

## Urban Communication Foundation Policy Brief

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## **Codesigning Urban Technology for Citizen Engagement:**

*From Citizen-Centered to Collaborative Cities*

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### Introduction

Cities around the world are currently focused on using digital technology in order to improve their efficiency, productivity and security. Often, these initiatives are top-down (institution driven) rather than bottom-up (citizen driven) since cities typically hire technology companies such as IBM and

Cisco in order to manage these platforms, services and infrastructures.<sup>1</sup>

Cities have become more citizen-centered by making a wide range of data sets open to the public, finding new ways to connect with citizens via social media and engaging technologists in hackathons in order to promote innovation and entrepreneurship.

For example, over the past decade, there have been many interesting arts and education projects that have experimented with the use of digital technology – and, specifically, urban technologies<sup>2</sup> such as screens, interactive objects and mobile devices -- to promote interaction and citizen engagement in public spaces. These include projects such as Bikes Against Bush<sup>i</sup>, which allowed citizens to send messages to a bicycle that printed them in chalk on the sidewalk during the Republican National Convention in August 2003, to the Urballoon<sup>ii</sup>, which projected images and text sent by citizens in public parks from 2003 to 2009. Still, for the most part, urban technologies remain underexplored as tools for citizen engagement.

At the same time, the modes of citizen engagement that policymakers use such as town hall meetings, city council hearings, voting and protesting have not changed in many years. This brief illustrates the potential for cities to create new modes of citizen engagement based on methods used in the field of design with a specific focus on codesign, a collaborative approach that has been used in Northern Europe since the 1970s.<sup>3</sup>

In the United States, many businesses have adopted human-centered and user-centered design approaches over the past thirty years. While these approaches advocate for a focus on user needs, in this model, ultimately, designers and technologists control the ways in which data about users is translated into products, services and systems. In contrast, codesign approaches consider the user as an equal partner with designers and other domain experts in a collaborative process.

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<sup>i</sup> See <http://boingboing.net/2004/06/17/dotmatrix-bicycle-pr.html>.

<sup>ii</sup> See <http://www.urballoon.com/about.php>. Accessed on September 9, 2013.

While businesses in the United States have been slow to adopt codesign approaches due to concerns related to trust, cost and intellectual property rights, the method is very well-suited to problems in the public and non-profit sectors because the issues that they are facing are often complex, intangible and multi-stakeholder. Codesign approaches offer possibilities for understanding problems, making them visible and convening groups of stakeholders to devise appropriate solutions or imagine alternative futures so that policymakers can intervene in a meaningful way. Yet, such methods require a higher level of creativity, openness and trust between policymakers and citizens and, as such, in the United States are sometimes perceived to be unconventional, risky or lacking in rigor.

### Designing Policy Workshops

With the intention of exploring opportunities for the design of urban technologies with a discussion of civic values, this brief draws on a series of codesign workshops about urban technology called “Designing Policy” that were held in three North American cities in the past year. The workshops, which shared a similar format but differed in their specific topics, were held in Chicago, New York and Boston. About 30 participants and five facilitators attended each workshop from a wide range of backgrounds including scholars, entrepreneurs, technologists, designers, policymakers and non-profit leaders. Each workshop was approximately 5 hours, divided into ice-breakers, introductory presentations, brainstorming, contextualizing, prototyping, final presentations and critiques.

For the purpose of our workshops, we focused on the topic of urban technology;

specifically, urban screens (such as Crown Fountain in Chicago's Millennium Park), the 'internet of things' (such as networked bus stops and parking meters) and technologies of the body (such as Nike+ and Google Glass). Urban technologies are the site of important policy decisions around the world and the complexity and pace of these decisions is growing. For example, Sao Paulo, Brazil has decided to ban billboards and urban screens in order to limit outdoor advertising.

