# Open Source Practice

By Brian Davis and Peter Sigrist

## Abstract

As global ecological problems pose increasing risks to human well-being, design and planning can play an important role in developing solutions. However, there is a need for alternatives to centralized, hierarchical, inflexible, and exclusionary approaches that have contributed to problems in the past. We propose an "open source" practice, which links participatory development with networked planning and design, fostering collaboration between government, business, nonprofits, and individual citizens in addressing ecological problems at the local level.

**Keywords:** Open source; right to the city; networked infrastructure; information technology; inclusive development

## Introduction

There is an urgent need for strategic thinking and coordinated action to address global environmental problems. While the fields of planning and design are critical to such efforts, they have often been shortsighted, inflexible, and exclusionary. In addition, the recent economic downturn has reduced public and private funding for new initiatives. Therefore, we must consider alternative ways of applying design and planning towards sustained ecological well-being. An "open source" approach offers potential solutions. While it reflects the influence of Christopher Alexander's thinking on architecture (1977), it is most commonly associated with computer software that can be shared, modified, and improved by anyone. What if planning and design could operate in this way, encouraging the contributions of local communities through a continuous process of incremental improvement?

## Origins of the Idea

New construction tends to involve large-scale projects driven by government and business, requiring substantial capital investment and leaving local populations with token influence at best. This approach threatens the character and survival of vibrant communities (Jacobs 1961). Urban geographers have adopted Henri Lefebvre's notion of the "right to the city" as a call to action in bringing about more democratic participation in development decisions (Purcell 2002; Harvey 2008). The

right to the city was selected as the theme of this year's UN-HABITAT World Urban Forum, a sign of growing influence among practitioners interested in reducing the adverse effects of new development on local communities. However, until more governments adopt effective policies to incorporate these efforts, citizens will be forced to exercise their rights in other ways. Community participation in design and planning is an important step towards the ongoing calibration of environments to improve living conditions.

Promising approaches to design and planning are emerging in academic settings. Alan Berger identifies opportunities for designers to help reclaim post-industrial landscapes and adapt them for purposes of ecological stewardship (2008). Pierre Belanger examines ways of optimizing the infrastructural role of ecosystems to nourish and sustain life on earth (2009). Kazys Varnelis discerns a growing "network culture" of technology-enabled social, cultural, and political interactions with the potential to facilitate participatory development (2008: 145). He conceives of infrastructure in terms of "networked ecologies" comprising inextricably linked human and nonhuman relationships (2009: 15). Accordingly, design and planning must include an understanding of networks and an ability to use them effectively towards ecologically responsible projects.

In a proposal for the WPA 2.0 design competition, Nicholas de Monchaux and his team integrate the right to the city with new thinking in design and planning. They use information technology to foster collaboration between stakeholders, including local communities (2009). The proposal also incorporates geospatial analysis and parametric design to assemble a network of abandoned sites for reuse, optimizing ecological performance to supplement existing infrastructure. Thus it builds social and physical networks, considering not only the end result, but also the process of development and maintenance. In order for this and similar projects to be realized, there is a need for effective means of generating political and financial support.

An open source model would combine participatory design and planning with the support needed to put new ideas into effect, especially at smaller scales. It builds upon the potential in bringing together innovative research with local knowledge and initiative, applied not only to the design of master plans but to everyday civic improvement, including fundraising and political mobilization. An open source model could fill in where large-scale development is less effective, including locally specific, experimental, and highly adaptive projects. While there are many ways of incorporating open source methods, we focus on the use of information technology to link professionals with concerned citizens in planning, design, fund-raising, and implementation. Some organizations

are putting aspects of these ideas into practice. We introduce three examples in the following section.

## Examples

*OpenPlans*

OpenPlans (formerly The Open Planning Project) is a nonprofit that promotes transportation planning, good governance, and civic empowerment through technology consulting and political mobilization. Mark Gorton (of LimeWire fame) founded The Open Planning Project in 1999. His original objective was to promote alternatives to automobile dependency in New York City. While maintaining this focus, OpenPlans has also become a kind of incubator for an impressive array of web-based urban development initiatives.

OpenPlans applies web and geospatial technologies towards civic action. It focuses primarily on local projects, but its influence has reached national and international levels as well. Projects include mapping for the Portland TriMet transit system, setting up a national network of collaborative transportation-advocacy websites, helping local governments manage geospatial data, establishing an online forum for citizen participation in improving the New York City public schools, and helping to generate political support for closing Times Square to traffic. The open source approach enables OpenPlans to draw upon the contributions of many participants in a continuous process of experimentation and improvement.

While it is impressive to see such a remarkable team dedicated to civic action, it isn't clear whether OpenPlans reflects the priorities of most local residents or whether it could survive without Gorton's financial support. Its constituents tend to be young, highly educated, and relatively privileged transplants to urban neighborhoods, which begs the question of whether this work is contributing to gentrification processes. Regardless of these aspects, OpenPlans does have great potential to support projects that emerge from (or more fully incorporate) marginalized communities.

*The Open Architecture Network*

The Open Architecture Network is an online community that brings building practitioners together with community leaders from around the world to collaborate on design and planning projects. It is managed by Architecture for Humanity, which secured support for the initiative through a TED (Technology, Entertainment, Design) Prize in 2006. This support includes collaboration with other members of the TED community, such as Sun Microsystems, AMD, and Creative Commons.

