Interactive Technologies in Participatory Planning:
A Guide for Somerville Community Corporation

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This report was prepared in connection with Tufts University’s Urban and Environmental Policy and Planning (UEP) program as part of the requirements for the course “Field Projects: Policy and Planning in Practice.” Research was conducted from January through April 2010. The authors of this report are current UEP graduate students—Jennifer Chin, Ayesha Dinshaw, Andy Likuski, Markie McBrayer, and Jay Monty. They are hereby referred to as “the Team.” The Team was advised by Meridith Levy, Director of Community Power and Resources at Somerville Community Corporation, Tufts professor Rachel Bratt, and Teaching Assistant Jeremy Robitaille.

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Abstract

Engaging a diverse group of citizens and residents is regarded as an essential component of public urban planning processes. Over the last decade, community development corporations (CDCs), planning agencies, and governments have begun to experiment with interactive Web 2.0 technologies as tools for involving disenfranchised or otherwise disengaged members of the community. The use of technologies, such as social networking sites, interactive maps, massive multi-player games, and 3D virtual worlds, is touted as an innovative and promising strategy for increasing participation in planning. However, our research shows that while there are many benefits to using these technologies as a medium for engagement, they are not a panacea for engaging otherwise uninvolved populations.

Somerville Community Corporation has a track record of effectively engaging the community using traditional techniques. As SCC prepares to launch an interactive website built with open-source technology, inTeractive Somerville, it has asked the Field Project team (the Team) to document its development process, provide recommendations to refine the site’s design and implementation, and offer tools to evaluate the site’s effectiveness over time. Towards these ends, a portion of this report consists of evaluation templates and process recommendations specific to SCC. Also included is an outline of best practices from three case studies of similar projects where interactive technologies are being, or have been, used to engage disenfranchised populations with varying degrees of success.

In addition, several “big picture” questions related to urban planning are raised: How do new technologies fit into overall community engagement strategies? How can organizations best integrate new participatory planning strategies into traditional planning techniques and methodologies? We pose these key issues to contextualize a broader question: how can success in community participation be measured, and can the impact of using interactive technologies be quantified?
EXECUTIVE SUMMARY

PURPOSE

Advancements in technology are allowing for novel forms of citizen participation, and these are being explored by a wide range of organizations from community development corporations to government. These web-based forms of public participation create an avenue for engaging populations that have been traditionally excluded from the land-use planning process. These often include younger people and immigrant populations who may be uncomfortable attending or speaking at town hall meetings. However, the success of these newer forms of public participation is understudied and yet to be quantified.

The Team’s client, Somerville Community Corporation, worked in conjunction with several parties to create an interactive website that aims to increase citizen awareness and participation in the planning process surrounding the extension of the Massachusetts Bay Transportation Authority’s Green Line light rail system through Somerville, Massachusetts. As SCC prepares to launch an interactive website known as inTeractive Somerville, it has asked the Team to document the development process, provide recommendations to refine the site’s design and implementation, and evaluate the site’s effectiveness over time. Thus, this report offers recommendations for evaluating and refining the site as it moves from the pilot phase to launch. Additionally, it examines the value and place of interactive technologies in the process of soliciting public participation.

This report is also intended to serve as a best practices reference for other community and governmental organizations that may be considering the use of technology for increasing participation in planning and for academic institutions, specifically urban planning and community development programs, which teach students how to promote equity in planning. A literature review of participatory planning theory and methods is provided, which explains the context for how interactive technologies can support communicative planning. This contextual research is deepened through case study assessments of several projects that use interactive technologies to foster participatory planning. Also provided is a suite of evaluation tools and a list of key considerations and recommendations that serve as best practices resources for SCC and other organizations seeking to develop and use interactive technologies for participatory planning.
KEY RESEARCH QUESTIONS

To develop a broader understanding of the potential role of interactive technologies as one of many strategies for participatory planning, the Team grounded its work with SCC by exploring several questions: First, how does the use of new technologies fit into overall community engagement strategies that include more traditional planning methodologies which are often iterative in nature, where the impact of personal interaction and dialogue is highly valuable? Second, as SCC endeavors to increase diverse public participation, how can organizations best utilize the information garnered from interactive tools to make this new strategies in planning methodology one that can be implemented successfully? We pose these key questions to begin addressing the broader issue: how can success in community participation, and the impact interactive technologies have on participation, be measured?

PROJECT SCOPE AND DELIVERABLES

This project contextualizes this new form of citizen input within the realm of traditional participation processes. A background of participatory planning theory and models and their many advantages is offered. Following this, SCC’s website inTeractive Somerville is described, as well as the technological means used to create it. To augment this work, the team reviewed case studies and academic literature on the use of interactive tools in planning. From this literature, the team developed a set of broad development process and participant outreach recommendations that are applicable to all planning-related organizations.

An important goal of the Field Project was to evaluate the short-term effectiveness of inTeractive Somerville and offer evaluation strategies that could be continued over the long-term. The primary deliverables for SCC included the evaluation of a session during which a preliminary version of inTeractive Somerville was showcased, the creation of a suite of evaluation tools for inTeractive Somerville, and an ongoing evaluation strategy. The evaluation tools include surveys, focus group questions, and forms for observation and workshop facilitation.

The case studies discussed later in the report are:

1. The Envisioning Development Toolkit, produced by the Center for Urban Pedagogy;
2. Participatory Chinatown, produced by three partners: Asian Community Development Corporation (ACDC), the Metropolitan Area Planning Council (MAPC), and Hub2: an Emerson College New Media faculty project, and
3. Augmented Deliberation Using Second Life, a project of Emerson College New Media faculty.
RECOMMENDATIONS

The recommendations emerge from the analysis of case studies and from a beta workshop evaluation; they serve as guidelines and context for further examination the role of interactive technology in a wide range of settings. These are primarily intended to guide SCC as it prepares to move inTeractive Somerville from a pilot phase to a final version available to the public.

The recommendations for SCC can also be viewed as best practices that are applicable for CDCs, planning agencies, and other entities that are exploring the use of interactive technologies in planning. Additionally, this project may also act as a resource for planning schools or organizations attempting to assess the use and success of interactive web-based tools in the planning realm, and how they may be utilized to promote equity in the planning process.

Last, this report intends to contribute to the available, but limited, literature on the application of interactive technologies in planning, and demonstrate the need for future research into the impact and success of these tools as they relate to fostering diverse citizen participation. The technologies hold great promise for augmenting the deliberation process in planning, but greater experimentation, documentation, and evaluation of the successes, challenges, and failures in implementing them is needed.
CHAPTER 1: INTRODUCTION

SCC’s development of an interactive website to engage residents in the planning process for a new transit line in metro Boston was the culmination of efforts by many Somerville interest groups. Spurred by the Commonwealth of Massachusetts’ own transportation planning process, the effort is intended to empower and engage disenfranchised populations. In this chapter, the major issues and parties crucial to this report are introduced.

THE MBTA GREEN LINE CORRIDOR EXTENSION

The impetus to develop the website inTeractive Somerville was the planned extension of the Massachusetts Bay Transportation Authority’s (MBTA’s) Green Line into Medford and Somerville, MA. At the state level, the timeline for the planning and construction of the Green Line has spanned many years. Litigation in recent years has mandated that the new rail line be open by 2014. This has meant that from 2008 to 2013, the opportunity for public input has been and will be the greatest. In 2008, the route and station locations were finalized, and, as of spring 2010, the project has entered a phase where the public’s input will help determine land uses around new stations. This is a phase where the public can have the most long-term effect on the changes that will come to their communities when the Green Line arrives.

THE CITY OF SOMERVILLE

Somerville is an immediate suburb of Boston, located approximately three miles from Boston’s downtown core. It is bordered by Cambridge to the west, Arlington to the north, and Medford to the north and east. It is the most densely populated city in Massachusetts with a population of 75,000 occupying an area of roughly four square miles. Relative to the rest of
Massachusetts, Somerville is by no means an outlier, although in terms of demographics, certain segments of its population do have characteristics that classify them as vulnerable. Racially, Somerville is only slightly more diverse than the state. However, it has a very high proportion of foreign born residents and residents whose first language is not English. Additionally, while its household median income is only slightly below state average, the rate of home ownership in Somerville is less than half of the state average. This latter fact is one of the most critical, in terms of the demographic shift that could be triggered by the Green Line extension since it has potential to cause displacement of current residents due to gentrification. (US Census Bureau, 2000). Figure 1 below contrasts Somerville demographic information to that from Massachusetts.

