OPEN CITY STRATEGIES

Open cities create new forms of PARTICIPATION

In a decade, access to open data linked to physical spaces will create cities embedded with abundant opportunities to civic, social, and commercial participation. Always-on data-backed services and platforms like ProjectPoint, set to launch in 2015, will aggregate user data to create traffic maps, point-to-point travel tips that show how to get from point A to point B, and more. In 2020, Creative Commons to social and community life, they enable others to share and create new forms of knowledge, making them more resilient and sustainable innovations.

Open cities are designed for SHAREABILITY

Cities have an enormous latent capacity to enable citizens to share tangible goods, new data, expertise, time, or attention. Coordination tools for sharing excess capacity will allow us to extract more value from physical goods and share our latent capacities for giving. At the same time, apps like WeWork, which aggregates user data to create traffic maps, point-to-point travel tips that show how to get from point A to point B, and more. In 2020, Creative Commons to social and community life, they enable others to share and create new social connections.

Open cities inspire IMAGINATION

The next decade of virtual reality and augmented reality tools will create access to new forms of social participation and community building. Open tools for creating and sharing digital content will enable new forms of social participation and community building. Open tools for creating and sharing digital content will enable new forms of social participation and community building.

A MAKER MINDSET

This map is a tool to help you cultivate a maker mindset as you participate in the reinvention of the city. Use it to anticipate future challenges, leverage technology catalysts, zoom in on zones of innovation, and make your city—or any city—a better place for everyone to work, play, and make the future.

OPEN CITY STRATEGIES

Open cities are characterized by four strategies: collaboration, innovation, sharing, and imagination.

1. Collaboration

Cities will accelerate the ability to place-make. With more adaptable spaces, cities will become more open to the needs and whims of populations.

2. Innovation

As cities reinvent their built environments, the energy and creativity of a new breed of citizens—the makers—are being harnessed to catalyze even wider application of this open source ethos and accelerate the evolution of the open city.

3. Sharing

Much as computers have dropped in price while dramatically increasing their capabilities, the same has been true for technology. From the Internet of Things to 3D printing—are becoming more modular, more scalable, and more accessible to citizens to repair and construct infrastructure with 3D-printed materials, reinvigorating the visions to connect the physical and digital worlds together.

4. Imagination

The reinvention of our built environment is taking place in the context of broader social and technological forces that are catalyzing new visions of what a city can be. The technologies of making—from ubiquitous sensing and local data to genetic biology and 3D printing—are becoming more modular, more scalable, and more accessible to citizens, allowing them to induce visceral experiences of what it's like to live inside a wide-variety of urban ecologies.

HOW TO USE THIS MAP

Make the most of the city strategies and open city catalysts by following the steps below:

1. Choose the open city strategies that align with your challenges.
2. Accelerate your awareness of emerging trends and disruptive effects, and what they mean for your city.
3. Create open city strategies that are empowering open citizenship.
4. Explore open innovation and open city challenges to create solutions to the problems you face.
5. Visualize open city opportunities to create solutions to the problems you face.
6. Make the maker mindset and technology reinvigorating urban life.

These strategies and open city catalysts will help you to envision and create the future of your city.

How the maker mindset & technology reinvigorating urban life

Cities have always been the place where our imaginations, hopes and dreams live. They are the nexus where people, ideas, and possibilities come together to create the future.

OVER THE NEXT DECADES, OUR CITIES will unlock as yet unimagined possibilities of urban life. They will draw in nearly a billion new urban dwellers and spur the largest and fastest reinvention of our built environment in human history.

In the process, they will capture the creativity and inventiveness of a new breed of citizens—the makers—opening up participation, resources, imagination, spaces, and economic opportunity. These makers, in turn, will quite literally fabricate a new kind of city: the open city.

TECHNOLOGY CATALYSTS

The reinvention of our built environment is taking place in the context of broader social and technological forces that are catalyzing new visions of what a city can be. The technologies of making—from ubiquitous sensing and local data to genetic biology and 3D printing—are becoming more modular, more scalable, and more accessible to citizens, allowing them to induce visceral experiences of what it's like to live inside a wide variety of urban ecologies.

