Barcelona

With the aim of becoming a world reference for Smart Cities, Barcelona is working to merge urban planning, ecology, and information technology to ensure the benefits of technology reach every neighbourhood and improve the lives of citizens. Barcelona's transformational approach follows a long-term vision based on building productive, human-scale neighbourhoods within a hyper-connected, high-speed and zero-emission metropolis.

The Barcelona Smart City programme includes seven strategic initiatives:

▪ Smart Lighting: Barcelona developed a master plan in 2012 that includes projects to remotely control street level lighting in addition to transitioning 50 streets and a total of 1,155 lampposts to LED technology.

▪ Smart Energy: From smart grid projects to self-sufficient blocks, the City has developed a programme to achieve greater energy efficiency and has currently deployed more than 19,500 smart metres in the Olympic Villa.

▪ Smart Water: Barcelona is well on its way to implementing a programme that includes remote irrigation control for the City's green spaces. Thus far, 77 fountains are controlled remotely.

▪ District Heating and Cooling: Two networks provide hot water in 64 buildings spanning an area of 21km.

▪ Smart Transportation: The City developed a master plan in 2012 to improve public transport efficiency by deploying orthogonal bus lines, five of which began running in October 2012.

▪ Zero Emissions Mobility: As part of an extensive plan to foster the use of electric vehicles, Barcelona is deploying electric charging stations, as well as electric vehicle fleets and car rentals. To date, the city has more than 500 hybrid taxis, 294 public electric vehicles, 262 recharging points, 130 electric motorbikes and an estimated 400 private electric vehicles on its streets.

▪ Open Government: The City has developed a programme to make municipal government activities more transparent to its citizens, starting with the deployment of 44 "citizen's attention" kiosks and the launch of an Open Data portal in 2010.

Rotterdam

With nearly 80% of the city below sea level and one of the largest ports in the world, Rotterdam has experience on resilience, particularly on the topics of integrated water management and climate adaptation. It recalls the flood of 1953, which killed almost 2,000 people and caused widespread property damage. In 2007 it announced its ambition to become 100% climate-proof by 2025 -- able to continue functioning economically and socially with minimal disturbance under any extreme weather situation.

In the face of increasingly frequent small-scale flooding, sea level rise, higher rainfall and rising temperatures, Rotterdam developed a comprehensive adaptation strategy to ensure the city is 100 percent resilient to the impacts of climate change. Titled Rotterdam Climate Proof, the strategy is based on four separate pillars.

The first pillar states that Rotterdam will develop into and present itself as a leading centre for water knowledge and climate change expertise, the second that the investments required will enhance the attractiveness of the city and port for residents, companies, and knowledge institutes, and the third that adaptation innovations and knowledge are to be developed and marketed as an export product. The final pillar states that innovative water management will make the city more attractive as well as provide additional economic activity.

The plan includes the building of facilities to absorb water (such as a parking garage that incorporates a 10,000 cubic metre underground rainwater store), improvements of the city's drainage system, and the creation of "Water plazas" that operate as playgrounds when dry and temporarily hold water during heavy rain, before slowly releasing it to the drainage system. Rooftop gardens are also being encouraged in the city, as they absorb both rain and CO_2. Premium-priced floating communities on waterside sites are being moved nearer to the coast under the plans.

Rotterdam is one of the 100 resilient cities selected by the Rockefeller Foundation which defines resilience as:

"Building resilience is about making people, communities, and systems better prepared to withstand catastrophic events – both natural and manmade – and more able to bounce back quickly and stronger. "

Copenhagen

Copenhagen placed public-private partnerships at the core of its approach to eco-innovation and sustainable employment. The city works with companies, universities and organisations in dedicated forums to develop and implement green growth. Its North Harbour project, for example, will include a "Green laboratory" that will focus on eco-technologies.

Copenhagen is a model of urban planning and design. It is a transport pioneer, aiming to become the world's most practicable city for cyclists. Its goal is to have 50 % of people cycling to their place of work or education by 2015 (35 % cycled to their workplace or school in 2010), helping the city reach an ambitious goal of being CO2 neutral by 2025.

Communication actions are designed to engage citizens to feel part of the solution.

Seoul

One of the first global cities to officially endorse the sharing economy, Seoul is actively working to create a culture of sharing. The below are the key actions the city is taking, all part of a comprehensive plan that encompasses public awareness, business incubation, new regulation, and mobilization of the city's underutilized assets:

- **Vetting and designating sharing nonprofits and corporations -** By putting the city's stamp of approval on select sharing services, the city builds the public's trust in the sharing economy and introduces citizens to proven and trusted sharing services.