<table>
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<tr>
<th>KEY DEMOGRAPHICS OF SOMERVILLE, MASSACHUSETTS</th>
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<tr>
<td>Somerville</td>
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<td>Population, 2006 estimate</td>
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<td>Persons under 18 years old, percent, 2000</td>
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<td>Persons 65 years old and over, percent, 2000</td>
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<td>Foreign born persons, percent, 2000</td>
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<td>Language other than English spoken at home, pct, 2000</td>
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Figure 1: Key Demographics in Somerville, Massachusetts
Source: US Census Bureau, 2000

SOMERVILLE COMMUNITY CORPORATION

Somerville Community Corporation (SCC) is a nonprofit community development corporation (CDC) committed to keeping Somerville vibrant and diverse. SCC’s primary intent is to build community power and organizational resources so that low and moderate income individuals and families, as well as new immigrants, continue to have the opportunity to live in, participate in, and lead in Somerville. The organization offers services and spearheads community-organizing efforts that help Somerville residents achieve economic sustainability, and works to increase their participation in Somerville. This report aims to document SCC’s process as it develops and launches an interactive website aimed at making the urban land-use planning process more accessible to traditionally disenfranchised community members. This effort was stimulated by the proposed extension of the MBTA’s Green Line rapid transit line through Somerville, Massachusetts (Somerville Community Corporation website, 2010).
At the time of this report’s publication, May 2010, SCC is in the process of completing the interactive website and embarking on preliminary, or “beta,” testing before public launch. SCC is the lead organization that is charged with developing the site on behalf of a larger coalition of organizations that is organizing around the Green Line, the Community Corridor Planning (CCP) Coalition.

THE COMMUNITY CORRIDOR PLANNING COALITION

In order to create a broader coalition of skills and interests to take on the task of increasing public participation in planning for the Green Line, SCC teamed with Groundwork Somerville, the Somerville Transportation Equity Project, and the Somerville Community Health Agenda to form the CCP Coalition. The CCP Coalition’s broad goal is to provide mechanisms that offer traditionally excluded populations a means to participate in the planning process. The coalition is led by a resident Advisory Team consisting of 16 residents.

According to Meridith Levy, Director of Community Power and Resources at SCC, the CCP Coalition is a grassroots community planning effort with the goal of engaging a broad base of residents, particularly low income and new immigrant residents, in community planning along the Green Line corridor. SCC’s goal is to influence both the designs of stations and the use of land within a half-mile area around each of the proposed stations. In doing so, the coalition hopes to ensure that the policies, tools, zoning and acquisition strategies applied to future development and land uses along the corridor focus on affordable housing and access to jobs, while avoiding the displacement of low and moderate income individuals and families. Through one-on-one visits, large and small community meetings, as well as photo and mapping workshops, SCC has connected with nearly 700 Somerville residents (Levy, Personal Communication, 2010). These efforts culminated in the creation of a web-based interactive mapping tool, inTeractive Somerville, which integrates the images and data gathered by the community. SCC has taken the lead role in developing the software for the CCP Coalition.

PROJECT GOALS

The Team was asked to document the development process of inTeractive Somerville, make recommendations on how SCC could refine the site’s design and implementation, and provide guidance and tools for how the site’s effectiveness could be evaluated over time. The Team had the opportunity to observe the creation of the interactive website and its early stages of beta testing. The following emerged as the main deliverables for SCC and, hence, the substance of this report:

1. A suite of evaluation tools for the beta and launched versions of inTeractive Somerville;
2. Evaluation of a beta workshop;
3. A proposed on-going evaluation strategy for inTeractive Somerville;
4. Recommendations to SCC and the CCP Coalition on how the site can be refined to best serve the target populations;
5. Best practices from case studies of other examples of community-participatory planning; and
6. An assessment of the overall applicability and success of interactive mapping tools and websites in securing participation from a diverse community.
Participatory planning has become a key part of the planning process for most public infrastructure projects. There are many interpretations and theories of how to best engage the public, and what types of participation are the most effective in creating public empowerment. In the last three decades, a body of theory and research on techniques for participatory planning has emerged. A literature review of discourses on communicative planning and pluralistic city planning helps shed insight on the need for approaches like grassroots organizing to secure diverse resident participation. The following section provides background on why participatory processes are increasingly valued in planning, and how interactive technologies fit into more traditional methods of garnering citizen participation. To do so, the Team provides a broad overview of communicative and pluralistic participatory planning theories, which reinforce the importance of using various mediums and strategies for securing diverse citizen input into planning processes. In addition, this chapter reviews examples of other Massachusetts transit planning processes that have used traditional participatory methods.

PUBLIC PARTICIPATION IN PLANNING

Participatory planning has not always been an important component of urban planning. Arnstein, who analyzed citizen involvement in planning processes in “A Ladder of Citizen Participation,” noted that “there is a critical difference between going through the empty ritual of participation and having the real power needed to affect the outcome of the process” (Arnstein, 1969, p. 216). Despite citizen participation being theoretically important and considered, it is often practically inconsequential. Arnstein argues that the lowest rungs of participation, manipulation and therapy, amount to non-participation. Achievement of the higher rungs of partnership, delegation of power, and citizen control are true forms of citizen
Public participation is one of the elements that can bring balance to planning processes and to counter decisions that can harm the common good.

Power and participation (Arnstein, 1969, p. 217). These more powerful forms of participation can only be achieved when the public is offered a true voice in the planning dialogue. While traditional means of fostering this public voice have improved over time, they remain somewhat limited in their access. Some sections of the population remain unheard, which highlights the need for additional strategies for promoting public participation in planning.

Rowe and Frewer note that the rising interest in fostering public participation is attributable in part to reduced trust in those to whom the processes have been traditionally conferred for political reasons. There is recognition that a non-consulted public is often an angry one and that involving the public may be one step toward mollifying that public anger (Rowe and Frewer, 2004, p. 514). de Abreu also notes that public participation is important precisely because of the political nature of decision-making, as “even decisions on supposedly strictly technical options are very often not made solely on the basis of rational and objective analysis of technical data and multi-criteria equations...[they are] the result of political expediency, a matter of political timing and circumstances, a bargain element in the negotiation of other goods and agreements, a market opportunity, a rapport of forces between vested interests, etc.” (de Abreu, 2002). According to de Abreu, public participation is one of the elements that can bring balance to planning processes and to counter decisions that can harm the common good (ibid).

LITERATURE REVIEW: PARTICIPATORY PLANNING THEORY

Intercommunicative planning, or communicative planning theory, explores the communicative dimensions of collectively debating and deciding on planning matters of collective concern (Healey, 1992, p. 237). The communicative planning approach emerged in the 1980s and was influenced by critical theorists like Jürgen Habermas (Healey, 1992, p. 241). Planners that utilize this approach look at moral values, aesthetic worlds, and other types of knowledge that comes from communications exchanges in order to take stock of a range of cultural and moral knowledge. The knowledge is used to foster deliberation among wide perspectives—a key part of rational decision making in planning (Healey, 1992, p. 241). Innes (1998) notes that the role of a communicative planner is also part process-designer, institution-designer, negotiator, and finder and presenter of information. To manage these many roles requires a knowledge base that goes beyond the technical and scientific; it requires also drawing upon participant experience and anecdotal evidence to help sway decision makers on planning.

Healey goes further to suggest that communicative planners specifically foster processes in which people from different cultural communities are encouraged to negotiate shared concerns (1992, p. 244). These techniques have strengthened the traditional forms of participation in the planning process over time, and serve as a bridge between both traditional and novel, interactive methods of fostering public participation.

The communicative approach to planning enriches discussions by creating a space for raising moral and aesthetic issues in planning via a
range of presentational mediums and forms, from stories to aesthetic illustrations (Healey, 1992, p. 242). In other words, mediums like interactive technologies can augment communicative planning approaches. It is through communicative argumentation that, Healey argues, people of diverse cultural backgrounds can come to some agreement in regards to planning (Healey, 1992, p. 246). The communicative approach is also comparable to the concept of pluralistic city planning, which promotes the inclusion of planning ideas by different interest groups and the use of grassroots strategies (Davidoff, 1965). Similarly, Krumholz highlights the importance of planners having symbiotic relationships with diverse citizens in order to foster equitable planning (1990). Healey takes a more activist approach to the promise of communicative planning, noting that “to engage in any other type of strategy is to regenerate forms of planning which have inherent within them an antidemocratic potential” and “either we succeed in keeping a critical dialectics alive within communicative action or we remain caught within the dialectics of totalizing systems” (1992, pp. 248-249).

The discourses on communicative planning and pluralistic city planning helps shed insight on the need for approaches like grassroots organizing to secure diverse resident participation (Davidoff, 1965). Proponents of newer processes in planning call for a process in which respectful, intersubjective argument among diverse citizens is fostered through engaging, deliberative planning processes that go beyond the traditional public meeting (Healey, 1992, p. 249). However, as theory and literature can only take us so far, we must also examine how successful planning has taken place in practice.