The network allows designers to post their ideas for review, opening new possibilities for collaboration with small-scale clients from around the world. It also provides opportunities for design competitions around project themes such as classrooms and community centers. The goal is to bring people together to improve upon the built environment, but the scope clearly extends into the realm of international development.

The Open Architecture Network has the potential to be a global and local platform for design collaboration. However, there are impediments. Language and Internet access are the most obvious barriers to full participation. But even among English speakers with broadband access, it isn't clear whether people would consider it worth the time to search through volumes of architectural projects designed for other purposes. The site could be streamlined for ease of use and equipped for expanded accessibility. Even the low-bandwidth version seems a bit heavy to run conveniently over slow connections. Still, the Open Architecture Network holds great possibility for bringing together local communities and design professionals through collaborative projects.

*In Our Backyard (IOBY)*

IOBY is a website that helps raise funds for local environmental projects. Prior to becoming an independent nonprofit in June 2009, it operated for a year through the Citizen Action Program sponsored by the Open Space Institute. It seeks to promote ecological stewardship and remedy injustices associated with NIMBY (not-in-my-backyard) environmental activism.

Organizations and individuals can list project ideas on IOBY, which can then be searched by potential donors. The projects tend to be local and specific, such as setting up neighborhood composting bins, planting vegetables in community gardens, and organizing cleanup days at local beaches. For each project, the organization, location, goals, and level of funding can be tracked over time. Visitors to the site can search projects by category and location. They can also connect with other supporters and share ideas.

IOBY allows anyone to propose and support local do-it-yourself initiatives that might never be realized without local intervention. Removing financial barriers to agile and adaptive projects can protect neighborhoods from long-term neglect in cases where large-scale interventions aren't possible. It can also help ameliorate the effects of inappropriate large-scale interventions. Although IOBY isn't specifically focused on political mobilization or design collaboration, its role as a repository of project information can spark this kind of activity as well.

## Open Source Practice

Building upon the examples of OpenPlans, the Open Architecture Network, and IOBY, we propose an open source development model that uses Internet technologies to facilitate political mobilization, design collaboration, and funding. These components would operate concurrently, providing mutual support as well as checks and balances through an open democratic forum. It would be structured around an accessible website where people could post ideas by creating project profiles. These searchable profiles would include information, images, public forums (similar to the websites set up by OpenPlans), platforms for collaboration with design professionals (similar to the Open Architecture Network), a funding mechanism (similar to IOBY), and project feedback channels that would extend beyond official completion. It would function alongside current development models, so that people could decide whether to use it based on its potential to meet their needs. We see this as a way of fostering nonhierarchical, community-based, collaborative micro-projects, although it could eventually include larger projects as well. The core components are described below.

*Political Mobilization*

Government agencies, businesses, nonprofits, community organizations, and individual citizens could post project profiles to the website. Submissions would be searchable by project type and location. They could also be accompanied by images and documents. Originators of ideas would be able to direct people to their project profiles as a way of sharing information and building constituencies. There would be a voting mechanism to gauge public support for each project. Votes could also be used to prioritize budget allocations by municipal government, although this level of organizational complexity would have to be developed over time. Overall, it would provide a more direct, participatory, and democratic alternative to top-down, bureaucratic approaches to design and planning.

*Design Collaboration*

Each project profile would include a collaborative platform through which the originators of ideas could connect with interested professionals (including architects, engineers, planners, and environmental consultants), as well as organizations and individual supporters. Through this process, they could assemble teams based on the expertise needed to complete a given project. Designers could post plans and images for public review to help generate support. Each project profile would include an interactive forum through which people could share ideas, voice concerns, and engage in open debate. The forum would continue after

completion of each project, in order to facilitate collaborative assessment, stewardship, and public feedback. This might encourage greater feelings of ownership on the part of community members, providing a way for people to address local problems. Online communication links between stakeholders, including government, business, nonprofit organizations, and concerned citizens would make this collaboration possible.

*Project Funding*

The funding mechanism, similar to that of IOBY, would allow people to provide direct tax-deductible donations to projects they care about. Projects could be organized in stages, with corresponding fundraising goals established, published, and tracked within the project profile. As each goal is reached, the project could move to the next stage in accordance with publicly accessible plans. This progression in stages would allow the model to work at various scales, from community gardens to public infrastructure, focusing on the most urgent or practical components first. Professionals could choose to take on a project, or parts of a project, once sufficient funds are reached to cover the fees they post to the project profile. As a safeguard against wealthy patrons pushing through unpopular projects with massive financial contributions, every project would need more "yes" than "no" votes by its proposed start date in order to proceed. If not, it would return to the development stage for alteration.

## Conclusion

Bringing an open source practice into being presents a number of challenges. It would require a completely accessible, accountable, and secure online system. An experimental version might be set up first in order to work out logistical problems. This prototype could run parallel to traditional development models to gauge its viability over time. In theory, it would provide an alternative to top-down processes, allowing local citizens to work directly with government and building professionals in developing new initiatives. It might also allow innovative theoretical ideas to be tested and refined at smaller scales. Open source practice could offer a useful way of realizing adaptive local projects with the potential to resolve pressing ecological problems.

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