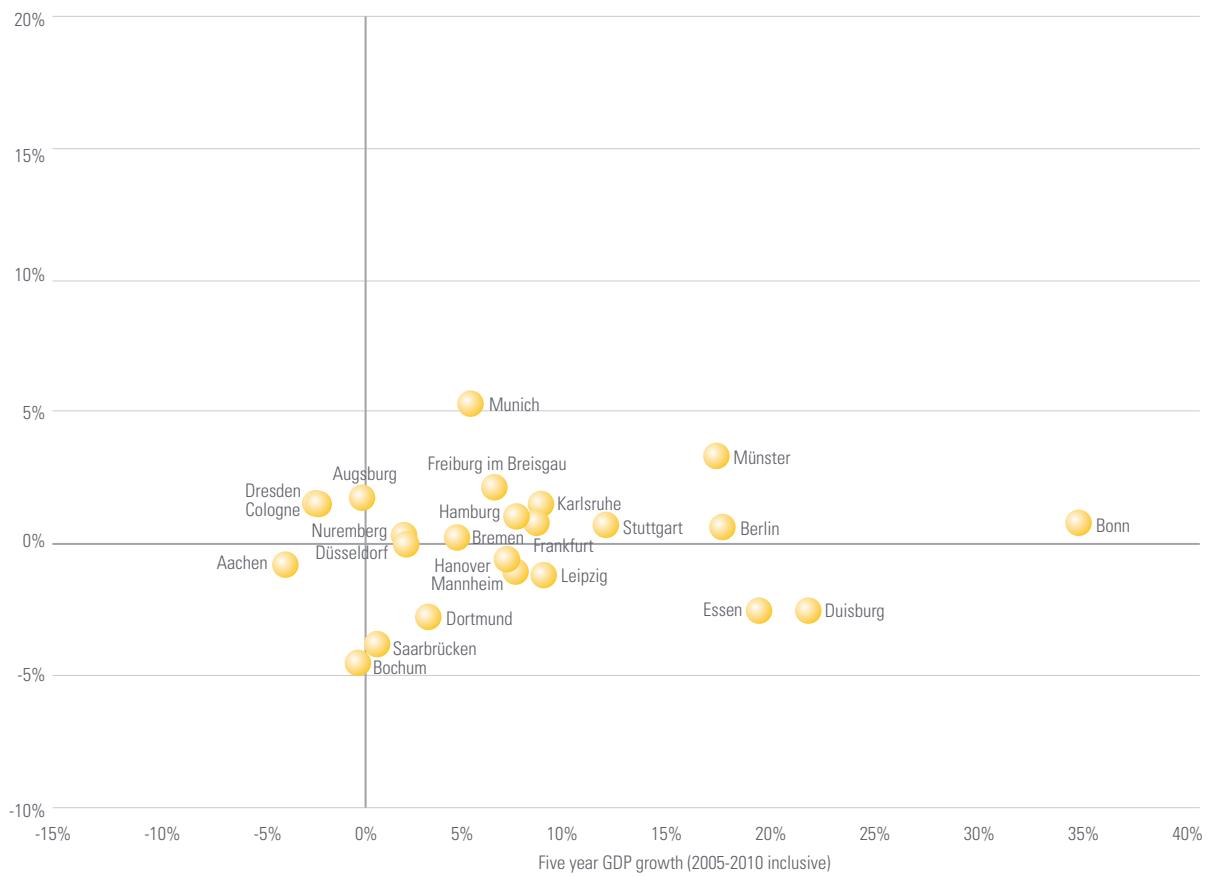
## France

Five year population growth (2005-2010 inclusive)



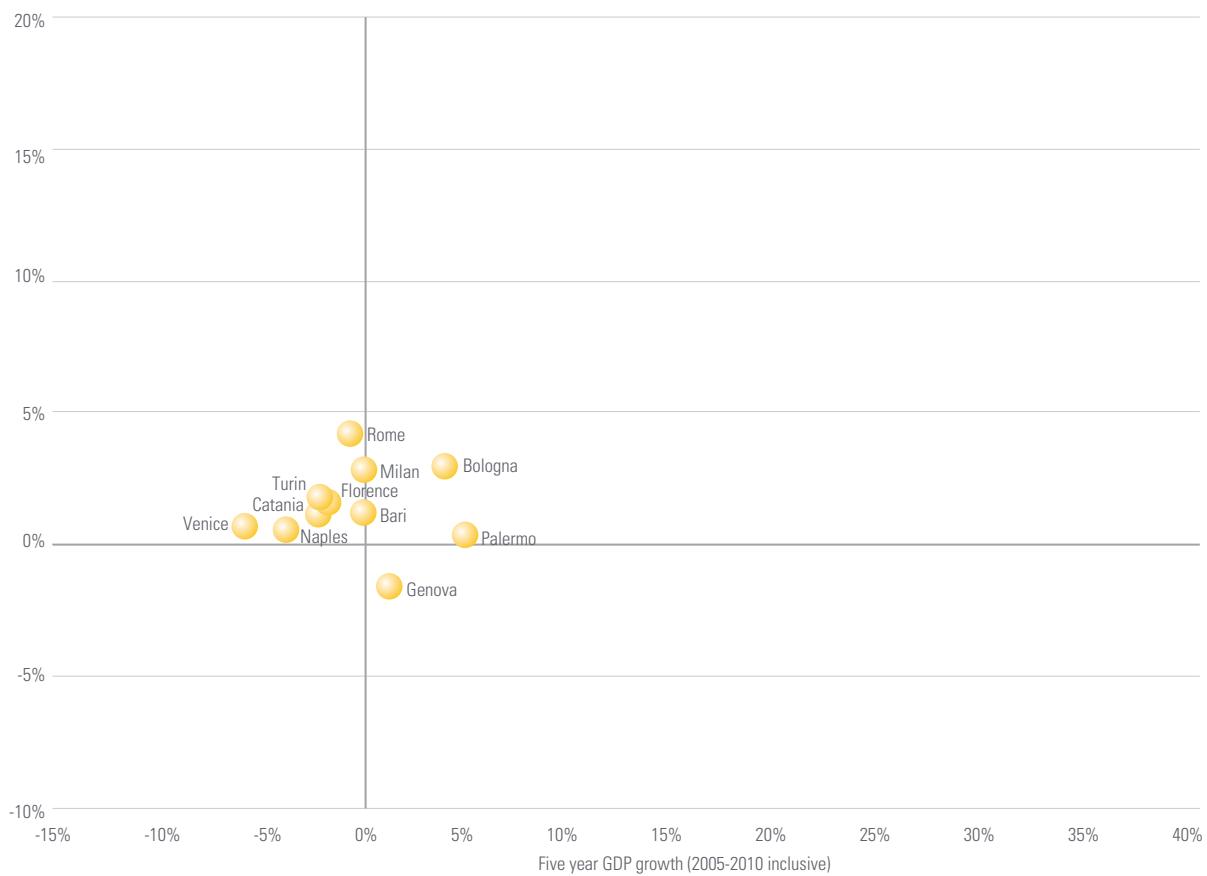
## Germany

Five year population growth (2005-2010 inclusive)



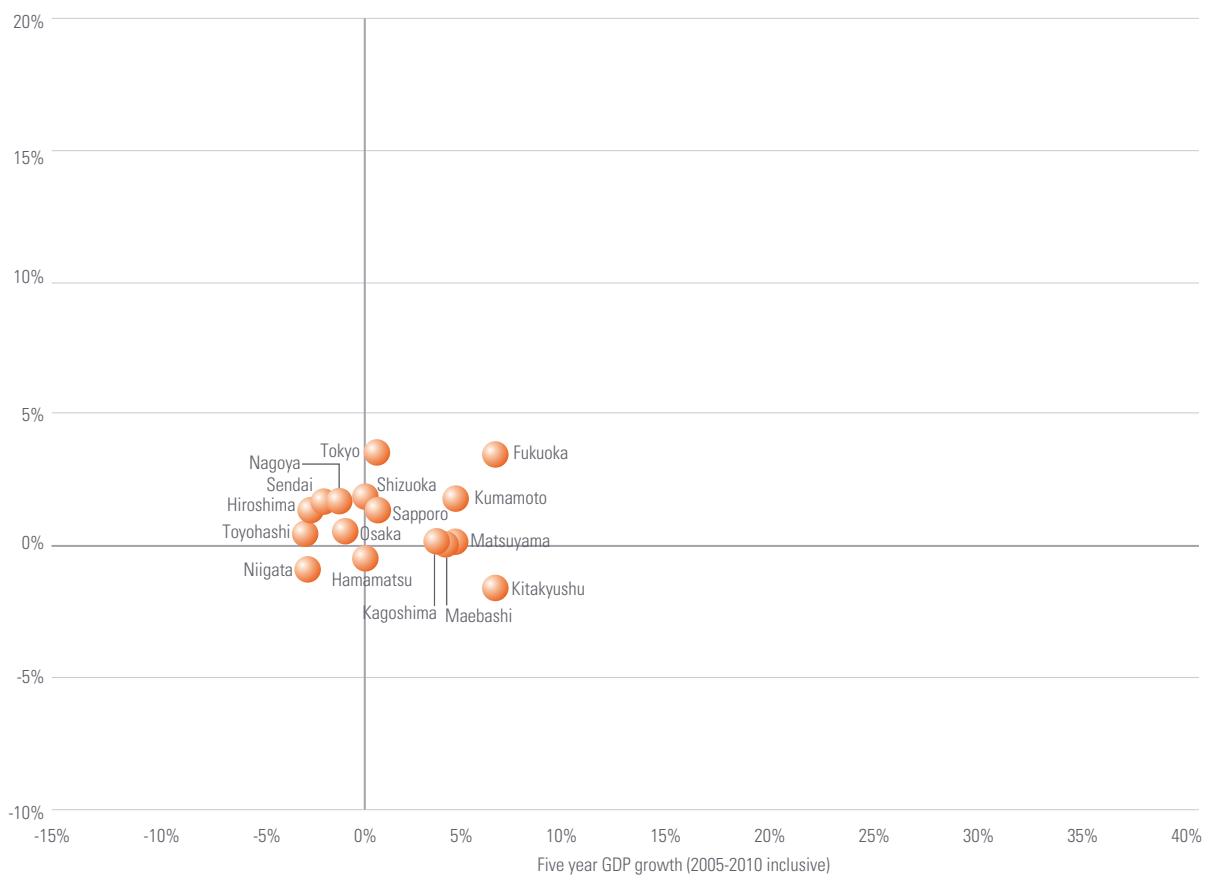
## Italy

Five year population growth (2005-2010 inclusive)