- **Promoting sharing enterprises -** City-wide promotion of sharing enterprises generates buzz and strengthens the public's perception of the Sharing City as something that crosses demographic boundaries.

- **Publicizing Seoul's brand as the Sharing City -** Branding Seoul as one of the great cities for sharing is a powerful way to attract international attention, accelerate the city's sharing economy and position the city as a forward-thinking hub of innovation.

- **Subsidizing the expenses of 10 sharing enterprises** with 250 million won (U.S. $240,000, EUR 180,000). Providing 10 sharing enterprises with the funding to either launch or scale up their platform gives the enterprises a bit of financial breathing room to focus on building or enhancing their service.

- **Incubating approximately 20 sharing startups** with office space, consultation, and subsidies**.** Providing space, guidance and some funding to sharing startups will allow businesses to take their service to the next level and the city to support innovative ideas and thinkers.

- **Creating a Seoul Sharing Promotion Committee** made up of representatives from a variety of sectors including academic, legal, press, welfare, transportation and more. Having a team of representatives from numerous sectors who are all on board with the Sharing City plan is a good way to extend the reach of the sharing economy, make sure that it's being promoted appropriately in the various sectors and ensure that sharing is part of the discussion when decisions within those sectors are being made.

- **Creating an International Sharing City Conference -** Creating a Sharing City Conference further brands Seoul as an innovative locale and provides other municipalities from around the world a chance to see a sharing city plan in action.

The Bristol Green Capital Partnership has a vision to turn Bristol into one of the most sustainable cities within Europe, as follows.

Leadership

Leadership that understands the urgency of the need for profound change and embraces new ideas, that inspires, provokes and is not afraid of taking risks; leadership that serves the people's need for sustainability – now and forever.

Education and responsibility

A green capital where education gives knowledge and concern about the dependence of people's well-being on the health of nature, and where every citizen, business and organisation works towards living within their fair share of nature's resources.

Community wellbeing

A society in which we are reconnected with each other and our natural surroundings, and living in integrated communities in which we celebrate diversity and value individuals and community involvement.

Transport

A city in which it is safe and pleasant to walk and cycle; in which jobs and local communities are easily accessible and designed in ways that reduce the need to travel by fuel-intensive and polluting vehicles; a city with a local transport system that provides a mix of affordable, low-carbon, integrated transport choices.

Economy

A centre of excellence in green technology, where waste is minimised, and resources are used respectfully and sourced locally wherever possible.

Food

A food culture which values local, sustainably produced and artisan foods,

celebrates the diversity of regional foods and benefits the local community, .

Building

Our built environment is comfortable, functional and extremely low carbon in design and operation. New developments have high environmental standards and investment in existing buildings, especially housing stock, ensures they have a low environmental impact and are affordable to run.

Energy

A city on target to reduce its CO_2 emissions so that we reduce our contribution to climate change and a city that is more resilient to global economic shocks, because it has invested in local sustainable energy supplies.

Bristol in the world

We recognize the inequity of our current consumption patterns in which we are using up a greater share of the planet's resources, and that the poor are most vulnerable to climactic change. We work with partners around the world to share learning, ideas and develop adaptation responses.

Nature

A city region that values and nurtures its green open spaces within and surrounding countryside without, working to increase substantially the quantity, quality and diversity of native animals, plants and habitats.

In March 2014, Bristol was voted the Best Place to Live in Britain by the Sunday Times. This is an accolade to add to others gained in 2013 – 1st in the Quality of Living Index (Opinium Research) European Green Capital 2015, 2013 Social Enterprise City. Evidence from Quality of Life survey 2013 indicates a flourishing, vibrant city, close to good quality green space that is coming our of recession fast. The following summary lists the main indicators against the Mayor's priority themes that illustrate an improving picture, although there are still issues of concern.

Bristol's set of Quality of Life indicators are not national indicators so direct comparison to similar cities is not possible. Also only 44 indicators are included in this report of over 200 collected each year – see www.bristol.gov.uk/qualityoflife for full set and database.

Which indicators are improving and/or remaining very good?