When viewed only through the lens of efficiency and productivity, safety and security and innovation and entrepreneurship, policymakers are faced with a limited set of values to consider. However, the everyday life of citizens is made up of much more nuanced concerns. For example, friendship and romance, health and well-being, humor and sadness, hobbies and passions. These values are also important in collaboratively shaping the city to meet the holistic needs of citizens. As such, our project takes a 'values in design' approach to considering the policy issues related to urban technology.<sup>4</sup> This perspective encourages the consideration of the role of pluralistic values and how they become embedded in the design of products, services and systems in cities.

Codesign approaches have the potential to expand policymakers understanding of the everyday experiences of their constituents while, at the same time, building trust with communities around complex policy issues if executed in a thoughtful manner. In fact,

codesign may be a means of building constituencies and publics around pressing issues.<sup>5</sup> It may also help to expose conflict, tension and dissent for the purpose of creating a generative dialogue.<sup>6</sup>

One potential application of codesign methods is to seek out solutions to specific problems with insight from a wide range of stakeholders. An alternative approach is to use codesign to create design fictions (also relevant to critical design<sup>7</sup> and speculative design<sup>8</sup>) that critique the status quo or offer alternative future directions.<sup>9</sup>

In Europe, codesign has been linked with social innovation and service design. Specifically, governments in the United Kingdom and Italy have worked with designers in order to develop services around a variety of urban issues such as housing and the built environment, health and environment, parks and public spaces, education and transportation in thousands of projects over the last 30 years.

For example, one academic project in Italy used a codesign process in order to create a farmers market in the city of Milan.<sup>10</sup> Another project has used codesign to in order to highlight the efforts of urban gardeners as part of an exhibition in New York.<sup>11</sup> More recently, a team of students in Boston worked with community organizations in order to develop a platform for citizen engagement, which the Mayor's Office of New Urban Mechanics is considering funding.<sup>12</sup>

<b>MODE</b>	<b>ACTIVITY</b>	<b>METHODS</b>	<b>GOAL</b>
<b>Brainstorming</b>	Telling stories about your neighborhood in order to draw on knowledge of the city	Brainstorming Storytelling Sketching	Selecting a specific neighborhood in the city in order to create the context for design
<b>Contextualizing</b>	Telling stories about your values and what specific values mean to you	Brainstorming Storytelling Sketching	Establishing shared understanding and views  Understanding that values are embedded in urban artifacts, services and infrastructures
<b>Prototyping</b>	Turning abstract ideas into more visual and tangible artifacts	Mapping Modeling Scenarios Role-playing	Creating design solutions that solve a particular problem  Creating design fictions that critique the status quo and generate alternative futures
<b>Presentation</b>	Challenging groups to simplify their ideas so that they can be shared with others	Design Critique	Enabling a generative dialogue that improves and builds on the prototypes that have been presented

The above chart details the four main components of the workshops along with the activities and methods used in order to achieve specific goals. While participants are typically representing their own interests, it is also possible to structure the workshop so that they play the role of another stakeholder. This approach may allow for greater empathy between participants since they must represent and advocate for needs that are not their own.

Outcomes

As the result of the codesign workshops, participants were exposed to the potential for the use of urban technology as a mode of citizen engagement. Furthermore, new

multi-stakeholder relationships were formed between technologists and non-profit leaders, policymakers and scholars as well as students and business leaders. Such relationships are important in creating diverse constituencies around important public policy issues.

While there were many interesting concepts that emerged from the workshops, the primary goal was to introduce participants to codesign methods that could be applied to a range of urban policy issues such as technology and infrastructure, health and environment, arts and culture, housing and the built environment, education and training and transportation.

### Recommendations

Based on the Designing Policy workshops, the following recommendations have been developed to guide future codesign activities around urban policy issues.

#### *Relevance*

It is important that codesign methods be employed in conjunction with and well in advance of a pressing policy issue in order to insure maximum participation and interest. Since stakeholders must often orient their schedules around timely priorities, it is useful to link codesign activities to specific projects, plans and policies. This can be achieved by partnering with specific government officials, non-profit organizations or citizen groups around issues that they are already working on through other methods.