The maker mindset: As the tools of making spill out of walled-in factories and into city streets, networks of engaged citizens will use them to transform the realities of urban life. Fueled by the energy and creativity of the urban nexus, these makers will not only use the existing tools and platforms to remake the physical world, they will remain the minders for the new city, rethinking and reimagining the urban commons.

Across the population, open cities create EQUITY

At the core, open cities are about making spaces, services, and economic opportunities open and accessible to all citizens, regardless of age, ability, and socioeconomic status—that is, they’re about creating new standards of equity. As they leverage open data, share their assets, and foster collaboration, open cities create alternative pathways for people to meet these needs. They also create a culture of openness that allows all to participate.

Open cities make spaces ADAPTABLE

Today, most communities and public spaces are static, walled, and not designed to accommodate the needs of cities: walkable spaces, accessible for people of all ages and abilities, safe for pedestrians and traffic. As the technologies of making—local data to genetic biology and 3D printing—are becoming more modular, more scalable, and more accessible to citizens, the possibilities for designing new spaces are endless.

The Internet of Things (IoT) is a term for the network of connected devices that can collect, store, and exchange data. In the coming years, the IoT will be an essential part of the city, allowing for the creation of new services and applications that can improve the quality of life for citizens. Some examples of IoT applications include: smart lighting, smart parking, and smart waste management. In addition, IoT can be used to improve the efficiency of city services, such as water and energy management. The IoT is expected to have a significant impact on the city, making it more efficient, safe, and sustainable.
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OPEN CITY STRATEGIES

Open cities create new forms of PARTICIPATION

In a decade, access to open data linked to physical spaces will create cities embedded with abundant opportunities for civic, social, and commercial participation. Already, place-based data is spawning tools and platforms like PulsePoint, an app that notifies qualified first responders when a medical emergency occurs nearby, and GigWalk, which alerts users to paid microwork gigs in their area in real time. The combination of open data and these context-aware technologies will open new context-based forms of micro-participation in the urban ecology, cultivating transparency and blurring the traditional boundaries of authority and hierarchy.

Open cities are designed for SHAREABILITY

Cities have an enormous latent capacity to enable citizens to share tangible goods, raw data, expertise, time, or assistance. Coordination tools for sharing excess capacity will allow us to extract more value from physical goods and create new kinds of commerce as well as charitable giving. At the same time, apps like Waze, which aggregates user data to create traffic maps, point to new ways that sharing citizen-generated data will create entirely new kinds of value—and new experiences of the urban landscape. As people apply the ethos and framework of Creative Commons to social and community life, they enable others to share and create new social connections.

Open cities inspire IMAGINATION

The next decade’s virtual reality and augmented reality tools will enable artists and citizens to reimagine their communities and persuade others through immersion in “what-could-be.” VRban, a virtual reality application that helps people explore and manipulate real urban environments for planning, provide a foretaste of the possibilities for linking design to experience as cities reinvent their built environments. As lightweight tools for simulating and prototyping emerge, anyone will be able to create and share ever more radical plans for public spaces and to persuade other to join them. Visioning tools and practices will proliferate, opening the future of cities to everyone.

Open cities make spaces ADAPTABLE

Today, food truck courts and parklets—those curbside parking spaces converted to public benches and walkways—are among the most mainstream examples of a broader trend toward recolonizing urban spaces to make them more open, public, and social. The shifting demographics of cities will transform needs, habits, and even values, which, in turn, will change the demand and priorities for the use of public spaces. At the same time, the advent of lightweight manufacturing technologies and crowd-sourced “recipes” for doing almost anything will accelerate the ability to place-make. With more adaptable spaces, cities will become more open to the needs and whims of populations.

Across the population, open cities create EQUITY

At its core, open cities are about making spaces, services, and economic opportunities open and accessible to all citizens, regardless of age, ability, and socioeconomic status—that is, they’re about creating new standards of equity. As they leverage open data, shareable resources, and adaptable spaces to meet emerging needs across diverse populations, open cities create alternative pathways for people to meet these needs. They also create a culture of innovation in which these alternative pathways achieve parity with traditional rewards. While complete equity may never be attained, expanding equity across populations will ensure more resilient and sustainable innovations.
Open City Map

A maker mindset
for launching open city platforms

Makers instinctively borrow the ethos of openness and experimentation from the open source software community, and apply it to objects in the physical world. Four key trends in the world of technology are set to catalyze even wider application of this open source ethos and accelerate the evolution of the open city.