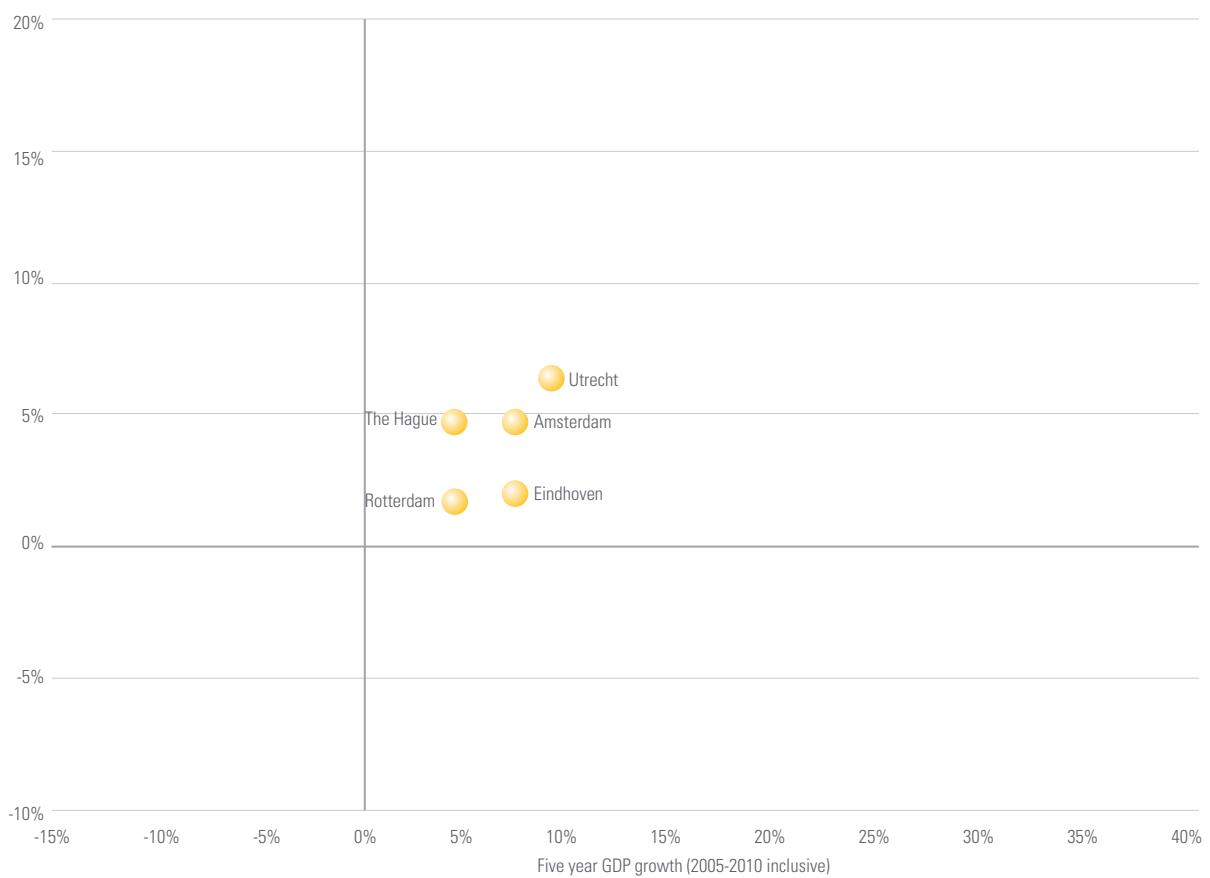
## Japan

Five year population growth (2005-2010 inclusive)



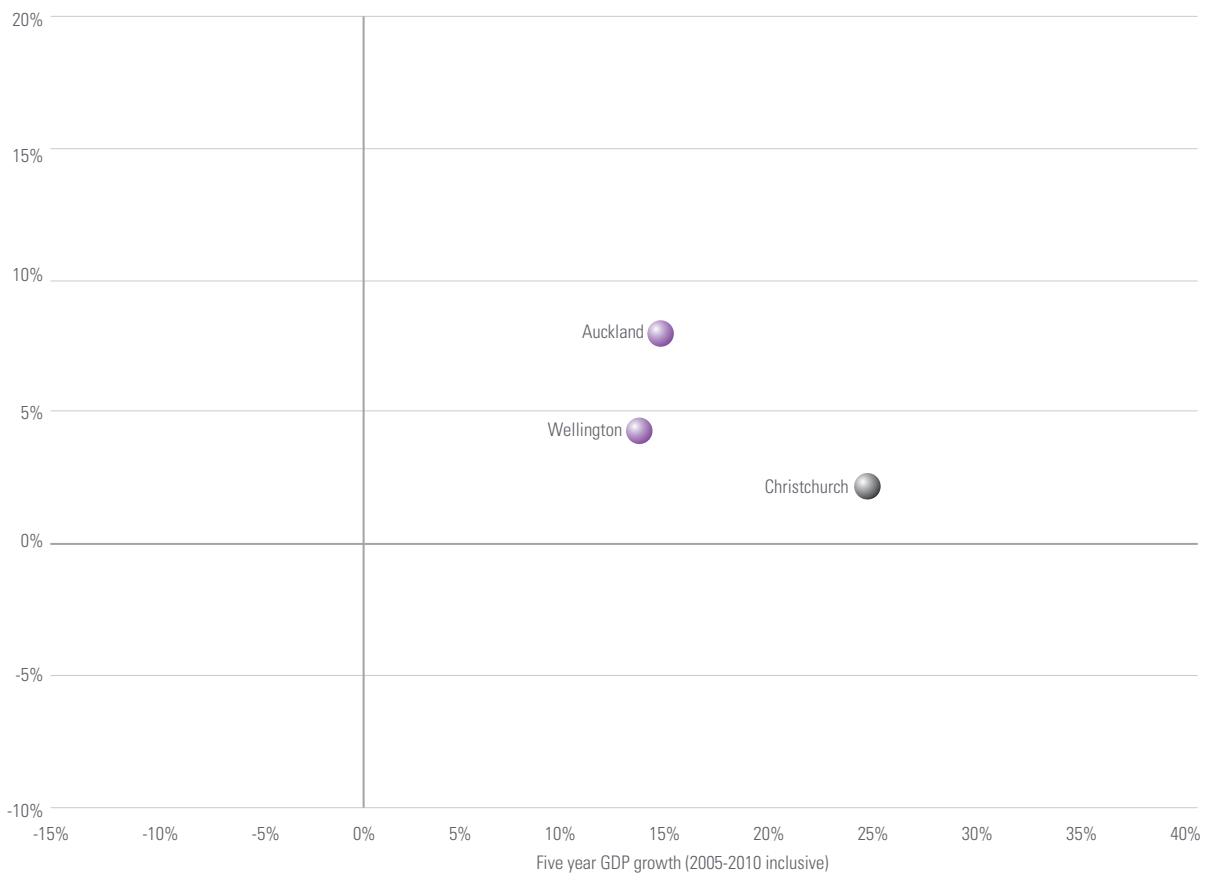
## Netherlands

Five year population growth (2005-2010 inclusive)



## New Zealand

Five year population growth (2005-2010 inclusive)