SUCCESSFUL APPLICATIONS OF TRADITIONAL PARTICIPATORY PLANNING METHODS

There are successful examples of past projects involving issues of transit and affordable housing that should be looked to for practical reference. How agencies involve the public in planning large scale infrastructure projects has numerous consequences. These can include tangible things such as cost and design, as well as more abstract issues, such as altering the community’s perception of their neighborhood. The creation of CDCs, such as SCC, was largely a consequence of the urban renewal and interstate highway era of the 1960s, when public input was rarely considered by the authorities. Many projects created problems for less influential, primarily lower income populations who were cheaper to relocate, and less likely or unable to mount resistance against a project. CDCs evolved as a means of empowering those in the community who were otherwise without a voice in the political and planning process. One of the many roles CDCs play is to engage these traditionally disenfranchised populations during the planning process of large projects such as the Green Line extension into Somerville. Additionally, the Metropolitan Planning Organization, a regional planning agency which is one of the primary drivers of the Green Line extension, requires community involvement as part of its planning processes. One of the many roles of SCC during the Green Line planning process is as an “on the ground” team facilitating community involvement. (Bourassa, Personal Communication, 2010).
There are several important issues that SCC is hoping to address as part of this planning process. In the long-term, there is a worry amongst many Somerville residents, particularly those who do not own their own homes, that the presence of the Green Line will raise property values, rents and the general cost of living, thus ultimately forcing already vulnerable populations out of their homes. It is SCC and the CCP coalition’s goal to prevent, to the extent possible, the displacement of vulnerable populations along the Green line corridor. SCC hopes that its new interactive website, inTeractive Somerville, will become a key tool in engaging and empowering these populations in the planning process.

In the short-term, the first major test of inTeractive Somerville for SCC will be its efficacy in gathering information for input into the physical planning for the new stations and their immediate surroundings. In the summer of 2010, SCC will be participating in a series of design charrettes led by the Massachusetts Department of Transportation. This is an excellent opportunity for SCC to showcase the software in the larger context of planning around large-scale infrastructure.

To understand how the information gathered from inTeractive Somerville may be incorporated as part of the Green Line project, it is worth examining other past planning projects involving the issues of transit, affordable housing and land use planning which have been viewed as successful in terms of their engagement of the public.

Orange Line Relocation and the Southwest Corridor

The relocation of the MBTA’s Orange Line in the 1980s has many similar aspects to the Green Line both physically and demographically. Like the Green Line, it was an expansion of an existing passenger rail corridor to include rapid transit. Additionally, it occurred in an area which, like Somerville, had a population which was vulnerable to perceived threats of gentrification.

The Orange Line relocation has been frequently cited as a model for transportation planning and community involvement. At the start of the project in the 1970s, the MBTA assisted in creating citizen-led station area task forces (SATFs) as a means of gaining community input concerning each proposed station. While not CDCs like SCC, the SATFs took on many of the project-specific tasks that SCC and CCP are pursuing with the Green Line. These task forces not only organized community involvement for the Orange Line, but continue to be intermittently active with land use planning in the immediate areas surrounding the stations.

The SATFs organized monthly public meetings that occurred primarily during the planning and design stages of the project from the late 1970s through the early 1980s. A bi-monthly newsletter, “Corridor News,” was used as a means of connecting the various SATFs. The newsletter also provided a way of sharing meeting minutes, posting the agendas for future meetings, and distributing graphics and designs of stations, parks, and new development.
The MBTA set basic ground rules for all the public meetings, including the need for topics of discussion to be brought forth by the public. Organizers then set time limits for debate of each topic and discussions continued as long as they fell within the allotted time, were within budget, and “made sense” (Crewe, 2001). The discussions often dealt with issues such as the interface between open space and residential neighborhoods, areas where the depressed tracks should be covered over entirely, the types of development that should be encouraged around the station areas, and even the physical appearance of the new stations themselves.

A 2001 article in the *Journal of the American Planning Association* explored where community involvement in the Orange Line project was most and least successful and why. The area where many planners felt that community involvement was most helpful was in regards to design aesthetics, and issues that were not subject to engineering and other design standards set forth by state and federal agencies. While the results of community participation were not limited to design, these details often created station areas that looked like they “belonged in the neighborhood.” This fostered a sense of recognition and reward to those who participated in the process. Many of the designers felt that this contributed to the general survival of the project by allowing the positive engagement of those who might have otherwise fought the project or not contributed at all (Crewe, 2001).

Through this process, the limits created by regulations were made clear. Ultimately, things such as the types of street lamp fixtures and park benches are limited by what is allowed by state regulations, or what is within the budget of the project. Planners involved in the process noted that when decision-making became less structured and too broad, the resulting indecision of the participants created a negatively viewed outcome. (Crewe, 2001)

The Orange Line relocation project, seen in Figure 2 above, is still viewed as a model for community involvement in large scale transportation projects. Given the corridor’s history, which was originally conceived as a highway project that severely damaged many neighborhoods through property takings and demolition, community support was imperative. Being able to realistically incorporate a community’s ideas is, in many ways, the most crucial piece of the puzzle, because it encourages a positive feedback loop where residents will be encouraged to participate again in the future. At the same time, the designers of the Orange Line felt that keeping the community informed and engaged was crucial, even while not all community input is feasible to incorporate. Since regulations and technical limitations can constrain the planning process, those who wish to foster community participation as part of a large scale project should be clear with the public...
about these limits. Attempting to go beyond them risks suggesting to a community that they can make a decision in areas where, in fact, it cannot, due to the engineering and scientific standards that may be involved. In such a situation, community input may well go unheeded, and this may cause individuals to feel as though the community-input process was disingenuous, or worse, it may discourage future participation.

**Jackson Square Transit-Oriented Development Project**

The proposed Green Line extension presents the City of Somerville with an excellent planning opportunity. The lessons learned from the Orange Line relocation can provide a valuable roadmap for planning around new transit corridor. Even though 30 years have passed since the Orange Line planning process took place, many of the basic principles remain applicable today. The Jackson Square project illustrates the importance and effectiveness of traditional planning techniques, even in more modern times. As we enter a new age of web-based interactive engagement strategies, the successful and effective aspects of traditional methods should always be considered when framing engagement strategies for the community.

Since SCC’s mission goes beyond the physical planning for the Green Line, it is worthwhile to examine a project that is related more closely to some of SCC’s other major goals: affordable housing and land use. In Boston, the Jamaica Plain Neighborhood Development Corporation and Urban Edge Community Development Corporation have undertaken a redevelopment project in the Jackson Square area of Jamaica Plain. The project is an eleven acre multi-building project planned on public land at the intersection of Columbus Ave and Center Street, as seen in Figure 3 below. Adjacent to the Jackson Square station on the MBTA’s Orange Line, the project will include 103 housing units of which 39 are affordable. The development also contains recreation and education services for family and youth, and other mixed-use amenities, like shops, restaurants, and offices (Ruch, 2006; Ruch, 2009). Jackson Square’s process exemplifies traditional community participation in that a community vision was developed from years of public meetings (ibid).

The neighborhood is one of the poorest in Boston and has been declared a Federal Empowerment Zone (US Green Building Council, 2009). Its population is 88% minority with 26% below the poverty level (ibid). Three community organizations formed Jackson Square Partners, to work with the project developers to bring residents into the planning process (Ruch, 2009; US Green Building Council, 2009). The coalition organized large community meetings through mailings, phone calls and email. Local residents, including youth, attended planning meetings and had a large impact on the site planning, including specifying amenities needed by the community and making a successful push towards the plans for the site becoming one of the first Leadership...
in Energy and Environment Design–Neighborhood Development (LEED–ND) certified projects in the country (US Green Building Council, 2009). The project plans gained LEED–ND certification by meeting a list of requirements, such as traffic-calmed streets, energy efficiency, and public transit access. The project has been in planning-phase for over ten years. As of 2010, the project has not yet been constructed, but is scheduled to break ground after the recession delayed efforts in 2007. Over the years, the public has remained included in the planning process through continual reviews by a representative community advisory committee. The Jackson Square project exemplifies the importance of involving the community with traditional techniques, such as paper maps and designs and community input in meetings. It also demonstrates the importance of keeping the community involved in a delayed project, similar to the Green Line extension.

During the past several decades, much research and thought has gone into developing the participatory planning techniques that have been used successfully in projects addressing similar issues to those targeted by the CCP coalition as part of the Green Line project. As the discussion shifts towards integrating more technology into the planning process, it is important to continue to reference the valuable research and experience that has brought planning to where it is today. Yet, as we will see in the following chapter, the introduction of technology into the planning process will open up countless windows of opportunity.
Chapter 3: Interactive Technologies & inTeractive Somerville

Over the last decade, the use of interactive web-based technologies, commonly referred to as Web 2.0, has emerged as a growing strategy for engaging communities in urban planning processes. These technologies have the potential to add a new dimension to the planning process and engage segments of the population that have traditionally been disengaged. One useful advance has been the growth in what is known as open-source software. This is software whose code is freely available to use and modify. In this chapter, a brief overview of these technologies will be discussed as well as the process used to develop inTeractive Somerville.