ORCHESTRATING URBAN LIFE
As the tools of making spill out of walled-in training and research facilities, everyday people will feel empowered to transform their cities according to their own visions and values. Architects and civic entrepreneurs will create new services, tools, and platforms to facilitate this renaissance of urban activity. As people apply the ethos and framework of open cities, anyone will be able to create and share ever more radical plans for public urban environments for planning, provide a foretaste of the possibilities for linking design to new experiences of the urban landscape. As people apply the ethos and framework of open cities, anyone will be able to create and share ever more radical plans for public urban environments for planning, provide a foretaste of the possibilities for linking design to new experiences of the urban landscape.

exploiting network effects
Networks can be used as much more than a medium for exchanging ideas with colleagues—they can easily support collaboration and innovation that were previously only possible with offline tools and methods. Examples include social networking platforms such as Facebook and Sina Weibo. The power of the network is the opportunity for individuals to influence large numbers of people, to gain power and inﬂuence in the public sphere, and to contribute to the building of a more connected and engaged society.

Creating voluntarily participatory governance
The ideal vision of a fully participatory democracy has long been hampered by constraints of time, place, and coordination. With new tools and platforms, however, people can now share experiences fast and coordinate in real-time to achieve common goals in new ways. These platforms can be used to make governance and feedback more open, transparent, and relevant to all citizens. Citizen participation is already using a variety of tools that promote participation in the design and management of local issues, such as community projects, neighborhood planning, and public transportation systems. The open platform provides a way to bring together the best ideas and resources from around the world to address local challenges. The vision is to create a participatory platform that allows citizens to share their ideas, experiences, and resources with others around the world, creating a global platform for democratic engagement.

LEARNING GLOBALLY, PROTOTYPING LOCALLY
Over the next decade, 3D printing and other fabrication technologies will urbanize a torrent of maker creativity and productivity. The ability to prototype rapidly and inexpensively will enable cities to experiment with local production, sharing new self-sufficiency. Builders will create everything from lower-cost seismic retrofits to build-in-a-day houses to mold-breaking commercial products. As experimentation increases, new modes of self-organized urban development will emerge. Makers will create tools and platforms that enable people to build on the webs of data and social networks around the globe.

STRIKING BACK AGAINST SURVEILLANCE
As open-source surveillance tools spread from the intended purpose of monitoring for the good of society, however, makers also use these tools to enable the public to monitor and disrupt surveillance. Makers and artists are already using open-source technologies to avert, sabotage, and redirect the always-present surveillance systems that watch our every move. Makers can use open-source surveillance tools to mask themselves, to track others, or to understand surveillance itself. By combining surveillance tools with open-source technology, makers can create surveillance tools that can be used to subvert surveillance and empower the public to monitor and disrupt surveillance systems.

Virtual Reality for Protest
In the midst of protests, activists launch virtual reality installations, allowing digital resistance to experience the reality of what it’s like to be inside a police line or the heart of modern-day conflict.
OPEN CITY STRATEGIES

Open cities create new forms of participation

In a decade, access to open data linked to physical spaces will create cities embedded with abundant opportunities for civic, social, and commercial participation. Always-on data and crowdsourcing will enable cities to evolve from data collection to data giving. At the same time, apps like Waze, which aggregates user data to create traffic maps, point to ways that citizens themselves can become urban data scientists to improve traffic flow or improve stormwater management. Creative Commons to social and community life, they enable others to share and create new social connections.

Open cities inspire imagination

The next decade’s virtual reality and augmented reality tools will enable artists and citizens to manage urban challenges and social movements. These technologies will allow us to experience cities in new ways: as Seeing Machines to other and with web-connected physical objects will thus be subject to the same phenomena that have already transformed manufacturing, transportation, and communications. As personalized objects become more available, the ability to place-make will expand. We will explore the future of cities as open as ever before.

Open cities make spaces adaptable

Today’s buildings and spaces are not the only buildings and spaces of the future. As building adaptive technologies are developed, cities will be able to repurpose existing spaces, combining platforms and new materials to build new spaces.