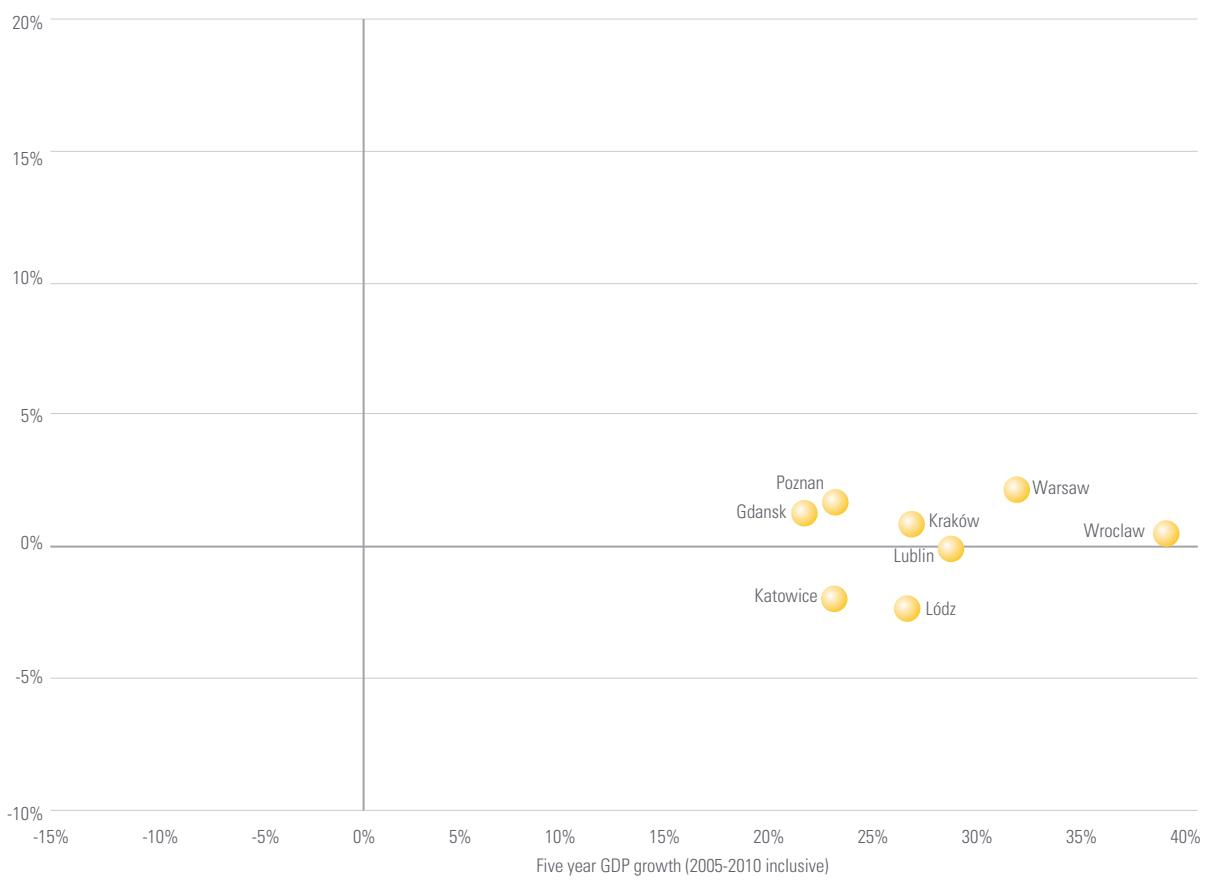


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APPENDICES | MAGNET CITIES

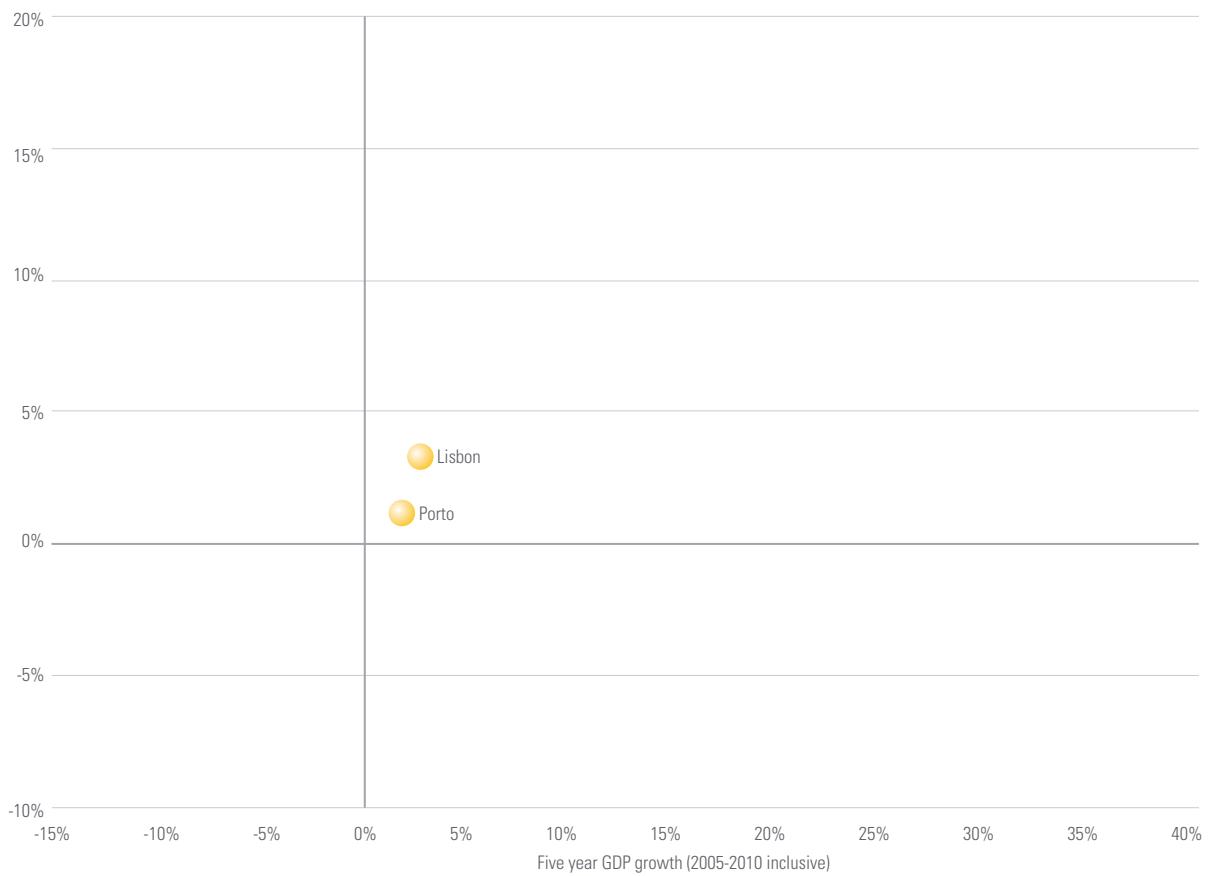
## Poland

Five year population growth (2005-2010 inclusive)



## Portugal

Five year population growth (2005-2010 inclusive)



## Scandinavia

Five year population growth (2005-2010 inclusive)



## South Korea

Five year population growth (2005-2010 inclusive)

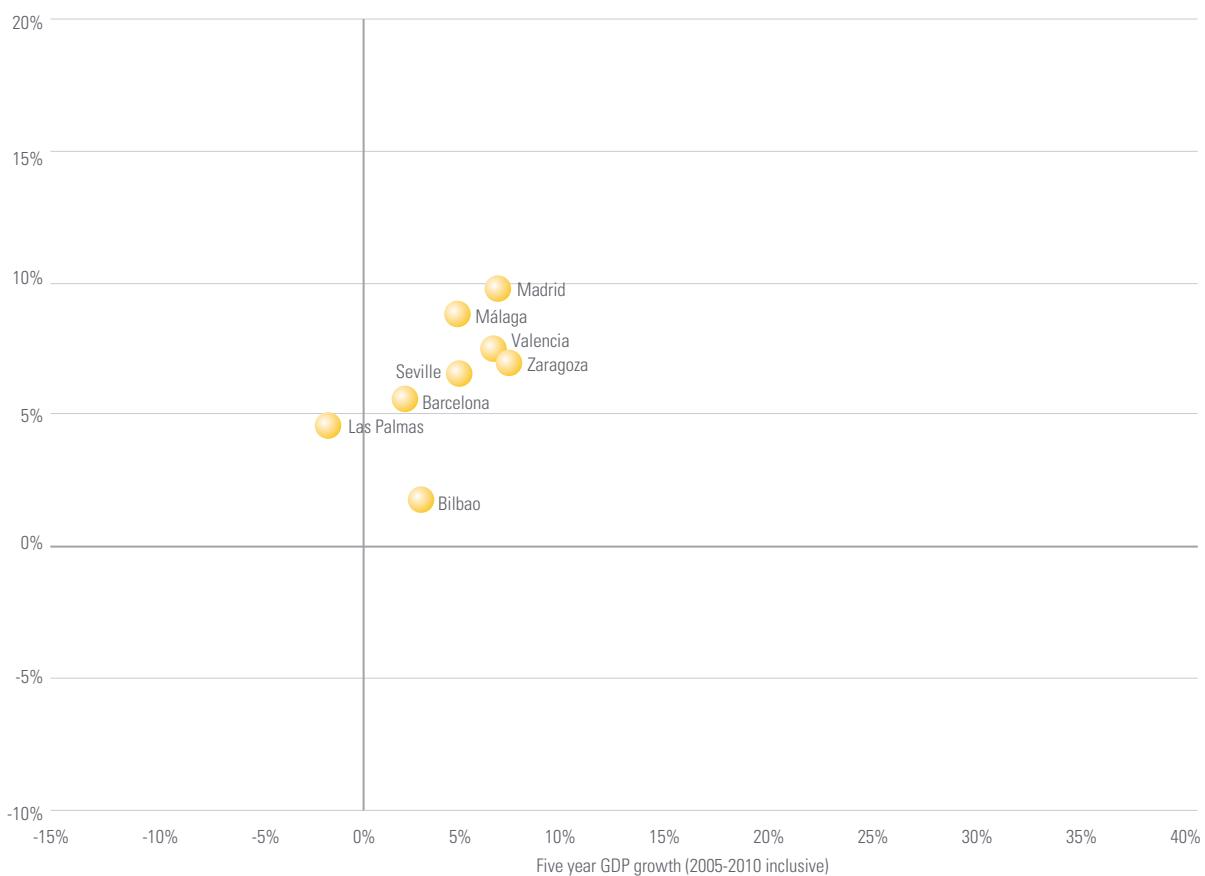


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APPENDICES | MAGNET CITIES

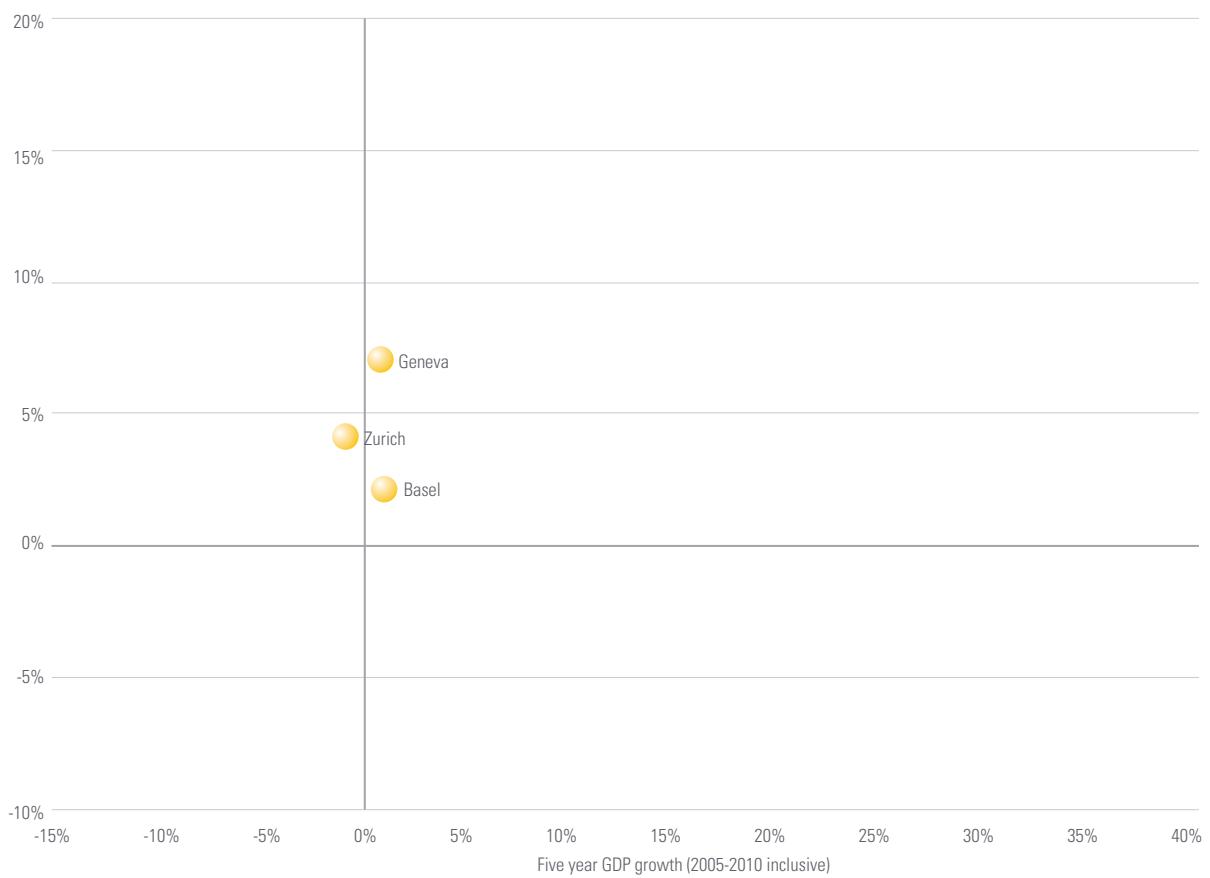
## Spain

Five year population growth (2005-2010 inclusive)