#### *Scope*

Many urban issues cut across multiple scales and geographies. It is necessary to think simultaneously across these scales. While our workshops were divided into the urban, object and body scale, most of the prototypes incorporated all of these levels holistically. Digital technologies have made these relationships more complex since networked urban infrastructures and objects as well as mobile devices have blurred traditional dichotomies and allowed for hybrid understandings. However, while it is necessary to work holistically, it is also important to set parameters and constraints in order to appropriately frame the codesign process. This framing (for example, setting the agenda with specific topics, goals and outputs) is critical in order to allow participants to create more focused proposals and prototypes.

#### *Facilitation*

While generally open to the public, codesign workshops require a great deal of curation and planning in order to achieve an optimum balance of expert knowledge from a range of areas and citizen perspectives. Ideally, groups should be small (from 5-6 people including a facilitator) with representation from multiple perspectives and stakeholders i.e. policymakers, entrepreneurs, activists and non-profit leaders, technologists, scholars and citizens. Furthermore, organizers should strive to achieve balance with respect to demographic characteristics such as gender, race, class, sexuality etc. Diverse participation from a variety of stakeholders supports the creation of new ideas.<sup>13</sup> Rather than short one-day engagements, codesign processes benefit from long-term ongoing engagements with citizens over a sustained period or project duration in order to build trust and allow for in-depth research and prototyping in order to work towards meaningful goals.

#### *Visualization*

Many participants from a range of backgrounds do not have the instinct or skills to make their ideas visible and tangible. Thus, facilitators with some design training are necessary in order to 'lead by example' in terms of demonstrating and offering guidelines for brainstorming, sketching, mapping and prototyping. In this case, the facilitators are not doing the design work for the group but rather they are helping to move the group forward from brainstorming to prototyping as well as helping participants become comfortable with hands-on, visual methods. Such methods allow for generative conversations that allow participants to view issues in new ways as well as make connections between each others' ideas. Visual methods also

allow participants to experiment with possible solutions through prototypes.<sup>14</sup> The prototypes may be in the form of tangible maps, models, skits or scenarios that participants are able to interact with.

### *Documentation*

It is important to document the results of codesign workshops through notes, photos, audio and video (where possible). Artifacts created through the workshops may also be photographed and archived. The documentation allows participants to reflect on the activities as well as to feel a sense of accomplishment that is associated with the tangible concepts and ideas that they have created collaboratively.

### Designing Policy Toolkit

As a result of the Designing Policy workshops, we created a visual toolkit in order to summarize the codesign approach and its usefulness and relevance to urban policy issues. The toolkit is intended for “designers” of all kinds: local city council members and aldermen as well as their counterparts in city government agencies that are charged with making important decisions about the future of their neighborhoods and urban infrastructures; business people that are working on emerging digital platforms, products and services that may allow for new ways of experiencing cities; technologists and hackers that spend their evenings and weekends using openly available data sets to create new applications; scholars, activists and artists that work to question, critique and raise awareness about the implications of adopting digital technologies; and, most

importantly, citizens of digital cities everywhere as we cope with changes in our urban environment. Our hope is that by creating spaces and formats that support and enable citizen engagement around these complex socio-technical issues, it will be possible to re-imagine the ways in which digital technologies are embedded in urban environments for the public good. For more information and to download this toolkit and related materials, see <http://designingpolicytoolkit.org>.

### Conclusions

Codesign is a collaborative methodology for engaging citizens as partners in problem-solving and ideation around complex policy issues, which has great potential for cities and civic leaders. This brief gives an overview of the value of codesign methods along with several examples and introduces several findings based on a year-long project on urban technology and citizen engagement that was funded by the Urban Communication Foundation. While codesign approaches may not be appropriate or relevant for all policy issues, they offer a possible step from citizen-centered to collaborative cities.

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# IIT Institute of Design

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