Across the population, open cities create equity

At the core, open cities are about making spaces, services, and economic opportunities open and accessible to all citizens, regardless of age, ability, and socioeconomic status—but that’s only the beginning. As they leverage open data, shareable infrastructure, new forms of automation, and open innovation, open cities can create alternative pathways for people to meet their needs. They also create a culture of equitable sharing, where complete equity may never be attained, but sharing across populations will ensure more resilient and sustainable innovations.

How to use this map

This map is a tool to help you cultivate a maker mindset as you participate in the reinvention of the open city. Use it to anticipate future challenges, leverage technology catalysts, zoom in on zones of innovation, and make your city—or any city—a better place for everyone to work, play, and make the future.

OPENING THE PHYSICAL WORLD

For optimization and social innovation

Solutions built with these tools can be easily copied and remixed. While hackers have a long history of building physical objects with low-cost, low-power tools, today’s tools are becoming increasingly powerful. Comprehensive open-source hardware and software innovations, including 3D printers, provide a new generation of makers with the means to create physical things. As 3D printing becomes more widely available, the manufacture of custom-made physical objects will thus be subject to the same phenomena that have already transformed manufacturing, transportation, and communications. As personalized objects become more available, the ability to place-make will expand. We will explore the future of cities as open as ever before.

THE MAKER MINDSET

As the tools of making spill out of walled-in factories and into city streets, networks of engaged citizens will use them to transform the routines of urban life. Fueled by the energy and creativity of the urban nexus, these makers will not only use the existing tools and platforms to reclaim the physical world. They will remake the mindset for how we live in cities by embracing new urbanism.

INSTITUTION FOR THE FUTURE

The Institute for the Future (IFTF) is an independent, nonprofit research group with more than three decades of forecasting experience. The core of our work is identifying emerging trends and developing strategies that will capture emerging opportunities and avoid emerging threats. We have served as trusted advisors to CEOs, presidents, and government leaders. As we work to identify the future, we work with the world’s most innovative firms and groups, including Autodesk, IBM, NASA, and many others. Our approach to technology forecasting is unique—new people at a variety of forecasts, understandings, and communities to work together to forecast adoption and diffusion patterns, and discover new research opportunities and trends.

TECHNOLOGY WORKSHOPS

The Technology Horizons Program creates a deep understanding of social and cultural trends, growth and decline of technologies and innovations in the next 5-20 years. We conducted 1,300+ interviews and 200+ focus groups to anticipate technology futures. Our approach to technology forecasting is unique—new people at a variety of forecasts, understandings, and communities to work together to forecast adoption and diffusion patterns, and discover new research opportunities and trends.

GETTING STARTED

How the maker mindset & technology are reinventing urban life

Cities have always been the place where our imaginations, hopes and dreams live. They are the nexus where people, ideas, and possibilities come together to create the future.

TECHNOLOGY CATALYSTS

The reinvention of our built environment is taking place in the context of broader social and technological forces that are catalyzing new visions of what a city can be. The technologies of making—from ubiquitous sensing and local data to synthetic biology and 3D printing—are becoming more modular, more scalable, and more accessible to a broader population. As these technologies come together with one another, they will redefine the landscape of the city, both physically and virtually.

THE MAKER MINDSET

As the tools of making spill out of walled-in factories and into city streets, networks of engaged citizens will use them to transform the routines of urban life. Fueled by the energy and creativity of the urban nexus, these makers will not only use the existing tools and platforms to reclaim the physical world. They will remake the mindset for how we live in cities by embracing new urbanism. To understand the implications of these trends, we developed the MAKER MINDSET, a 360-degree view of the future of cities as open as ever before.

OVER THE NEXT DECADES, OUR CITIES

Will unlock as yet unimaginable possibilities of urban life. They will draw in nearly a billion new urban dwellers and spur the largest and fastest reinvention of our built environment in human history.

In the process, they will capture the creativity and inventiveness of a new breed of citizens—the makers—opening up participation, resources, imagination, spaces, and economic opportunity. These makers, in turn, will quite literally fabricate new kind of city: the open city.

How will we live and work?

In the future, we believe the most important way to understand the future is to imagine the possibilities. The IFTF has been using this approach for more than a decade. But in the future of cities, we will use it for even longer. The open city vision is based on the idea that people should be allowed to imagine the possibilities for their cities.