Definition of Web 2.0 Technologies

Web 2.0 technologies facilitate information-sharing, democratized data, as well as the harnessing of collective intelligence from the people who use it in order to create a participatory environment (O’Reilly Media, 2005). The technologies take advantage of components as tagging (indexing content with keywords), social networks, blogs, wikis, and mashups, which are visual combinations of different public data sources (Bugs et al, 2010). These technologies include visualizations of planning-related data, interactive maps, virtual worlds, and ‘massive multiplayer games’ (which offer users the ability to share and manipulate their virtual surroundings).

Definition of Open-Source Technologies

Technologies whose software source code is made freely available on the web for programmers and organizations to adopt or modify are known as
open-source. Open-source code has the potential to dramatically reduce costs for organizations, since they can freely use software created by others and seek help from outsiders in writing code or adapting the code of others to their own purposes.

WEB 2.0 BENEFITS AND CHALLENGES FOR PLANNING

A major benefit of these technologies is their ability to quickly disseminate information among user networks and to allow for salient ideas to be discussed and supported by many people who may have otherwise not communicated with each other. However, some major concerns that these technologies raise are: whether the technology actually reinforces people’s distance to the rest of the community by providing a space for people to communicate and connect virtually versus in-person, whether the technology and the mediums used are effective in engaging marginalized and disenfranchised populations, and whether there is a reliable feedback or communication loop between the process surrounding the technology and the actual public planning process. Addressing the third concern confirms whether the communities’ engagement with the interactive technology is indeed meaningful and impactful versus token. Web 2.0 technologies can also potentially be effective for reaching out to groups that have often been marginalized from planning processes, such as technologically-inclined young people, whose generation will be most impacted by today’s planning decisions. However, successful implementation of interactive technologies in planning needs to be rolled into more traditional approaches to obtain citizen participation. The implementation and success of an interactive website or software depends as much on the outreach strategy and its integration with other more prevalent interactive technologies as it does on the design.

LACK OF PUBLISHED RESEARCH

Since Web 2.0 tools emerged in the last decade, its short history also means that there is a shortage of published articles about the use of interactive and open-source technologies in planning. It is likely that a larger body of published materials on the topic will emerge as the interactive software becomes more standardized. While the Team is not aware of any organizations or researchers that are documenting the successes or failures of the use of Web 2.0 technologies in planning, several online databases of Web 2.0 technologies exist that can be used for participatory planning and general urban planning purposes (Goodspeed, Personal Communication, 2010). These are listed in Appendix A. In addition, a number of university and government implementations of interactive technologies in planning are also emerging. A summary of some projects that were recently highlighted at an American Planning Association conference session on the use of technology in transit planning are provided in Appendix B.

Looking into the future, Web 2.0 technologies like mapping software, virtual world software, design software, and software that supports social
interaction may be packaged into easy-to-use products. As such products become available and are taken up by a large number of governmental, private, and community-based organizations, it is likely that the published work following their use will increase as well. Lack of published materials may also owe to skepticism among academics about the effectiveness of the technology, especially the common skepticism that surrounds traditional community participation in planning. On the other hand, the confluence of an increasing technology curve and the dire need to improve the sustainability of cities in the face of climate change, pollution, and resource depletion may intensify the focus on urban planning and thus hasten the interest in using technology to efficiently gather citizen input. In short, the anticipated increasing reliance on software technology and the increased attention to planning may engender much more research on the intersection of the two fields.

While there are several websites that recommend various interactive technologies for use in planning, there is currently no individual or organization that is actively documenting the success or failure of the use of interactive technologies in planning—neither those implemented by nonprofits or by government planning agencies—on a case-by-case basis (The Open Planning Project, 2010).

This is not to say that research is completely non-existent. A recent Internet and American Life Survey by Pew Research provides some insight. It found that while people traditionally involved in civic issues are more likely to be wealthy and highly educated, interactive technologies have the potential to engage the young, an otherwise uninvolved population. Although disenfranchised older groups do not currently utilize the Internet to become involved in civic issues at the rate of their wealthier and more educated counterparts, the young are involved in civic issues, regardless of race or income (Pew, 2008).

**INTERACTIVE SOMERVILLE**

The potential to engage groups not traditionally involved in planning and civic issues was the impetus for SCC to develop their interactive website known as inTeractive Somerville. In summer 2009, SCC approached the Metropolitan Area Planning Council (MAPC) with an interest in creating a special repository of data and maps for Somerville, in anticipation of the Green Line corridor planning process. Christian Spanring of MAPC worked with Meridith Levy of SCC and Dan Zinder, a Tufts graduate student, to develop a website known as the Somerville DataCommon (MetroBoston DataCommon, 2010).

**Precursors to inTeractive Somerville**

The use of nontraditional engagement strategies in community planning is not new to SCC. In fact, the agency undertook a smaller, but similar effort in 2005 called the East Somerville Community Mapping Project.

Interactive technologies have the potential to engage the young, an otherwise uninvolved population.
Though this was more of a “pen and paper” project as opposed to using interactive technologies, the goals, methodology, and results were very similar to those anticipated with the inTeractive Somerville program. The East Somerville project documented people and places, collected stories of long time residents, and observed the day-to-day activities of people in various locations within east Somerville. Multiple workshops were used to gain input, as well as to train participants to use digital cameras and voice recorders to document important places in the community. A small group of devoted participants conducted door-to-door surveys, and spent days making general observations at significant locations around the city. The collection of data was integrated into a hand-drawn map, which was later made available online as an interactive tool with a static body of information.

The next phase of this project, and the precursor to inTeractive Somerville, was known as PhotoVisions. In the summer of 2009, 40 individuals took photos along the corridor, and participated in a photography workshop. At a fall community meeting, participants were asked to identify places of importance along the proposed Green Line corridor. In a second phase of PhotoVisions, a team of 23 individuals from the community then photographed the places identified at the community meeting. A volunteer jury of Somerville residents then selected the top 150 photos out of a total of over 400 taken. These photographs will be integrated in the inTeractive Somerville site, described below.

The Development of inTeractive Somerville

The interactive website, inTeractive Somerville, is intended by SCC to engage populations that are generally shut out of the planning process. These populations include youth, people for whom English is not a first language and people who do not understand the planning process and thus are unlikely to participate in public meetings. To view SCC’s original inTeractive Somerville project goals and objectives, please see Appendix C. The site consists of two main components: A library of static GIS maps created using community data collected by residents, and a mapping interface that allows audio files, video files, and photographs to be uploaded by residents to highlight what they value about the existing neighborhoods that will be impacted by the Green Line extension. A future component of inTeractive Somerville will be a virtual space through which residents will be able to experience their surroundings three-dimensionally.

Through ongoing conversations between SCC and MAPC, it became clear that SCC was interested in developing a tool that would facilitate much stronger engagement with the community by using maps and images. SCC’s needs and interests were much bigger than initially planned. Since SCC did not have a budget for developing such a tool, MAPC contacted The Open Planning Project (TOPP) in New York, a company that develops open source software and media products (The Open Planning Project, 2010). Interestingly, the way in which TOPP helped SCC assemble a team involved interactive technology, posting the project opportunity to their blog. Two volunteers, programmer Gerald McCollam and designer Colin Barr
responded. TOPP has provided the technological infrastructure and server space to host inTeractive Somerville at no cost, and the site was developed using a tool known as TOPP Cloud.

In order for SCC to make the interactive site, they contracted with the Open Planning Project, or TOPP, a non-profit company that produces open-source urban planning software. TOPP volunteered to do the project at no cost because they were excited to make software that could be used by other community organizers to help citizens engage in the planning process. The software was to be built to SCC’s specifications, but also was intended to be general enough to be adopted and customized by other organizations. Unfortunately, TOPP lost employees to the 2008 recession, and full responsibility for the development work fell upon two outside volunteers, rather than the five or so software developers originally working on the project. This exposes one of the challenges of open-source software development. Programmers and organizations are often contributing without compensation, so changes in organizations and private lives can weaken or stop software development.

After SCC launches the software to the public and runs sufficient workshops, the content will be aggregated and presented in the Massachusetts Department of Transportation’s public Green Line planning meetings. In sum, the site seeks to be a bridge between new community engagement techniques using technology and the more traditional public participation process.

ENGAGING THE USER

How does one accomplish citizen participation through interactive technology? Participatory software can be divided into two functions: a navigational experience or a contributory interaction. Google Maps is an example of navigational software. Users can browse the maps and request directions, but most users do not contribute to its content. Facebook, on the other hand, combines navigational elements with contribution, using media, message boards, and event postings.