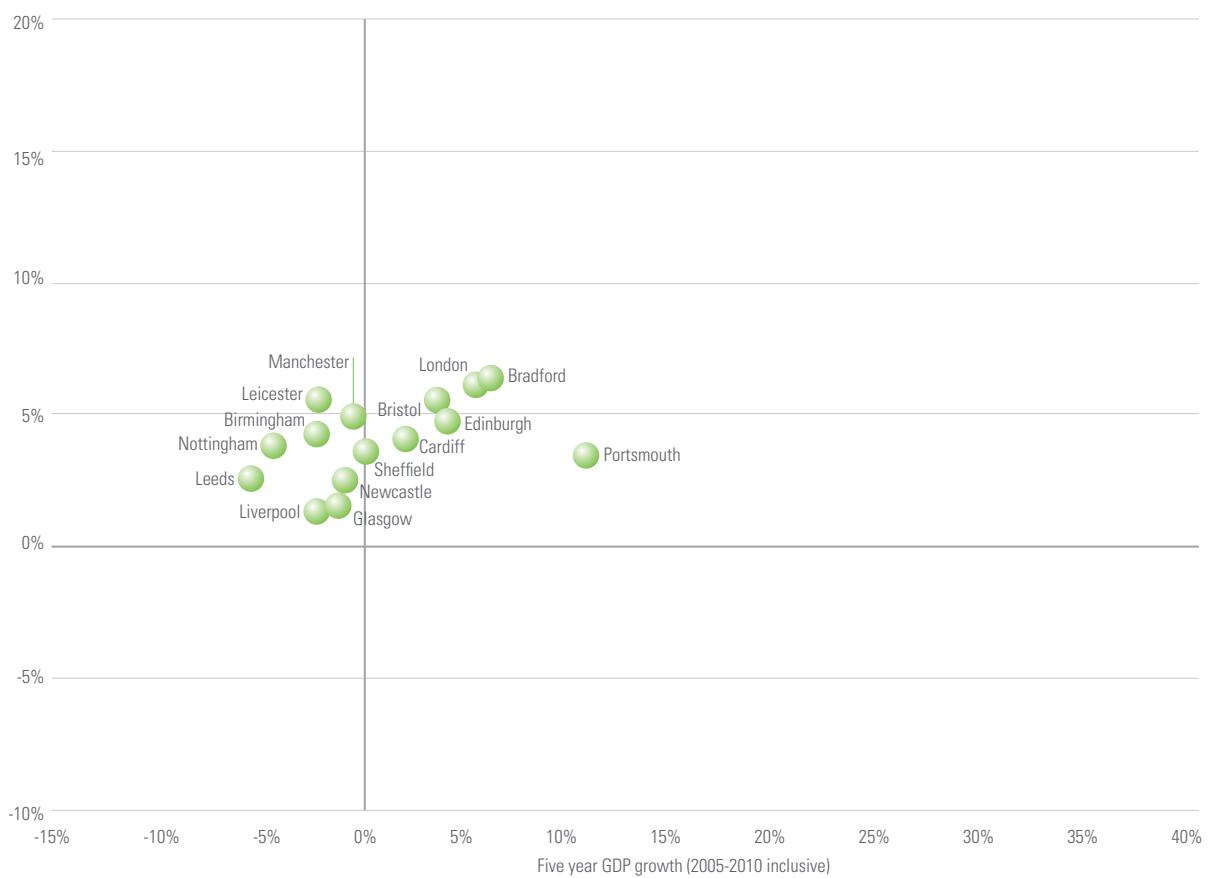
## Switzerland

Five year population growth (2005-2010 inclusive)



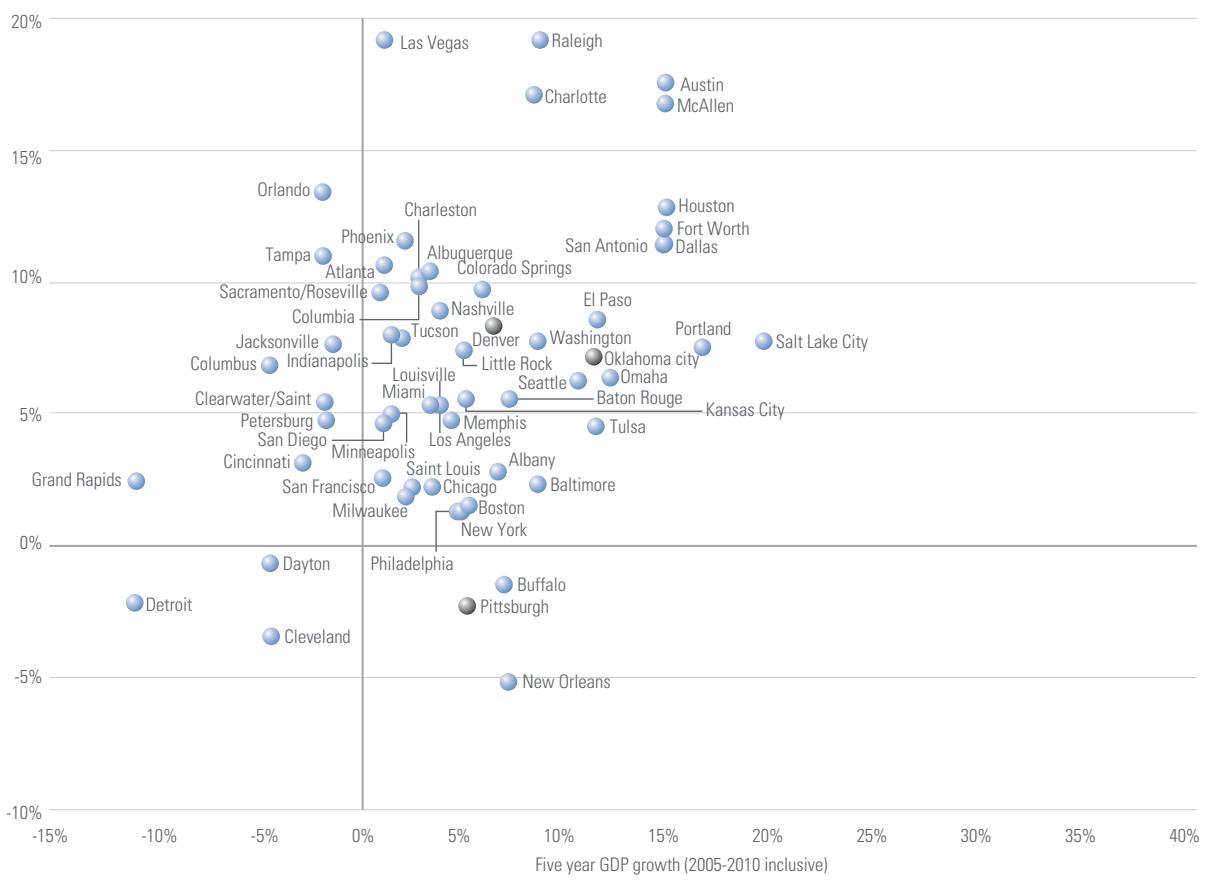
## UK

Five year population growth (2005-2010 inclusive)



## USA

Five year population growth (2005-2010 inclusive)



### Data sources/notes for graphs

The majority of data was obtained from the following sources and KPMG analysis:

Population – OECD. (2005-2010) *Total Population Metro Area. Metropolitan Area*. GDP Growth – OECD. (2005-2010). Regions and Cities.

Metropolitan Areas. *GDP from Cities. GDP (millions USD)*. [Online]. Available from: <http://stats.oecd.org>. [Accessed 10 May 2014]. GDP growth is not measured on a city or metropolitan level in Israel. Therefore, Tel Aviv has been excluded from the graphs.

Note 1. The population size is based on OECD data for the metropolitan area and does not reflect the administrative boundaries of local authorities.

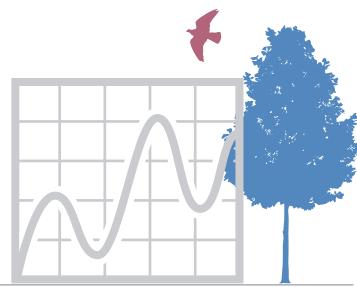
Note 2. The charts are not designed to show any relationship between GDP growth and population growth. They are provided as an illustration as to where the cities are positioned within these two variables over a restricted period of time.

Note 3. Where data was unavailable for the specific date or geographic area, the closest available data was used in its place.

Note 4. Data for Israel, New Zealand and South Korea was primarily sourced from the local statistics office or City Council.

## KEY METRICS

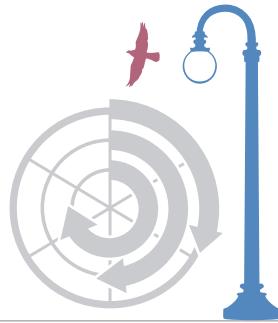
Country	City	Population	Gross Metro Product	Average Annual Gross Metro Product Growth		Average Annual Gross Metro Product Netted Against Average Annual National GDP Growth (%)	GDP Per Capita (\$)	Gross Disposable Household Income (\$)
				2010	2010			
Austria	Graz	608,420	\$20,867,340,000	1.49%		0.01%	\$34,298	\$20,199
	Linz	606,514	\$23,044,060,000	1.49%		0.01%	\$37,994	\$20,991
	Vienna	2,683,251	\$107,616,360,000	1.43%		-0.04%	\$40,107	\$21,281
Belgium	Antwerp	1,053,725	\$39,331,860,000	1.17%		-0.19%	\$37,327	\$19,236
	Brussels	2,485,480	\$113,709,420,000	1.64%		0.28%	\$45,749	\$17,247
	Ghent	576,408	\$16,933,110,000	1.68%		0.32%	\$29,377	\$19,236
	Liege	726,431	\$17,841,650,000	1.13%		-0.23%	\$24,561	\$16,591
Canada	Vancouver	2,312,497	\$81,612,990,000	2.28%		0.24%	\$35,292	\$20,546
	Montreal	4,169,715	\$129,443,690,000	1.55%		-0.49%	\$31,044	\$18,636
	Quebec	820,529	\$25,651,960,000	1.55%		-0.49%	\$31,263	\$18,636
	Toronto	6,418,623	\$228,204,100,000	1.19%		-0.85%	\$35,553	\$21,228
Czech Republic	Brno	639,026	\$14,146,080,000	3.26%		0.05%	\$22,137	\$10,557
	Ostrava	564,380	\$11,197,760,000	3.28%		0.08%	\$19,841	\$10,557
	Prague	1,829,843	\$76,017,340,000	4.25%		1.04%	\$41,543	\$15,489
Denmark	Copenhagen	1,989,871	\$74,485,090,000	0.81%		0.26%	\$37,432	\$14,985
France	Bordeaux	1,121,983	\$32,757,390,000	1.35%		0.29%	\$29,196	\$18,429
	Grenoble	649,285	\$19,424,460,000	1.01%		-0.05%	\$29,917	\$19,164
	Lille	1,349,194	\$33,968,400,000	0.91%		-0.14%	\$25,177	\$16,274
	Lyon	1,894,945	\$69,117,440,000	1.35%		0.29%	\$36,475	\$19,164
	Marseille	1,722,236	\$51,929,620,000	1.53%		0.47%	\$30,152	\$18,711
	Montpellier	635,897	\$16,582,680,000	2.35%		1.29%	\$26,078	\$17,328
	Nantes	870,046	\$25,762,960,000	1.49%		0.43%	\$29,611	\$18,301
	Nice	845,186	\$25,520,840,000	1.33%		0.28%	\$30,196	\$18,711
	Paris	11,693,218	\$578,789,700,000	1.63%		0.57%	\$49,498	\$22,869
	Rennes	671,929	\$18,610,520,000	1.39%		0.33%	\$27,697	\$18,377
	Rouen	698,385	\$18,443,080,000	0.10%		-0.96%	\$26,408	\$18,362
	Saint-Étienne	520,667	\$12,962,720,000	1.15%		0.10%	\$24,896	\$19,164
	Strasbourg	758,724	\$22,552,540,000	0.62%		-0.44%	\$29,724	\$18,473
	Toulon	547,703	\$13,206,350,000	1.05%		-0.01%	\$24,112	\$18,711
	Toulouse	1,217,316	\$38,680,320,000	2.14%		1.08%	\$31,775	\$18,284
Germany	Augsburg	598,063	\$19,911,950,000	0.56%		-0.33%	\$33,294	\$21,955
	Berlin	4,374,708	\$131,115,620,000	1.24%		0.35%	\$29,971	\$16,935
	Bochum	646,036	\$19,196,630,000	-0.47%		-1.36%	\$29,714	\$21,239
	Bonn	746,013	\$29,303,870,000	2.86%		1.97%	\$39,281	\$21,239
	Bremen	1,025,580	\$37,362,800,000	0.61%		-0.28%	\$36,431	\$22,584
	Cologne	1,903,154	\$72,698,890,000	Not available		Not available	\$38,199	\$21,239
	Dortmund	823,139	\$25,550,750,000	1.27%		0.38%	\$31,041	\$21,239