☐ Increasing satisfaction with the council and value for money

☐ Satisfaction with the neighbourhood and good quality green space

☐ Outdoor events, culture and leisure activities generally

☐ Fewer people smoking

☐ More people cycling and fewer drivers

☐ Community safety and perception of crime

☐ Fewer victims of crime

☐ Community cohesion - getting on well together and volunteering

☐ Economic indicators – fewer people claiming benefits and more with qualifications

Where is the gap narrowing between deprived areas and the rest of the city?

This indicates where there has been a more rapid improvement in quality of life in deprived areas compared to non-deprived areas.

☐ Community cohesion – respect and consideration for others and levels of volunteering

☐ Satisfaction with the neighbourhood and good quality of green space

☐ Availability of jobs.

Which indicators are deteriorating or staying poor?

☐ Exercise levels, obesity and eating healthy local food

☐ Neighbourhood noise

☐ Problem dog fouling and street litter

☐ Satisfaction with jobs

☐ Concern about climate change is lessening

☐ Support for unpaid carers

Where is the gap widening between deprived areas and the rest of the city?

This indicates where there has been a worsening in deprived areas compared to non-deprived.

☐ Increasing levels of obesity

☐ Neighbourhood noise.

Glasgow

Glasgow was selected by IBM to become a Smart City, with an emphasis on intelligent surveillance and data management including:

●An "intelligent operations platform" to store and analyse real-time and published data. People can access it via an online "dashboard" with widgets, smartphones apps and visualisations.
●A "MyGlasgow" smartphone app that allows users to report problems such as uncollected bins and potholes and follow the progress of their report. The council receives about 26,000 calls a year for potholes but because of the difficulty identifying where they are, a quarter of the work orders raised to fix them are duplicates. The app will let users tag potholes on their smartphone with a map and see which other users have made reports.
●An "internet of things" in three districts, where physical objects such as lampposts and schools can be virtually monitored.
●Hackathons for local developers to build apps from public council data. Winners so far include an app that gives emergency services detailed location information about a caller, an energy-reporting app for council buildings and an app to encourage children to exercise more by allowing them to compare progress on public walking paths with friends and offering rewards such as cinema tickets.

New York

PlaNYC is the sustainability and resiliency blueprint for New York City. Together with its collaborators – the agencies, organizations, and residents –progress in the last few years was made in the following areas:

- The cleanest air in 50 years

- 865,000 trees and five million square feet of reflective rooftop added to our urban landscape

- Building codes upgraded to prepare for floods, wind, and extreme weather

- 19% reduction in carbon emissions since 2005, well ahead of our goal to reach 30% reduction by 2030

A changing climate, a growing population, aging infrastructure, and an evolving economy with increasing inequality pose challenges, PlaNYC includes actions to mitigate climate change while also preparing for the risks it presents, ensuring quality of life for generations of New Yorkers to come. Plan YC includes affordable housing, reducing greenhouse gas emissions by 30% by 2030, cleaning up brownfield sites and a dashboard for the quantification of progress, deterioration or stable.

In the 1960s, Vancouver's Strathcona neighbourhood residents stopped the construction of a massive freeway into downtown that would have levelled their community and altered the shape of the city forever. Today, Vancouver is one of a very few cities in North America that does not have a major highway cutting through its core. And our city was one of the first in the world to recognize the importance and gravity of climate change

Today, Vancouver has the smallest per capita carbon footprint of any city in North America Vancouver is quickly becoming a new green economy hub. Doubling the number of green jobs in the City and greening existing businesses include :

Economic development

Economic development by the City and the Vancouver Economic Commission (VEC) will focus efforts on five industry clusters that have the most potential for growth over the next decade. These clusters are: clean technology; green buildings; materials management and recycling; local food; and sustainability services and education ,along with other emerging sectors.

Community economic development

The City is working with partners to help create job opportunities and reduce barriers to employment. This is being done through projects that deliver training and supportive employment programs. Examples include EMBERS Green Restoration (a home weatherization service ,(a building deconstruction program, and urban farming .

Capacity building, education, and training

The City and VEC are continuing to support and participate in a Campus-City Collaborative that offers green workforce development as well as research capacity to support the Greenest City targets .

Greening existing workplaces

The City and the VEC will work with partners to encourage and enable Vancouver companies to improve efficiencies with respect to energy, waste and water; develop innovative management practices such as green purchasing standards; and re-imagine and redesign products and services that give them a competitive edge. This will contribute to the long-term financial health of local businesses, while bringing us closer to our Greenest City targets