The SCC website, inTeractive Somerville, consists of three components. The first is a set of maps developed by Dan Zinder to teach users about the neighborhoods of Somerville in the Green Line corridor. The maps reveal important data, such as demographics around each proposed T station. The next component is the interactive feature of the site, which allows users to look at media related to the proposed green line stations and then share their own observations. The third component of the software is a 3-D walkthrough of Gilman Square, which is still in early development.
Figure 4 above shows the welcome page for the interactive portion of the site. Users are presented with a map of the proposed Green Line stations, which they can click on to explore a station in detail. Developed by a community-led input process, the CCP coalition’s eleven principles provide the basis for structure for the website. These include such principles as creating more local jobs, keeping Somerville affordable, improving access around town, and creating community gathering spaces. The full list of community principles is available in Appendix D. These principles function as a theme throughout the site. Users can address one or more of the principles when they contribute ideas about each station area. Users can also contribute location-specific photos to the site to enhance the identity of each station area. Other users may append their comments to both ideas and stations, creating a written conversation.

As the preceding paragraphs have described, there are many points and methods of interaction available to the user in the site. As development continues and the site is further refined, it will be necessary to evaluate each of these aspects as well as determine how effective the overall site is in engaging the user. The following chapter will detail the importance of such evaluation, and provide methods and a toolkit which SCC may utilize to evaluate inTeractive Somerville.
Chapter 4: Evaluation

One of the Team’s main deliverables to SCC is an evaluation of the beta, or preliminary, version of the inTeractive Somerville site. SCC is seeking feedback on whether its short-term goals for the site, usability and accessibility, are being met. These goals are to be evaluated during the beta phase of the site. In the long-term, SCC is hoping to evaluate whether its long-term goals for the site, increased public participation in the planning process, is achieved through the use of inTeractive Somerville. This chapter discusses the importance of evaluation, how the Team undertook evaluation of the beta site, and the recommendations and materials the Team has developed for continued evaluation of the beta and final versions of inTeractive Somerville. Specifically, this chapter explores process evaluation, program evaluation, and the relationship between the two. It explains the methods used and results obtained from one evaluation session of the beta version of the site, and offers an overview of the evaluation toolkit created by the Team for SCC’s continued evaluation of inTeractive Somerville.

Importance of Evaluation

Rowe and Frewer argue that evaluation is important for multiple reasons. Financially, it is important to ensure the proper use of public or institutional money. Practically, it is important to learn from past mistakes in order for exercises to be run better in future. Ethically, fair representation must be established to ensure that those involved are not deceived as to the impact of their contribution. Finally, through research and theory, it is important to increase our understanding of human behavior (Rowe and Frewer, 2004, p. 6).

Practical and ethical reasons drove this project’s evaluation forward. The Team’s responsibility was to ascertain whether SCC’s interactive site accomplishes its short-term goals of usability and accessibility, and its long-term goal of increased participation in the planning process among vulnerable groups.
EVALUATION OF BETA VERSION OF SITE

SCC arranged a session to test the usability of the preliminary, or beta version, of the site with a total of ten participants divided into two groups. SCC’s beta workshop gave the Team a chance to utilize and modify their evaluation tools, which included a survey, focus group questions, observation forms, and floating volunteer forms. The observation forms and floating volunteer forms were used by the Team members during the user-session, which was led by SCC. The survey was administered after the session, and the focus group was held after the survey was completed. The participants’ responses were audio-recorded and transcribed.

PROCESS AND PROGRAM EVALUATION

In order to evaluate the inTeractive Somerville site, the Team recommends that SCC continue to make use of ‘process evaluation’ for the beta version of the site, and ‘program evaluation’ for the final version of the site. Process evaluation assesses which aspects of the site were particularly effective or difficult to use. It primarily focuses on whether the short-term goals for the site are achieved. Program evaluation is a long-term ongoing evaluation process intended to assess how well inTeractive Somerville aids SCC achieve its goal of increasing public participation within disenfranchised communities over time. The Team has provided resources to SCC to aid it in this evaluation process.

Process Evaluation

The Team assessed the usability and accessibility of the beta version of the interactive site that was available at the time of this project (February-April 2010). This aspect of the evaluation was created to identify missing or faulty features, confusing components of the site, and improvements that users would like to see, so that the developer can immediately identify and begin to rectify these issues. The questions focus on which features and functions participants want improved or created. The full list of survey questions and focus group questions is attached as Appendices E and F. An example question is listed below:

Example Question: What parts of inTeractive Somerville were confusing? Why?

This question illustrates how a user of the site has the opportunity to evaluate which sections of the site were least easy to understand or navigate. If several users notice the same errors, the site developer can alter the functionality to better suit the users’ experience.

The Team created a set of evaluation tools for the beta version of the site. The original beta evaluation toolkit (Appendices E through H), includes questions related to process evaluation. However, this toolkit was created without access to the inTeractive Somerville site. Thus, the opportunity
to test the evaluation questions on site users was as valuable as their responses because it enabled the evaluation questions to be improved. This opportunity occurred in the form of the beta workshop session. In Appendix I, sections I through IV, an updated evaluation toolkit is provided, which the Team recommends SCC use for all future workshops.

**Program evaluation**

For the program and long-term evaluation, the Team developed indicators for SCC which it can use to assess the progress that inTeractive Somerville will make over time. The indicators are: ease of use, amount learned, interest, and comfort. These indicators were derived from Participatory Chinatown’s evaluation, as it was a similar project to inTeractive Somerville (MAPC, personal communication, 2010). The questions are in Likert scale format, with participants being able to rate their experiences from 1 to 5, which makes them easier to track over time (DeVellis, 2003, p. 23). An example question is listed below, and the full list of survey questions is attached as Appendix E.

**Example Question:** How easy was the interactive site to use?

<table>
<thead>
<tr>
<th>Very difficult</th>
<th>Moderately difficult</th>
<th>Neutral</th>
<th>Moderately easy</th>
<th>Very easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

This type of question allows an evaluator to track progress of the site over time. Presumably, with the process evaluation feedback incorporated, the site will become more streamlined and easier to use over time and this shift will be reflected in the program evaluation feedback.

**Relationship between Process and Program Evaluation**

Process evaluation is intended to address the short-term goals that SCC has for inTeractive Somerville, usability and accessibility, through evaluation of the beta version of the site. Program evaluation is intended to assess SCC’s primary long-term goal for inTeractive Somerville, increased participation of disenfranchised communities. However, these two forms of evaluation are not inherently separate, nor are they mutually exclusive. As noted by Rowe and Frewer, evaluation of processes must often serve as a surrogate to the outcomes of the exercise (Rowe and Frewer, 2004, p. 520). In other words, if the participatory process is conducted well, it would seem likely that the outcomes will be better than if the participatory process was bad (ibid). This can be achieved when process evaluation is thoroughly undertaken and can inform program evaluation. Thus, even though the beta version evaluation tools are focused on process evaluation and the final version evaluation tools on program evaluation, they inform each other and tend to overlap.
Methods

The quantitative data collected from the surveys is easily understood by statistical analysis, but the qualitative methods undertaken in this project are more difficult to understand. As Halvorsen notes, qualitative methods are “a strength in terms of developing an in-depth understanding of a particular technique... [but they also] have a weakness when statistically significant comparisons between techniques and researchers are desired” (2001, 180). Thus, the following evaluation will only be applicable for inTeractive Somerville, and no other programs or technologies.

In analyzing open-ended survey questions and focus group responses, manifest and latent content analysis were used. Manifest content analysis is the process by which the number of times an issue is brought up within a focus group or series of open-ended responses is quantified. For example, in this project’s focus group, people commented about posting photos six times. In contrast, latent content analysis is how qualitative responses relate to one another. For example, although people had trouble posting photos, the primary issue was that it wasn’t integrated with the map well, and access to it beyond the map was difficult. (Gaber, 2007)

RESULTS

The beta session was comprised of self-selected individuals who were familiar with the Green Line extension and with SCC. Many of the participants had a bachelor’s degree or higher, were comfortable using the basic functions of a computer, and approximately 75% of them reported English as their first language. These participants can be seen using the inTeractive Somerville site in Figure 5 to the left. Ultimately, these participants were not representative of the disenfranchised communities that SCC hopes to reach out to with this site. However, SCC does have methods in place to engage these communities once the tool is more finalized. It should also be noted that at the point of testing, not all features were present and the site was still prone to crashing.

The feedback that the Team compiled for SCC was grouped into two categories: process and program feedback to mirror the Team’s overall evaluation strategy. A full list of the beta workshop feedback is provided in Appendix J and summarized below. The process feedback includes recommendations that the developer can immediately integrate into the site. The second category of feedback is more time intensive, involving SCC and the developer to refine the intended use and audience of inTeractive Somerville.
Process Feedback

Common themes that emerged from the feedback were the lack of an integrated map, problems with posting photographs, and comment posting. In other words, it was difficult to identify, navigate, and use the applications for posting photos and comments. Posting an idea or comment for one of the station locations on the map entailed navigating through several webpages instead of having one comment box easily accessible on the map.

Beyond issues with posting abilities, users requested that the site become more user-friendly. They wanted the ability to respond to and rate other users’ comments, much like Facebook or Twitter. This would refine the site’s content by elevating popular ideas, while also encouraging dialogue between community members. Users unfamiliar with Google Maps, upon which many of the map features are based, requested that the different functions, such as zooming or street view, be labeled more clearly. A search option was also a common request.