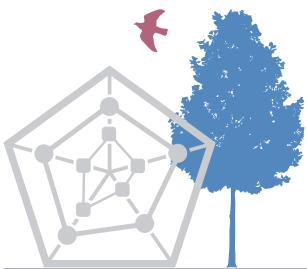
Gross Disposable Household Income Growth (%) 2005-2010	Unemployment as a % of Labour Force (%) 2010	Average Annual Job Growth (%) 2000-2012	Tertiary Education as a % of Labour Force (%) 2012	R&D Spend as a % of GDP (%) 2010	Patents per 10,000 People 2008	City Population Growth (%) 2007-2012	City Core Population Growth (%) 2007-2012	Population aged 20-34 (%) 2010
4.77%	4.19%	1.69%	18.47%	3.87%	2.61	5.03%	8.29%	19.14%
4.56%	3.72%	1.17%	16.47%	2.45%	2.04	2.10%	2.05%	18.83%
-0.91%	6.01%	1.02%	28.89%	3.93%	1.32	5.13%	5.68%	21.95%
4.49%	5.15%	0.87%	39.67%	2.12%	1.08	3.33%	5.00%	18.64%
2.94%	11.72%	1.32%	47.23%	1.54%	1.24	5.15%	7.27%	24.29%
4.49%	5.14%	0.83%	39.67%	2.12%	1.61	3.40%	4.78%	18.71%
4.78%	11.42%	0.72%	37.44%	2.22%	0.52	2.29%	2.18%	18.85%
6.92%	7.62%	1.92%	27.67%	1.51%	1.29	10.00%	10.38%	26.03%
3.90%	7.96%	1.57%	25.33%	2.48%	1.54	6.88%	5.16%	23.14%
3.90%	7.96%	1.33%	25.33%	2.48%	1.98	8.12%	6.71%	19.12%
4.75%	8.66%	2.09%	30.34%	2.26%	0.94	9.84%	9.54%	22.81%
14.19%	7.47%	0.33%	17.11%	0.82%	0.24	1.36%	-0.83%	22.67%
14.19%	10.17%	-0.18%	17.11%	0.82%	0.08	-0.72%	-1.57%	22.14%
13.61%	4.20%	0.88%	38.59%	2.15%	0.36	5.20%	2.79%	24.97%
4.94%	7.58%	0.43%	41.51%	5.31%	3.72	2.19%	2.45%	21.18%
2.58%	8.49%	1.08%	30.45%	1.55%	0.89	5.88%	3.72%	16.95%
2.25%	8.50%	1.00%	34.58%	2.78%	5.58	2.59%	1.01%	18.86%
5.07%	13.08%	0.48%	31.61%	0.82%	0.64	1.28%	0.95%	19.83%
2.25%	8.50%	1.29%	34.58%	2.78%	2.81	4.31%	3.65%	18.86%
2.53%	10.23%	1.65%	34.19%	2.05%	1.22	3.68%	3.07%	17.05%
4.61%	14.44%	1.82%	29.16%	2.77%	1.27	7.22%	6.11%	16.93%
4.91%	8.87%	1.12%	29.35%	1.23%	0.67	5.69%	2.70%	17.82%
2.53%	10.23%	1.51%	34.19%	2.05%	2.06	2.90%	1.99%	17.05%
1.30%	8.98%	0.49%	43.66%	3.02%	2.14	3.60%	3.38%	22.05%
5.65%	7.17%	1.58%	35.00%	1.87%	2.34	7.60%	4.38%	17.03%
2.38%	10.15%	-0.13%	28.54%	1.46%	0.68	2.36%	1.19%	18.39%
2.25%	8.41%	0.73%	34.58%	2.78%	1.09	1.03%	-1.09%	18.39%
-1.59%	8.34%	0.89%	31.72%	1.67%	1.40	2.90%	1.60%	19.01%
2.53%	10.23%	1.54%	34.19%	2.05%	0.43	3.04%	1.85%	17.05%
3.74%	8.32%	1.71%	39.73%	4.40%	2.80	9.28%	6.54%	17.69%
4.76%	4.39%	0.96%	28.90%	3.15%	2.10	1.70%	3.10%	19.26%
1.93%	12.37%	0.83%	37.72%	3.47%	1.76	0.63%	-0.60%	22.09%
1.69%	7.47%	0.23%	25.32%	2.01%	1.12	-4.55%	-4.82%	17.46%
1.69%	7.25%	1.29%	25.32%	2.01%	2.07	0.72%	0.65%	17.46%
2.15%	7.21%	0.81%	27.84%	2.64%	0.88	0.18%	0.48%	19.90%
1.69%	7.47%	1.18%	25.32%	2.01%	2.04	1.48%	2.78%	18.38%
1.69%	7.47%	0.60%	25.32%	2.01%	1.16	-2.82%	-1.67%	17.46%

## Key metrics

Country	City	Population	Gross Metro Product	Average Annual Gross Metro Product Growth		Average Annual Gross Metro Product Netted Against Average Annual National GDP Growth (%)	GDP Per Capita (\$)	Gross Disposable Household Income (\$)
				2010	2010			
Germany	Dresden	836,995	\$21,245,750,000	Not available		Not available	\$25,383	\$17,024
	Düsseldorf	1,428,162	\$56,419,600,000	0.25%		-0.64%	\$39,505	\$21,239
	Essen	757,019	\$25,717,100,000	1.96%		1.07%	\$33,972	\$21,239
	Frankfurt	2,517,805	\$122,873,360,000	1.17%		0.28%	\$48,802	\$21,557
	Freiburg im Breisgau	527,581	\$17,198,990,000	0.81%		-0.08%	\$32,600	\$22,179
	Hamburg	2,984,966	\$134,127,540,000	1.09%		0.20%	\$44,934	\$26,263
	Hanover	1,222,773	\$44,420,100,000	0.94%		0.05%	\$36,327	\$19,912
	Karlsruhe	686,938	\$27,683,400,000	1.16%		0.27%	\$40,300	\$22,179
	Munich	2,844,749	\$146,076,910,000	0.97%		0.08%	\$51,350	\$21,955
	Stuttgart	1,954,756	\$83,849,140,000	0.81%		-0.08%	\$42,895	\$22,179
Greece	Athens	3,563,607	\$122,800,120,000	3.43%		1.64%	\$34,460	\$16,656
Hungary	Budapest	2,846,464	\$80,888,090,000	2.93%		1.11%	\$28,417	\$8,801
Ireland	Dublin	1,650,202	\$79,509,690,000	3.10%		0.63%	\$48,182	\$16,666
Israel	Tel Aviv	414,600	\$132,000,000,000	Not available		Not available	\$37,767	\$12,027
Italy	Genova	716,159	\$22,109,580,000	0.13%		-0.19%	\$30,872	\$18,158
	Naples	3,552,568	\$61,820,420,000	0.07%		-0.25%	\$17,402	\$11,493
	Palermo	935,921	\$18,492,210,000	1.51%		1.18%	\$19,758	\$11,818
	Turin	1,747,614	\$54,538,340,000	-0.13%		-0.45%	\$31,207	\$18,411
Netherlands	Amsterdam	2,360,958	\$93,485,200,000	1.61%		0.29%	\$39,596	\$13,877
	Eindhoven	689,018	\$25,313,490,000	1.07%		-0.24%	\$36,739	\$16,143
	Rotterdam	1,484,830	\$55,001,990,000	1.04%		-0.28%	\$37,043	\$16,143
	The Hague	872,289	\$30,678,120,000	1.04%		-0.28%	\$35,170	\$16,143
	Utrecht	716,648	\$30,142,480,000	1.37%		0.06%	\$42,060	\$16,143
New Zealand	Auckland	1,415,550	\$61,291,720,000	2.71%		-0.12%	\$40,358	\$13,772
	Christchurch	341,472	\$22,831,260,000	4.42%		1.59%	\$40,547	\$15,711
	Wellington	190,959	\$23,347,040,000	2.54%		-0.29%	\$47,512	\$13,772
Norway	Oslo	1,225,202	\$59,030,340,000	Not available		Not available	\$48,180	\$22,545
Poland	Gdansk	1,091,850	\$22,350,340,000	3.40%		-0.32%	\$20,470	\$9,075
	Kraków	1,351,831	\$26,652,220,000	3.81%		0.09%	\$19,716	\$8,427
	Lódz	956,156	\$18,780,500,000	3.55%		-0.17%	\$19,642	\$9,287
	Warsaw	2,981,198	\$111,664,700,000	4.58%		0.87%	\$37,456	\$12,268
Portugal	Lisbon	2,797,612	\$86,120,540,000	0.85%		0.18%	\$30,784	\$17,112
	Porto	1,300,285	\$27,101,100,000	0.08%		-0.59%	\$20,842	\$11,478
South Korea	Busan	3,447,182	\$68,352,900,000	3.00%		-0.94%	\$19,829	\$13,448
	Changwon	751,964	\$25,763,850,000	4.45%		0.51%	\$34,262	\$13,448
	Songdo	2,632,035	\$54,571,000,000	4.50%		0.56%	\$19,539	\$14,218



Gross Disposable Household Income Growth (%) 2005-2010	Unemployment as a % of Labour Force (%) 2010	Average Annual Job Growth (%) 2000-2012	Tertiary Education as a % of Labour Force (%) 2012	R&D Spend as a % of GDP (%) 2010	Patents per 10,000 People 2008	City Population Growth (%) 2007-2012	City Core Population Growth (%) 2007-2012	Population aged 20-34 (%) 2010
3.48%	11.27%	0.47%	24.07%	2.72%	2.31	1.49%	4.56%	19.29%
1.69%	7.47%	0.95%	25.32%	2.01%	3.02	-0.05%	1.64%	17.00%
1.69%	7.47%	0.47%	25.32%	2.01%	1.19	-2.59%	-2.58%	17.46%
5.68%	5.85%	1.02%	30.45%	3.04%	2.89	0.75%	1.74%	17.66%
2.64%	4.80%	1.40%	30.11%	4.86%	2.77	2.12%	2.45%	17.76%
1.40%	6.95%	1.03%	31.39%	2.19%	1.76	0.98%	0.09%	22.22%
4.57%	6.50%	0.94%	24.07%	2.72%	2.01	-0.55%	-0.58%	16.84%
2.64%	4.92%	1.17%	30.11%	4.86%	3.04	1.47%	2.65%	18.31%
4.76%	4.39%	1.65%	28.90%	3.15%	4.94	5.31%	6.91%	19.26%
2.64%	4.80%	1.12%	30.11%	4.86%	6.28	0.70%	0.35%	18.04%
-13.41%	12.30%	1.09%	21.38%	0.77%	0.16	-1.26%	-3.53%	20.07%
-31.77%	8.98%	0.99%	34.00%	1.56%	0.59	1.31%	-1.87%	23.31%
-0.08%	13.33%	1.72%	43.47%	1.75%	1.11	12.29%	10.12%	24.38%
0.09%	5.90%	1.40%	52.68%	4.28%	2.44	-0.54%	6.29%	28.00%
-8.30%	6.54%	0.20%	20.56%	1.47%	0.63	-1.55%	-2.00%	14.18%
-4.73%	14.02%	-0.34%	17.80%	1.22%	0.17	0.62%	0.32%	20.46%
-2.31%	14.70%	-0.32%	16.27%	0.82%	0.12	0.46%	-2.15%	19.81%
-8.16%	7.58%	0.64%	16.61%	1.83%	1.07	1.87%	0.41%	16.31%
-5.48%	4.40%	1.22%	27.74%	1.17%	1.18	4.79%	5.76%	19.17%
0.94%	4.48%	0.75%	29.60%	2.23%	22.89	2.03%	3.91%	19.41%
0.94%	4.42%	0.68%	29.60%	2.23%	1.07	1.90%	-0.08%	19.41%
0.94%	4.42%	1.12%	29.60%	2.23%	1.68	4.85%	5.14%	17.61%
0.94%	4.41%	1.49%	35.39%	1.82%	1.61	6.50%	11.40%	19.23%
7.03%	6.30%	2.20%	38.32%	1.17%	0.90	8.47%	7.99%	21.67%
5.83%	3.40%	2.02%	36.16%	1.17%	0.79	-2.01%	2.18%	20.92%
7.03%	6.00%	1.26%	38.32%	1.17%	0.74	6.40%	4.21%	26.95%
-1.97%	3.97%	1.56%	49.00%	3.05%	1.99	7.66%	8.46%	22.19%
24.04%	9.32%	1.30%	30.29%	0.61%	0.01	1.45%	-0.87%	24.62%
22.08%	9.14%	-0.44%	28.76%	1.05%	0.22	0.98%	-0.32%	24.70%
18.44%	9.26%	-0.82%	25.60%	0.64%	0.14	-2.20%	-3.16%	23.10%
25.84%	7.42%	0.93%	36.76%	1.35%	0.20	2.28%	0.76%	23.94%
3.63%	11.16%	0.45%	26.31%	2.32%	0.14	3.61%	2.43%	19.75%
7.79%	12.65%	0.78%	17.62%	1.50%	0.22	1.17%	0.73%	21.37%
10.65%	3.22%	-0.09%	36.68%	1.40%	0.56	-1.62%	-2.75%	21.10%
10.65%	3.22%	-0.20%	36.68%	1.40%	0.88	-4.03%	-4.03%	19.10%
3.87%	5.70%	1.88%	39.56%	5.03%	0.84	3.59%	4.54%	22.09%

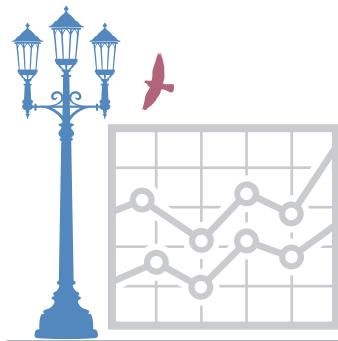


## Key metrics

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Country	City	Population	Gross Metro Product	Average Annual Gross Metro Product Growth		Average Annual Gross Metro Product Netted Against Average Annual National GDP Growth	GDP Per Capita	Gross Disposable Household Income
				(\$)	(%)			
Spain	Barcelona	3,675,206	\$117,649,830,000	1.55%		-0.43%	\$32,012	\$18,118
	Bilbao	997,311	\$33,450,360,000	1.61%		-0.38%	\$33,541	\$21,266
	Las Palmas	658,958	\$15,768,780,000	0.90%		-1.09%	\$23,930	\$13,034
	Madrid	6,507,502	\$226,040,430,000	2.17%		0.19%	\$34,735	\$19,013
	Málaga	834,023	\$18,586,140,000	3.41%		1.43%	\$22,285	\$12,697
	Seville	1,421,045	\$30,052,980,000	2.31%		0.32%	\$21,149	\$12,697
	Valencia	1,570,517	\$39,474,810,000	1.77%		-0.21%	\$25,135	\$14,056
	Zaragoza	825,838	\$24,380,530,000	2.22%		0.24%	\$29,522	\$17,505
Sweden	Malmö	656,835	\$19,869,640,000	1.90%		-0.13%	\$30,251	\$16,154
	Stockholm	1,964,829	\$95,027,710,000	2.52%		0.49%	\$48,364	\$19,627
UK	Birmingham	1,884,199	\$53,266,640,000	-0.60%		-2.16%	\$28,270	\$17,859
	Bradford	540,172	\$13,148,730,000	0.80%		-0.76%	\$24,342	\$17,291
	Bristol	795,481	\$30,421,510,000	2.15%		0.58%	\$38,243	\$19,914
	Cardiff	640,632	\$18,600,240,000	1.30%		-0.26%	\$29,034	\$17,556
	Edinburgh	727,620	\$31,564,290,000	2.30%		0.73%	\$43,380	\$19,561
	Glasgow	947,809	\$34,877,810,000	1.51%		-0.05%	\$36,798	\$19,561
	Leeds	1,166,267	\$37,894,330,000	-1.30%		-2.86%	\$32,492	\$17,291
	Leicester	660,817	\$19,255,580,000	1.19%		-0.37%	\$29,139	\$18,150
	Liverpool	933,127	\$24,953,730,000	0.69%		-0.87%	\$26,742	\$16,990
	London	11,793,530	\$548,778,030,000	2.22%		0.65%	\$46,532	\$25,728
	Manchester	1,841,382	\$59,653,080,000	-0.17%		-1.73%	\$32,396	\$16,990
	Newcastle	1,050,561	\$26,215,760,000	1.44%		-0.13%	\$24,954	\$18,056
	Nottingham	835,625	\$23,826,280,000	0.99%		-0.57%	\$28,513	\$18,150
	Portsmouth	577,191	\$19,561,900,000	2.58%		1.01%	\$33,892	\$22,525
	Sheffield	880,237	\$22,432,870,000	1.55%		-0.02%	\$25,485	\$17,291
USA	Albuquerque	887,077	\$31,810,480,000	2.05%		0.45%	\$35,860	\$25,319
	Baltimore	1,957,901	\$123,594,520,000	2.70%		1.09%	\$63,126	\$36,935
	Dallas	4,145,124	\$192,544,570,000	2.82%		1.22%	\$46,451	\$29,605
	Fort Worth	1,925,046	\$87,703,850,000	2.82%		1.22%	\$45,559	\$29,605
	Harrisburg	574,122	\$20,505,660,000	1.31%		-0.29%	\$35,717	\$30,987
	Houston	5,629,191	\$285,290,630,000	2.82%		1.22%	\$50,681	\$29,605
	Akron	541,781	\$18,973,840,000	-0.10%		-1.70%	\$35,021	\$27,982
	Albany	837,961	\$32,023,690,000	1.60%		0.00%	\$38,216	\$37,081
	Atlanta	4,377,197	\$174,506,440,000	1.04%		-0.56%	\$39,867	\$26,578
	Mcallen	774,769	\$14,967,800,000	2.82%		1.22%	\$19,319	\$29,605
	Austin	1,716,283	\$77,928,300,000	2.82%		1.22%	\$45,405	\$29,605
	Baton Rouge	645,639	\$31,717,320,000	3.21%		1.61%	\$49,125	\$28,389
	Birmingham	910,862	\$32,561,700,000	1.65%		0.05%	\$35,748	\$25,774

Gross Disposable Household Income Growth (%) 2005-2010	Unemployment as a % of Labour Force (%) 2010	Average Annual Job Growth (%) 2000-2012	Tertiary Education as a % of Labour Force (%) 2012	R&D Spend as a % of GDP (%) 2010	Patents per 10,000 People 2008	City Population Growth (%) 2007-2012	City Core Population Growth (%) 2007-2012	Population aged 20-34 (%) 2010
-0.84%	17.75%	1.21%	34.77%	1.66%	0.93	5.74%	4.32%	21.34%
4.42%	10.64%	0.46%	51.31%	2.03%	0.39	1.92%	0.48%	19.04%
-7.67%	28.70%	2.39%	27.51%	0.63%	0.07	4.59%	4.38%	23.30%
-1.16%	16.20%	2.78%	45.59%	2.05%	0.62	10.37%	5.70%	22.34%
-0.19%	27.97%	3.05%	28.14%	1.21%	0.18	9.25%	5.18%	22.98%
-0.19%	27.97%	2.26%	28.14%	1.21%	0.29	6.73%	2.60%	22.98%
-4.19%	23.30%	2.01%	31.88%	1.07%	0.56	7.62%	3.57%	22.31%
0.85%	14.78%	2.18%	38.10%	1.13%	0.77	7.51%	5.23%	20.35%
10.92%	8.60%	1.99%	34.86%	4.65%	6.86	3.82%	3.77%	19.58%
13.56%	7.17%	1.71%	42.07%	3.91%	5.68	3.40%	3.30%	20.73%
1.04%	8.99%	0.60%	32.49%	1.25%	0.46	4.54%	4.69%	21.75%
-2.01%	9.19%	1.40%	33.15%	1.07%	0.72	7.42%	7.61%	22.89%
2.04%	5.92%	1.08%	36.84%	1.90%	0.90	5.99%	6.43%	19.90%
1.66%	8.64%	1.21%	34.01%	1.35%	1.06	4.40%	6.79%	19.88%
6.10%	8.20%	1.09%	42.70%	1.66%	1.82	5.47%	6.45%	20.12%
6.10%	8.20%	0.53%	42.70%	1.66%	0.70	2.01%	2.69%	19.64%
-2.01%	9.19%	1.16%	33.15%	1.07%	1.02	2.97%	2.91%	22.89%
-0.66%	7.61%	0.79%	31.01%	1.71%	0.48	5.77%	6.46%	18.85%
3.08%	7.94%	0.78%	30.29%	1.28%	0.43	2.19%	2.40%	26.15%
6.59%	8.18%	1.06%	54.11%	1.04%	4.82	6.31%	6.83%	26.46%
3.08%	7.93%	0.96%	30.29%	1.28%	0.67	5.62%	6.26%	22.01%
1.69%	9.32%	1.09%	34.02%	2.24%	1.03	3.13%	3.90%	20.51%
-0.66%	7.60%	0.62%	31.01%	1.71%	1.60	4.03%	4.10%	19.65%
2.01%	6.09%	0.52%	40.60%	2.71%	0.23	3.59%	3.50%	19.46%
-2.01%	9.04%	0.93%	33.15%	1.07%	1.07	4.53%	4.82%	20.88%
4.59%	8.47%	1.70%	24.02%	8.07%	0.73	10.41%	9.15%	22.90%
3.58%	7.73%	0.55%	36.88%	6.28%	1.32	2.39%	1.91%	25.80%
3.21%	8.03%	1.87%	26.00%	1.59%	1.40	11.77%	10.97%	26.20%
3.21%	8.03%	2.03%	26.00%	1.59%	0.85	12.00%	11.81%	23.70%
4.53%	8.60%	1.12%	28.14%	2.34%	0.67	3.90%	4.01%	23.70%
3.21%	8.03%	2.15%	26.00%	1.59%	2.96	12.87%	11.87%	25.90%
0.69%	10.08%	-0.29%	25.15%	2.15%	2.09	-0.10%	-0.10%	22.40%
8.40%	8.51%	0.76%	33.35%	1.52%	2.00	2.72%	2.00%	33.00%
-4.61%	10.67%	1.43%	27.68%	1.35%	1.27	10.80%	4.35%	30.30%
3.21%	8.03%	2.70%	26.00%	1.59%	0.11	16.64%	16.64%	21.00%
3.21%	8.03%	3.04%	26.00%	1.59%	2.68	17.64%	14.11%	31.80%
11.25%	7.84%	0.96%	20.65%	0.52%	0.74	5.71%	3.26%	28.30%
2.74%	10.46%	-0.03%	22.05%	2.20%	0.69	3.49%	-0.27%	24.70%