Program Feedback

Participants were often confused as to what the purpose of the site was. A third of users were unclear as to how the site related to the Green Line. This could be because inTeractive Somerville is intended to be primarily structured around CCP’s eleven principles, which were not yet prominent within the beta site. Closely related to this was respondents questioning of the value and incentive for people visiting and utilizing inTeractive Somerville on a regular basis. They suggested that inTeractive Somerville partner with other websites, such as Facebook, Twitter, Boston.com, and display MBTA and Somerville transit information, in order to increase the appeal to citizens. The final comment for program feedback was focused on the target market for this website. One individual commented that the site was better suited for young people to utilize, and that SCC should focus on making it easy for one group to use, rather than trying to make it easy for everyone.

EVALUATION TOOLKIT

In order to conduct our process evaluation and offer SCC the means to undertake a program evaluation, the Team created an evaluation toolkit. A summary of its contents are on the following page, and the actual components are in Appendices E through I and in Appendix K.
The evaluation toolkit was the result of research into evaluation methodology and how other interactive technologies were evaluated. In the following chapter, several case studies will be discussed which were influential to the Team’s own research, and may also provide further reference for SCC as it continues development of inTeractive Somerville.
CHAPTER 5: CASE STUDIES

One of SCC’s interests is to assess inTeractive Somerville’s potential for communicating planning-related knowledge and concepts to disenfranchised populations, especially as it relates to increasing disenfranchised populations’ future engagement in the Green Line corridor planning process. One disenfranchised population that SCC targets is inner-city youth. To gain insights into the components that make a site effective with disenfranchised populations, and the components of an outreach strategy that can ensure maximum usage of the site by these populations, we interviewed three organizations in the northeast that have created interactive tools.

CRITERIA FOR CASE STUDIES SELECTION

These three examples were selected for several reasons. They are relatively different in terms of design, development stage and goals/intent. However, all were selected for their focus on engaging marginalized populations; two of the three case study examples target the engagement of young people, in particular. In addition, the organizations that developed these tools were accessible to the Team, and the project staff were available for interviews. Team members conducted an informal assessment of each program/tool/site to gauge its ease of use and how well suited it is for engaging its targeted populations. Please see Appendix L for the full list of case study interview and assessment questions.
CASE STUDY #1: THE ENVISIONING DEVELOPMENT TOOLKIT

Background and Goals

The Center for Urban Pedagogy (CUP), a Brooklyn-based non-profit, provides experiential tools, workshops, and exhibitions to make issues of urban planning more accessible and transparent to citizens in New York City. A zoning toolkit and a toolkit of the New York City land use process are in development as of April 2010. The Affordable Housing (AH) Toolkit highlighted here is one component of several that CUP is developing as part of its Envisioning Development Toolkit. The Affordable Housing Toolkit is composed of a guidebook, an interactive site, and felt-fabric maps. The interactive site can be seen in Figure 6 below.

The idea for the toolkit began late 2007 when other advocacy groups acknowledged that their constituents had difficulty understanding housing and land use issues at public meetings. In many public participation processes, citizens became confused and frustrated with the lack of transparency in their local government. People needed a way to understand and communicate with the planners and decision-makers. CUP and its partner organizations envisioned a tool that could demystify confusing affordable housing terms often used in public meetings. The goal was to provide all groups with the vocabulary and necessary tools to participate at community meetings. The AH Toolkit’s immediate, or “micro”, goal is to educate citizens quickly on an issue that is otherwise complex (i.e. affordable housing), while making it both easy and fun. The long-term, or “macro”, goal is to change the dynamics of development politics in New York City in order to create a dialogue between citizens and decision-makers. (Mangin, Personal Communication, 2010).
Toolkit Experience

The guidebook, with stark red and black visuals, takes the reader through a narrative of affordable housing. It can be used as both a tool to hold one’s own workshop or for personal use. It begins by discussing the national and state standards for affordable housing in New York, median family income, and the different types of affordable housing. The guidebook continues with instructions for using the ‘Who Lives Here?’ felt map. The variables for the map include occupation, income, rents, affordable housing programs, and proposed developments. It guides the reader or workshop leader through the steps of running a successful workshop with pauses for feedback and points to encourage debate. If someone is unable to attend a workshop, the guidebook can be downloaded from the website, and the interactive site can be used for personal use as a substitute for the felt-fabric maps. The interactive site covers the primary content of the felt fabric maps: income and rent information. (Center for Urban Pedagogy Website, 2010)

Populations Targeted and Cultural Competency

CUP designed the toolkit to be applicable to a wide variety of groups, from the elderly to high school and college students. The toolkit’s design, which includes hands-on and online components, is particularly well suited to the needs of the different target populations. The hands-on maps may be most helpful to people with limited computer skills. The website, however, is also very user-friendly and does not require a lot of navigating and clicking in order to see the housing affordability data. The guidebook, which accompanies the website and felt maps, is also available in Spanish.

The key strengths and takeaways of the Affordable Housing Toolkit for SCC are:

Accessibility

The Toolkit is mainly utilized by partnering organizations for workshops, and it’s designed so that if an individual is unable to make it to a workshop where the hands-on felt map is a key component of the curriculum, the interactive site can be used as a substitute for the same content. The guidebook can be downloaded from the website and its versatility as both a personal reader or workshop manual lends itself well to accessing different populations. As mentioned the guidebook is available in Spanish and partnering organizations that utilize the guidebook are also able to translate it into other languages, if deemed necessary.

- Considering the diversity and cultural needs within Somerville, SCC should consider offering parts of the website and curriculum in other languages or developing hands-on components that do not require computer access.

- If possible, other partnering, cultural organizations within Somerville may be able to translate some of inTeractive Somerville into other area appropriate languages.
Design and Usability

CUP has many connections and part-time staff who are in the art and design world. They were able to utilize that talent and create both an engaging and clean interactive site and felt map. However, the website development was not a short process, lasting a little more than two years. The site is incredibly easy to use because it only requires the user to move their mouse over the different boroughs to understand who can afford the housing in that area. Users do not need advanced knowledge of technology in order to use the site. (Mangin, Personal Communication, 2010)

- SCC’s website has not yet launched the ability for people to simply hover over the stations on the map to get more information. This functionality would mean less clicking to access information and increase the likelihood that those with fewer computer skills could successfully utilize the tool.

- SCC should expect to develop and test the interactive site for an extended period of time. Two and a half years may seem extensive, but the quality of product that resulted for CUP was significant.

Evaluation

When designing the workshop, CUP relied on its partners to gauge what would be useful and what other features the organizations and their constituents would like to see. CUP provided partner organizations with feedback forms for workshop leaders and participants to complete and return to CUP regarding the content of the curriculum. The information was collected over a period of two and a half years and utilized in creating the final product. In this way, meaningful community outreach was achieved through the partnering advocacy organizations. (Mangin, Personal Communication, 2010).

- SCC could continue to beta test the site with the CCP coalition members to ensure that functionality is to all organizations’ expectations.

- CUP tested preliminary versions of the AH Toolkit components on their target populations, which provided more accurate feedback and helped increase the community’s familiarity and buy-in towards the tool once it was formally launched. The beta version of the inTeractive Somerville website could be tested on SCC’s targeted populations to get feedback.

CASE STUDY #2: PARTICIPATORY CHINATOWN

Background and Goals

Participatory Chinatown (PC) is an interactive game that is designed to be an experiential tool to accomplish two broad goals: expanding the Chinatown community’s understanding of urban planning concepts and
increasing involvement in the Chinatown Master Plan process. The game was developed by the Asian Community Development Corporation (ACDC), Emerson College faculty, the Metropolitan Area Planning Council (MAPC), and Muzzy Lane, a video game development company. Please see Appendix M for a full description of case study organizations. In this workshop-plus-game model, physical deliberation (in-person discussions taking place pre-and post-game), virtual interaction, and web-input (comments submitted in the game) are integrated into an engagement process that encourages residents of all ages and abilities to participate (Participatory Chinatown blog, 2010). The project works to foster inter-generational collaboration while also encouraging young people’s involvement (Gordon, Personal Communication, 2010). The intent for engaging different generations is to foster deliberation in a form that is sustainable and engaging. The project partners seek to accomplish the following goals (Brown, personal communication, 2010):

- Glean information not usually afforded at a traditional planning meeting with this new technique;

- Give people a better sense of what certain types of development in the neighborhood would look like in terms of building types (e.g., commercial, mixed-use, and residential), impact on jobs, and aesthetics, among other things;

- Allow residents to think critically about planning issues in their neighborhood and provide direct feedback on the future of Chinatown through the Chinatown Master Plan process; and

- Attract a different demographic than the usual participants in a planning meeting, for example, young people and new immigrants.