## Key metrics

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Country	City	Population	Gross Metro Product	Average Annual Gross Metro Product Growth		Average Annual Gross Metro Product Netted Against Average Annual National GDP Growth	GDP Per Capita	Gross Disposable Household Income
				(\$)	(%)			
				2010	2010	2001-2010	2001-2010	2010
USA	Boston	3,639,144	\$186,416,840,000	1.18%	-0.43%	\$51,225	\$38,451	
	Buffalo	1,135,509	\$39,238,620,000	1.65%	0.04%	\$34,556	\$37,081	
	Charleston	664,605	\$24,976,760,000	1.14%	-0.47%	\$37,581	\$24,926	
	Charlotte	1,298,931	\$48,681,680,000	1.89%	0.29%	\$37,478	\$26,585	
	Chicago	9,315,366	\$449,896,620,000	0.95%	-0.66%	\$48,296	\$31,785	
	Cincinnati	2,092,458	\$83,643,630,000	0.12%	-1.48%	\$39,974	\$27,982	
	Clearwater / Saint Petersburg	1,381,239	\$55,479,980,000	2.00%	0.39%	\$40,167	\$25,994	
	Cleveland	1,510,163	\$56,669,620,000	-0.10%	-1.70%	\$37,526	\$27,982	
	Colorado Springs	645,626	\$24,962,830,000	1.68%	0.08%	\$38,665	\$31,606	
	Columbia	646,877	\$20,378,730,000	1.14%	-0.47%	\$31,503	\$24,926	
	Columbus	1,706,115	\$61,717,150,000	-0.11%	-1.72%	\$36,174	\$27,982	
	Dayton	696,726	\$23,763,010,000	-0.12%	-1.73%	\$34,107	\$27,982	
	Denver	2,498,167	\$121,606,770,000	1.78%	0.17%	\$48,678	\$31,606	
	Des Moines	602,942	\$24,610,960,000	1.90%	0.29%	\$40,818	\$28,851	
	Detroit	3,863,924	\$141,777,740,000	-1.35%	-2.96%	\$36,693	\$26,608	
	Durango	582,267	\$6,428,280,000	1.62%	0.01%	\$11,040	\$31,606	
	El Paso	804,123	\$24,036,160,000	2.62%	1.01%	\$29,891	\$29,605	
	Philadelphia	4,024,830	\$198,369,350,000	1.39%	-0.22%	\$49,286	\$30,987	
	Fresno	1,081,742	\$31,918,630,000	1.33%	-0.27%	\$29,507	\$31,171	
	Grand Rapids	602,622	\$19,392,760,000	-1.35%	-2.96%	\$32,181	\$26,608	
	Jacksonville	1,155,557	\$45,138,650,000	1.87%	0.27%	\$39,062	\$25,994	
	Kansas City	1,916,304	\$77,396,040,000	1.19%	-0.42%	\$40,388	\$27,743	
	Las Vegas	1,995,215	\$76,436,830,000	2.70%	1.10%	\$38,310	\$26,094	
	Little Rock	671,459	\$20,521,350,000	1.86%	0.26%	\$30,562	\$24,432	
	Los Angeles	17,053,746	\$726,314,270,000	1.34%	-0.27%	\$42,590	\$31,171	
	Madison	544,906	\$21,258,570,000	1.21%	-0.39%	\$39,013	\$28,929	
	Memphis	1,276,907	\$45,111,330,000	1.53%	-0.07%	\$35,329	\$27,704	
	Miami	5,564,641	\$217,693,430,000	2.00%	0.39%	\$39,121	\$25,994	
	Milwaukee	1,555,908	\$66,857,020,000	1.11%	-0.49%	\$42,970	\$28,929	
	Minneapolis	3,279,833	\$148,716,750,000	1.43%	-0.18%	\$45,343	\$32,033	
	San Antonio	2,010,975	\$73,723,980,000	2.82%	1.22%	\$36,661	\$29,605	
	New Orleans	1,144,722	\$62,267,230,000	3.21%	1.60%	\$54,395	\$28,389	
	New York	16,539,430	\$951,585,050,000	1.40%	-0.20%	\$57,534	\$37,081	
	Oklahoma City	1,166,283	\$41,540,500,000	2.44%	0.84%	\$35,618	\$27,179	
	Omaha	865,350	\$39,475,170,000	2.29%	0.69%	\$45,618	\$29,597	

Gross Disposable Household Income Growth (%) 2005-2010	Unemployment as a % of Labour Force (%) 2010	Average Annual Job Growth (%) 2000-2012	Tertiary Education as a % of Labour Force (%) 2012	R&D Spend as a % of GDP (%) 2010	Patents per 10,000 People 2008	City Population Growth (%) 2007-2012	City Core Population Growth (%) 2007-2012	Population aged 20-34 (%) 2010
3.62%	8.56%	0.61%	40.39%	5.34%	6.10	1.55%	1.55%	35.00%
8.40%	8.51%	0.04%	33.35%	1.52%	1.21	-1.49%	-1.66%	24.60%
0.47%	11.01%	1.31%	23.10%	1.49%	0.62	10.21%	6.33%	30.90%
-0.57%	10.47%	2.68%	26.97%	2.06%	1.02	17.06%	14.99%	25.00%
1.68%	10.19%	0.29%	31.93%	2.45%	1.71	2.34%	-0.32%	27.40%
0.69%	10.14%	0.29%	25.15%	2.15%	2.47	3.30%	-2.22%	27.10%
-2.74%	11.07%	1.19%	25.13%	1.08%	0.63	4.91%	4.91%	18.50%
0.69%	10.08%	-0.86%	25.15%	2.15%	2.04	-3.47%	-4.17%	21.30%
-2.16%	8.75%	1.75%	36.94%	2.44%	0.78	9.60%	9.72%	22.30%
0.47%	11.01%	1.02%	23.10%	1.49%	0.41	9.79%	9.50%	39.30%
0.69%	10.08%	0.96%	25.15%	2.15%	1.15	6.90%	4.32%	29.60%
0.69%	10.08%	-0.36%	25.15%	2.15%	0.84	-0.66%	-2.16%	23.50%
-2.16%	8.75%	1.53%	36.94%	2.44%	1.31	8.54%	6.37%	28.40%
6.30%	6.10%	1.49%	27.32%	1.96%	1.14	8.67%	7.22%	24.30%
-3.90%	12.22%	-1.24%	26.03%	3.99%	1.49	-2.10%	-2.10%	19.70%
-2.16%	4.65%	1.86%	36.94%	2.44%	0.04	9.45%	9.45%	33.50%
3.21%	8.03%	1.44%	26.00%	1.59%	0.16	8.51%	8.54%	20.70%
4.53%	8.69%	0.67%	28.14%	2.34%	1.78	1.28%	1.28%	25.70%
-2.37%	12.20%	1.13%	29.45%	4.31%	0.20	8.29%	7.91%	24.10%
-3.90%	12.22%	-0.37%	26.03%	3.99%	0.86	2.43%	2.43%	27.70%
-2.74%	11.07%	1.66%	25.13%	1.08%	0.47	7.66%	5.34%	22.40%
1.60%	8.65%	0.69%	26.80%	3.80%	0.62	5.55%	9.84%	23.90%
-10.50%	14.45%	3.17%	21.54%	0.74%	0.43	19.03%	19.09%	20.40%
3.53%	8.56%	1.18%	20.12%	0.58%	0.34	7.49%	2.90%	23.50%
-2.37%	12.20%	0.57%	29.45%	4.31%	1.17	4.74%	4.74%	25.10%
1.96%	8.73%	1.06%	27.13%	2.18%	3.06	6.67%	6.97%	34.50%
0.10%	9.57%	0.55%	23.56%	1.54%	1.05	4.88%	1.67%	23.40%
-2.74%	11.07%	1.44%	25.13%	1.08%	0.64	5.44%	5.44%	23.70%
1.96%	8.73%	0.20%	27.13%	2.18%	1.22	1.85%	0.40%	26.00%
2.26%	7.35%	0.82%	33.50%	2.73%	5.21	5.38%	1.04%	32.50%
3.21%	8.03%	1.96%	26.00%	1.59%	0.49	11.36%	10.95%	22.90%
11.25%	7.84%	-0.84%	20.65%	0.52%	0.40	-4.73%	-8.69%	25.90%
8.40%	8.72%	0.63%	33.35%	1.52%	1.22	1.31%	1.25%	24.90%
6.56%	7.11%	1.31%	23.85%	0.70%	0.44	7.16%	5.99%	23.40%
4.51%	5.00%	1.36%	29.50%	1.04%	0.34	6.33%	5.62%	23.90%

## Key metrics

Country	City	Population	Gross Metro Product	Average Annual Gross Metro Product Growth		Average Annual Gross Metro Product Netted Against Average Annual National GDP Growth (%)	GDP Per Capita (\$)	Gross Disposable Household Income (\$)
				(\$)	(%)			
USA	Orlando	1,837,359	\$57,304,330,000	2.00%	0.39%	\$31,188	\$25,994	
	Phoenix	3,817,117	\$145,100,480,000	2.05%	0.45%	\$38,013	\$25,656	
	Pittsburgh	1,223,423	\$50,041,210,000	1.29%	-0.31%	\$40,903	\$30,987	
	Portland	2,226,009	\$100,453,160,000	2.56%	0.96%	\$45,127	\$26,550	
	Providence	842,700	\$44,338,400,000	1.18%	-0.43%	\$52,615	\$31,782	
	Raleigh	1,130,641	\$41,545,200,000	1.95%	0.35%	\$36,745	\$26,585	
	Richmond	511,149	\$21,858,330,000	2.54%	0.94%	\$42,763	\$33,668	
	Sacramento / Roseville	1,967,255	\$76,980,530,000	1.35%	-0.25%	\$39,131	\$31,171	
	Salt Lake City	1,125,301	\$47,701,360,000	3.16%	1.56%	\$42,390	\$24,454	
	San Diego	3,095,313	\$155,846,800,000	1.33%	-0.27%	\$50,349	\$31,171	
	San Francisco	6,848,028	\$391,899,120,000	1.33%	-0.27%	\$57,228	\$31,171	
	Seattle	2,644,466	\$137,273,760,000	1.82%	0.22%	\$51,910	\$31,420	
	Tampa	1,229,226	\$43,768,410,000	2.00%	0.39%	\$35,606	\$25,994	
	Toledo	441,815	\$15,714,800,000	-0.12%	-1.73%	\$35,569	\$27,982	
	Tucson	980,263	\$31,329,330,000	2.05%	0.45%	\$31,960	\$25,656	
	Tulsa	948,014	\$35,307,440,000	2.46%	0.85%	\$37,244	\$27,179	
	Wichita	588,377	\$20,612,040,000	1.72%	0.11%	\$35,032	\$29,246	

### Data sources/notes for tables

The majority of data was obtained from the following sources and KPMG analysis:

Population – OECD. (2010) *Total Population Metro Area. Metropolitan Area*.