The game was created on a proprietary game development company’s platform, but all of the partners mentioned earlier worked on different aspects of the game. The game content was created in collaboration by planners and academics from ACDC, Emerson College, and MAPC. The 3D model for the game was compiled by MAPC using Google Sketch Up, Photoshop, Auto CAD, existing building footprints from the Boston Development Authority, and actual pictures of the neighborhood (Brown, Personal Communication, 2010). The design team intentionally decided not to use the Google Earth or Microsoft Virtual Earth 3D city models, which do not allow for active, live interaction although they do provide accurate street views of properties, updated aerial imagery, and crude low-resolution 3D models of many cities around the world (Participatory Chinatown blog, 2010). The rationale for designing a game that would allow for live virtual interaction stems from a belief that social software provides lessons about interaction, participation, and engagement and it borrows from media practices that have proven to be engaging in other contexts (Gordon, 2009, p. 4). Scholars have argued that this kind of immersion provides meaning and relevance to users in ways that non-immersive experiences simply cannot (Dourish and Bell, 2007, as quoted in Gordon, 2009, 4). Gordon,
one of the designers of the PC game, believes strongly that the concept of immersion ought to be a yardstick for measuring success in participation processes (2009, 4).

**Game Experience**

The game is designed to focus solely on street level interaction with people and place, as seen in Figure 7 below. The PC team hopes that the game realistically depicts urban planning choices and tradeoffs and helps build understanding for the diverse needs of Chinatown residents. No prior urban planning experience is necessary in order to learn how to play the game. Players sit side-by-side in the same physical space and co-habit a 3-D virtual space—a virtual Chinatown—as avatars that are based on actual Chinatown residents. Each player’s avatar comes with a demographic profile that tells him or her about the particular needs and interests of their characters.

Players earn points for connecting with other players and collecting information cards while navigating the virtual space. At any point in the game, players can leave comments about a certain area or respond to set questions that are inserted throughout the environment, allowing active and passive submission of feedback. Each avatar also has the chance to rank their ‘values’ for the neighborhood and those values are factored into determining what development scenario they might prefer for an area of the

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Figure 7: Participatory Chinatown Game Screenshot
Source: Participatory Chinatown, Metropolitan Area Planning Council
Chinatown neighborhood in the long run (residential, commercial, or mixed-use). An algorithm sets up the probability of certain scenarios occurring. Use of the game is then followed by guided discussion.

**Populations Targeted and Cultural Competency**

The PC project partners are trying to get all residents of Chinatown involved with the Chinatown Master Plan process and want to use the game as a means for getting as much feedback as possible, especially from those who may not initially be inclined to come to planning meetings. The target population includes immigrants, parents, elders, people who speak limited English or only Chinese, and even people who don’t directly live in the community but may work in the area and feel a sense of commitment to the community. That said, in the development and beta testing of the game, project partners took advantage of the fact that one of the partners, ACDC, operates a youth media program that employs youth who are from Chinatown. The program has provided ready access to young people who are interested in urban planning and community development. The PC team has been involving young people in the design and beta testing of the tool and the hope is that youth will encourage their family and friends to attend future PC workshops and future planning meetings.

Another hope is that the bilingual youth will also become PC workshop staff (leading discussions and helping users), help promote the PC game experience to friends and family, and be interpreters at Chinatown master planning meetings (Participatory Chinatown blog, 2010). In addition, there is a perception that elders in the community can dominate public meetings, so the tool also helps youth to express their design opinions within the safety of the game (Participatory Chinatown blog, 2010); presumably, project partners like ACDC can present youth’s ideas and preferences at planning meetings if they don’t feel comfortable doing so in the presence of elders. An example of the project partners’ culturally competent approach especially in regards to young people’s involvement in PC is evidenced by this remark:

“A common teaching in Asian households is the virtue of respecting one’s elders. Often this is practiced by not speaking out or contradicting the opinions of elders. Community meetings in Boston’s Chinatown often have a large representation of elderly Chinese (40% of Chinatown residents are over the age of 50), and, especially for second generation Asian American youth, the thought of speaking up or speaking out to a large group of elderly people is very intimidating. This [the game] will definitely affect the dynamic of these meetings, even if youth were represented in very large numbers” (Participatory Chinatown Blog, 2010).

While PC collaborators note that young people were targeted as the initial adopters and primary users of the game during the beta period—mainly so they could help generate awareness of and excitement for the game—the Team believes the game will continue to be most used by young people and adults with high technological skills unless there is a nuanced outreach and training strategy to ensure that older adults and people with low technical
One of the major barriers to getting marginalized populations to use the site is low technical ability.

ability are drawn to playing the game, even with the version that has been translated into Chinese. Considering the social aspect of how the workshops are administered, e.g. holding workshops that recognize the role of shared food in fostering community in Chinese culture (as it is in many cultures!), could be effective.

The key strengths and takeaways of the PC game for SCC are:

**Design and Usability**

PC’s design as a game takes the target audience into consideration. While project partners seek to increase involvement of both older and younger immigrants in the planning process, the partners have reached out to young people as initial users. The idea is that young people will not only help communicate the concepts to family and also attend planning meetings to facilitate, but also participate in planning meetings, where young people are traditionally not represented. There is also a version of the PC game that has been translated into Chinese and implemented. At future PC workshops, there will be translators for the videos, which have not yet been translated, and youth will also be available to assist people in the meetings understand how to navigate the game. A single-player online version of the game will also have a “choose your language” option. (Brown, personal communication, 2010).

The challenges posed by the game’s design are representative of actual planning realities: The PC team notes that there are properties and resources depicted in the game that are not actually within the realm of the Chinatown Master Plan process. The dilemma here is that game players may make land use recommendations that may not actually be within the planning process’s control. Another challenge posed by the game’s design—in which people operate as character-based avatars—is the issue of accurate representation of experience and accurate feedback. The PC team recognizes that while youth will be taking on characters with different life circumstances, there is the challenge of there being an accurate representation of experience and decision-making within the game. However, the PC team believes the experience and knowledge attained by the users and their possible attendance at future planning meetings will supercede the quality of the feedback offered in the game.

- As SCC refines inTeractive Somerville, it can consider the populations that are best equipped to use the site (i.e. young people) and work to minimize known barriers, like access to computers, by taking advantage of community spaces with computers, which SCC has already begun to do. One of the major barriers to getting marginalized populations to use the site is low technical ability, which will require modifications to SCC’s current curriculum, which was created with youth in mind.

- SCC could apply for funding to create a component that is more visually interactive and would require less text to communicate ideas. It could be a hands on component or a more interactive experience where people
might live chat on the site or be able to simply hover over points on a map to learn more about the assets in an area.

Documentation

PC keeps a public blog where it tracks development challenges and the different tools it is using.

- SCC could consider making the inTeractive Somerville project blog public and posting the challenges that it is coming across for the benefit of programmers and nonprofits.

Evaluation

The overall goal of the evaluation was to look at the relationship between game play and civic-mindedness and how much the game encouraged users to think differently about the Chinatown neighborhood and urban planning processes (Gordon, Personal Communication, 2010). However, PC did not devote significant time to establishing evaluation systems and key questions at the start of the project. The PC team acknowledges that when the grant proposal was written, research and evaluation questions were not fully defined (Arcaya, Personal Communication, 2010). The main goal at the outset of the project was to develop an interactive tool that would engage people in Chinatown in the planning process. The PC team also knew that it wanted to get more people to attend planning meetings, to collect more feedback for the Chinatown Master Plan process, and to develop a tool that was, above all, fun. The development of an evaluation plan based on short, medium, and long-term goals did not come until the fall; this meant that the development of the tool and the development of the evaluation questions were happening simultaneously, which was not ideal (Arcaya, personal communication, 2010).

Currently, PC involves youth in the beta testing of the tool and in the survey development. The evaluations are focused on the individual users’ experience and are not tool-oriented. The emphasis on this stage is in using qualitative evaluation measures, such as assessing the dynamics between users in the room (Gordon, Personal Communication, 2010). In the short-term (immediately after playing the game), the PC team will ask basic questions about the usability of the tool, how enjoyable it was, and what users felt they learned. In the mid-term (2-4 months), the team will invest staff time to do follow up with users of the game to see if they have indeed attended Chinatown Master Plan meetings since playing the game and if they signed up for the PC blog or listserv. In the long-term (3-6 months) the team will again look at Master Plan meeting attendance to see if the youth have stayed engaged, whether they have continued to play the game, and to collect general impressions through interviews and/or focus groups. From a process evaluation perspective, PC progress is being evaluated in several areas: cost, time, training, communications/outreach, and interagency collaboration (Arcaya, personal communication, 2010).
• In Appendix N, a check list of key considerations for SCC as it moves from beta to launch is provided, which offers suggestions on topics such as curriculum, staff training, promotion of the tool, and project management, to name a few.