Gross Metro Product (\$) – OECD. (2010) *GDP from cities. Metropolitan Area*.

Average Annual Gross Metro Product Growth (\$) – OECD. (2001-2010) *GDP from cities. Metropolitan Area*.

Average Annual Gross Metro Product Growth Netter Against Average Annual GDP Growth (\$) – OECD.

(2001-2010) *GDP from cities. Metropolitan Area*.

Gross Metro Product per capita (\$) – OECD. (2010) *GDP per capita. Metropolitan Area*.

Gross Disposable Household Income (\$) – OECD. (2010) *Disposable Household Income. Regional Level*.

Gross Disposable Household Income Growth – OECD (2005-2010). *Disposable Household Income. Regional Level*.

Unemployment as a % of Labour Force – OECD. (2010) *Labour Force (Persons) & OECD. Unemployed People. Metropolitan Area*.

Annual Average Job Growth – OECD. (2000-2012) *Labour Force Annual Average Growth Rate(%)*. *Metropolitan Area*.

Tertiary Education as 1 % of Labour Force – OECD. (2012) *Tertiary education (as % of labour force) Regional Level*.

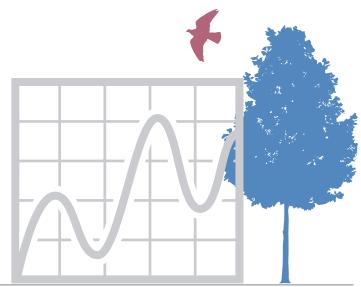
R&D Spend as a % of GDP – OECD. (2010) *R&D expenditure total (as % of GDP)*. *Regional Level*.

Patents Per 10,000 People – OECD. (2008) *PCT Patents Applications Per 10,000 Inhabitants. Metropolitan Area*.

City Population Growth – OECD. (2007-2012) *Total Population Metro Area (Persons). Metropolitan Area*.

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Gross Disposable Household Income Growth  2005-2010	Unemployment as a % of Labour Force  2010	Average Annual Job Growth  2000-2012	Tertiary Education as a % of Labour Force  2012	R&D Spend as a % of GDP  2010	Patents per 10,000 People  2008	City Population Growth  2007-2012	City Core Population Growth  2007-2012	Population aged 20-34  2010
								(%)
-2.74%	11.07%	2.60%	25.13%	1.08%	0.75	13.39%	13.07%	29.40%
-3.06%	10.38%	2.11%	25.71%	2.19%	1.03	11.47%	11.47%	22.90%
4.53%	8.60%	0.01%	28.14%	2.34%	1.87	-2.30%	-2.30%	30.70%
0.30%	10.84%	1.02%	29.03%	2.83%	2.00	7.50%	7.98%	27.00%
5.12%	11.19%	0.83%	31.46%	2.95%	0.90	0.20%	0.26%	30.00%
-0.57%	10.47%	3.03%	26.97%	2.06%	3.88	19.12%	19.80%	28.50%
2.57%	7.50%	0.87%	35.42%	2.40%	0.37	5.49%	1.61%	30.40%
-2.37%	12.20%	1.34%	29.45%	4.31%	0.74	9.63%	7.84%	24.70%
0.92%	8.23%	1.24%	29.78%	2.68%	2.44	7.78%	7.06%	31.60%
-2.37%	12.20%	0.69%	29.45%	4.31%	8.86	4.88%	4.88%	27.40%
-2.37%	12.20%	0.30%	29.45%	4.31%	7.58	2.58%	2.84%	28.30%
4.70%	10.19%	1.01%	31.72%	4.91%	4.36	6.25%	6.25%	29.80%
-2.74%	11.07%	2.21%	25.13%	1.08%	0.65	10.93%	10.93%	24.00%
0.69%	10.08%	-0.49%	25.15%	2.15%	1.31	-1.47%	-1.47%	23.10%
-3.06%	10.38%	1.39%	25.71%	2.19%	1.70	7.79%	7.79%	25.00%
6.56%	7.11%	0.79%	23.85%	0.70%	0.68	4.47%	3.50%	22.90%
4.38%	7.48%	0.61%	31.10%	1.59%	0.58	4.58%	4.90%	22.10%

Note 1. In order to obtain a full data set, the table provides a snapshot over a short time horizon. It does not portray a true longer term picture.

Note 2. Where data was unavailable for the specific date or geographic area, the closest available data was used in its place.

Note 3. Data for Israel, New Zealand and South Korea was primarily sourced from the local statistics office or City Council.

Note 4. Exchange rates were determined using Oanda.

Note 5. The population size is based on OECD data for the metropolitan area and does not reflect the administrative boundaries of local authorities.

## APPENDIX 2 REFERENCES AND SOURCES



Malmö, Sweden

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### Introductory chapter

1. Defined by OECD as those with a population of over 200,000 residents.
2. Austin today is the result of a natural progression over the last few decades. It has been the home to many musicians including Willie Nelson and Stevie Ray Vaughan and has hosted the SXSW music festival for close to 30 years. This in turn attracted a number of technology companies including Dell. IBM's Austin labs developed the OS/2 operating system. The most recent incarnation of Austin is as foodie capital which in turn is drawing in another generation of young people.
3. Seattle has long been the home of Boeing, but the city government put concerted investment and effort into infrastructure and quality of life to ensure the city continued to attract a wide-range of technology companies including Microsoft and T-Mobile.
4. One of the reasons large global cities like London and New York continue to evolve and grow is because they are large enough to accommodate a number of neighbourhoods and districts that provide specialised geographical homes for each of the young wealth creating cliques within the boundaries of the city. For example, in London Tech City provides a geographical space for start-ups to come together, East London provides space for artists, designers and fashion, A40 corridor for medical research, etc.
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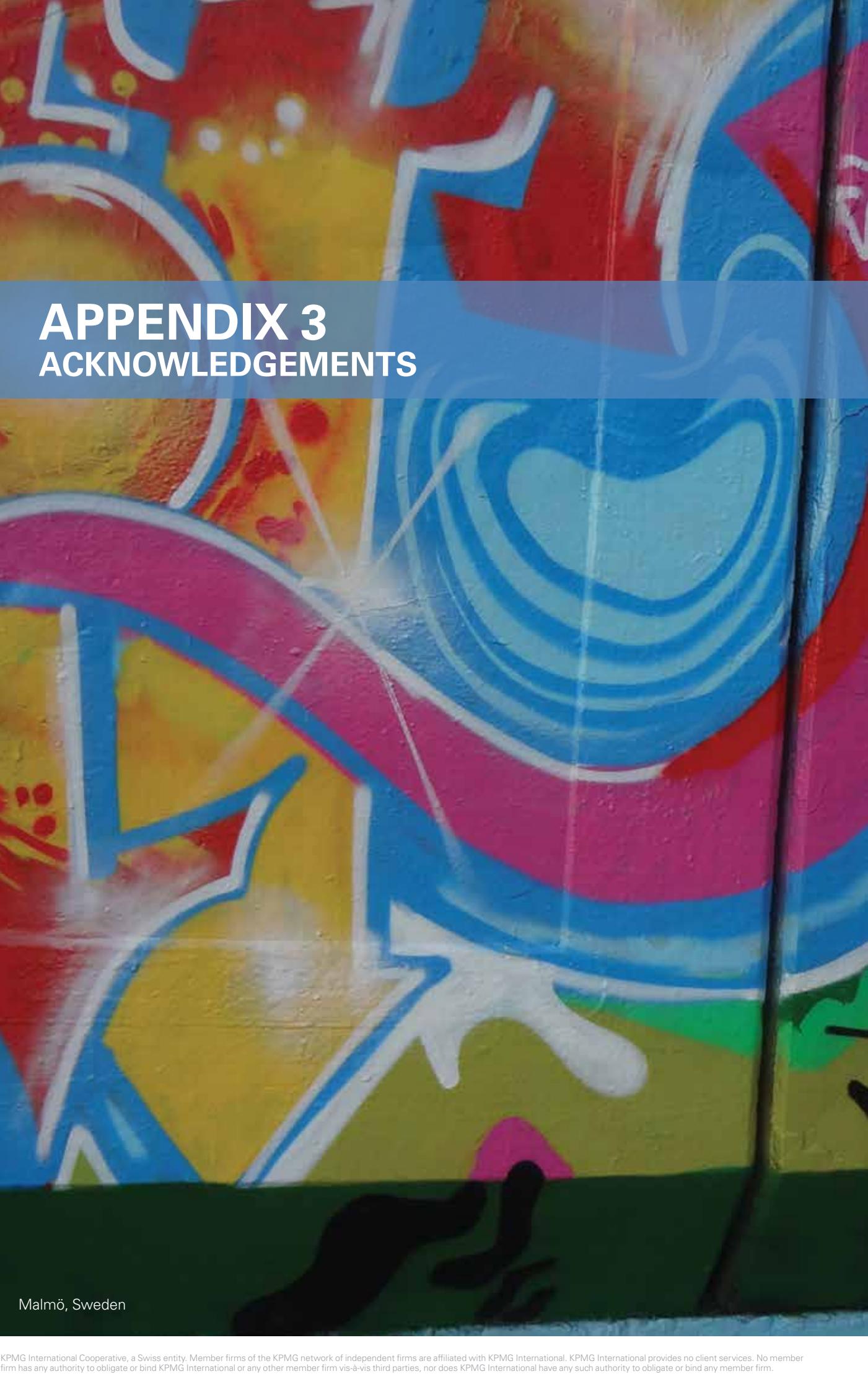
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## APPENDIX 3 ACKNOWLEDGEMENTS

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## **Written by**

### **Caroline Haynes**

**Magnet Cities Director**

**T: + 44 (0) 20 7311 4103**

**E: caroline.haynes@kpmg.co.uk**

### **Vanessa Langley**

**Magnet Cities Manager**

**T: + 44 (0) 20 7311 6563**

**E: vanessa.langley@kpmg.co.uk**

**[www.kpmg.com/uk/magneticities](http://www.kpmg.com/uk/magneticities)**

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