Development

The program started in spring 2009, funding was received in summer 2009. The PC development process was staffed by up to 15 people at one point. Young people were involved at the outset; ACDC’s youth program performed interviews with the Chinatown residents; and information from interviews became the basis for the characters in the game. While this capacity helped pull off a major development project, the team is still behind launch schedule. The process of creating the detailed visuals of the Chinatown community with Google SketchUp and PhotoShop were very time-consuming. In addition, some problems with the coding done by a consulting programmer created major problems for the PC team, which then had to invest additional time for troubleshooting and bug-checking; for these reasons, the project went over time and over budget (Brown, Personal Communication, 2010). The process of moving from beta to launch is taking much longer than originally anticipated, with the intended launch date being March 2010, but the actual launch date is May 5, 2010.

• SCC can also consider engaging youth in the beta testing and development of the tool, rather than holding off their involvement until the tool is launched. Engaging the target population in the development will help create familiarity, investment, and buy-in with the website.

• SCC can expect that the beta development process will take much longer than originally expected. Development on the site began in earnest in February 2010 and it is safe to say that the site will continue to be in development until the end of the year or longer. The challenge for SCC and the Green Line corridor planning process is that SCC may need to invest more energy in traditional organizing to get participation and feedback from residents for the summer 2010 design charrettes and scale back investment in this tool. It may also explore organizing using existing interactive sites, such as Facebook or Twitter.

Financing

PC received a $170,000 grant from the McArthur Foundation, which is interested in technology that increases young people’s participation in civic life. PC’s overall goal was to produce a single iteration to demonstrate the power of technology to augment the deliberative process, and it currently seeks more funding in order to build a platform that can be shared more widely. However, at present, the design and cost of the PC project makes it unlikely that it can be replicated and also whether the game platform can be made available to other communities for free.
Interactive technologies in planning are an emerging field of interest. Perhaps SCC can secure funding to expand staffing and development on the project. Currently, an SCC staffer is committed to devoting a few hours a week to moderating comments on the site.

Outreach Strategies

Project partner ACDC currently runs programming for Chinatown youth. The other partners tapped into this existing network and, in the summer of 2009, hired four high school students from the area to work with the tool, participate in public meetings, capture the community through pictures, blog about their experiences as interns, and get the word out about the tool. Young people were engaged in all aspects of the game’s development, from creating content (visual and text), to outreach, and to giving feedback on its design. Youth were asked to research how digital media can change the way people in the community can engage with neighborhood planning processes. They also attended Chinatown Master Planning meetings, and their insight from what they did and did not understand from those experiences will presumably help enhance the game’s design.

SCC has plans to hire high school youth to assist with future inTeractive Somerville workshops.

Feedback Loop: Bringing Game Ideas and Comments to Meetings

The PC team is struggling with the feedback loop: how can it accurately incorporate the feedback submitted from the game into the meetings? One of the project partners has committed the hours of a staff person who serves as a key contact to the youth who are targeted as primary users of the site. However, it is unclear whether this staff person will be the lead on representing game-submitted ideas and comments to meetings.

SCC has identified one staff person who will devote a few hours a week to website comment moderation. Securing funding to hire more staff will be useful if the site is to be promoted as a major avenue for collecting community feedback and if the site gets a lot of traffic and thus requires more time to monitor and/or contribute to dialogues on the site blogs.

CASE STUDY #3: AUGMENTED DELIBERATION USING SECOND LIFE

Background and Goals

Hub2 was the codename for a multiphase project that trained students and Boston residents to use the multi-player, 3D, virtual-world game, Second Life, to deliberate over the redesign of public physical spaces, such as parks and civic buildings. The project began as a class taught by Eric Gordon of Emerson College and Gene Koo of Harvard Law School. The curriculum
represented Hub2’s methodology of Imagine, Design, Engage, and Activate (IDEA). In Second Life, participants are expected to make comparisons of physical and virtual space with respect to social interaction. The software’s purpose is to augment the power of experiencing a place and preserve people’s contributed ideas in the software (Gordon, 2008). More practically, users are expected to assess the assets and shortcomings of a physical space and design an improved virtual version of it. The project is intended to develop new methods of civic engagement and interactive planning of physical spaces by exploring the potential of interactive spatial simulation software technology.

In the Emerson class, students examined a physical space and then imagined it in Second Life. They redesigned the virtual space collaboratively, engaged as virtual tourists to socially identify with it, and activated a connection between the virtual and real space. The next phase of the project brought the virtual collaborative process to a design session of Harvard’s Honan Library Park in Allston, a neighborhood of Boston called Hub2. Allston residents interactively discussed the park in Second Life with the aid of trained students and designers. Designers implemented new ideas as they were formulated to help materialize visions and augment the discussion. The Hub2 project sought to create a positive environment for group deliberation and give participants a sense of collective ownership of a place. Additionally, the project was conceived to enable civic engagement throughout the planning process, from conception to completion. Unfortunately, the design process was put on hold because of the economic troubles facing the larger development of Allston. It is important to note that the Allston project was implemented to give disenfranchised residents a way to help design a public space in an area where the Harvard Allston Planning Initiative’s strategic purchase of property through proxy has made the University a powerful landowner and voice for planning in the neighborhood.

**Virtual World Experience**

As seen in Figure 8 on the following page, Second Life offers an entirely different level of interaction than traditional web sites. Second Life provides building tools that make it possible, with some experience in design and software use, to model a real place. Participants can explore the virtual space as an avatar that walks through or hovers above the space. Movement through the space is trivial for anyone with any video game experience or minimal training. Avatars can interact visually as well as with text and audio. For the workshop in Allston, trained designers were on hand to quickly remodel the park in response to the ideas of participants. This contrasts with the typical Second Life experience, where a user must have permission to edit the landscape and skill with the design tools.
Populations Targeted and Cultural Competency

The Allston community has been a disenfranchised and marginalized in neighborhood planning processes because of a major landowner’s (Harvard University’s) master plan for Allston. The Hub2 project was a unique opportunity that allowed for citizen engagement in planning. That being said, the intention of the project was to reach most segments of the Allston population regardless of age, education, or other demographics. Ideally, lack of computer experience would not hamper participation, since assistants were on hand to train participants and manipulate the space according to their wishes. In addition, community members could take part in trainings on Second Life before the actual park design process commenced, whereas others simply had the support of assistants during the two-hour workshop.

The key strengths and takeaways of the Hub2 Allston Second Life Project for SCC are:

Design Details and Usability

Hub2 did not attempt to create software from scratch, as SCC is doing with inTeractive Somerville. Hub2 required almost no programming, with the exception of inserting scripts to load different versions of the virtual space. Therefore Hub2 did not experience any of the delays that SCC has endured due to losing programmer availability and underestimating the required time to complete various programming tasks. Interestingly, the Hub2 project is
the predecessor to the aforementioned Participatory Chinatown project, suggesting that the organizers found Second Life inflexible enough to justify writing their own software. Hub2 has made use of trained students and designers to assist at their workshop.

The Allston virtual space, which included several different models of the space that could be loaded sequentially into a single interactive space, was designed from start to finish in only two months. The refinement of these designs took place in real-time during the workshop. The workshop was followed by community brainstorming sessions about the virtual designs, and the results were then submitted to the landscape architecture company hired to redesign the park. The combination of detailed 3D graphics, smooth movement, and the interactive features of Second Life make it currently one of the strongest platforms for simulation of a public space. The game is available for free download and is easy to use, which means that most computer owners can, in theory, explore a publicly shared virtual space that simulates a public space in which they have a stake.

- SCC should make clear instructions for the use of its software in forms targeted for the different skill levels of users. Many users will need to be guided through the software by staff in the workshops; no written instructions or videos will be sufficient.

- SCC should use available renderings to depict the proposed Green Line station areas as realistically as possible.

- SCC should add in a guided discussion that can take place after people use the site, and this should be worked into the curriculum.

**Evaluation**

The park was accurately rendered in Second Life, much more so than in a traditional rendering. Users of the game could look at the space from any angle or distance, which is inapproachable to all but the most comprehensive two-dimensional plan renderings. Initial confusion about the technology was short-lived, and participants showed comfort in the virtual world, exploring for several minutes and then critiquing routes and other represented aspects of the park. Having many people present in the virtual space was a powerful incentive for conversation. Participants felt immersed in the virtual world, and some truly felt as if they were in the park. Suggestions were immediately rendered by a designer, leading participants to then make use of the rendered feature in Second Life, such as a new fountain or tree (Gordon and Manosevitch, 2010). “Experiences of the park space, not the idea of the park space, were the instigators of conversation” (ibid). The cost of the project would make it inaccessible to an organization with no budget, but that could be alleviated by open-source software and other advances (ibid). The fact that the physical park redesign date was imminently approaching gave the process more relevance than would a potential or theoretical project. The success of engaging the community with Hub2 may have been adversely affected by suspicion about Hub2’s funding,
which came from the site developer, Harvard University.

There were concerns from professionals involved in the project that the public would expect all of their design ideas to be implemented. At the Allston workshop, participants were well aware that they were brainstorming and therefore had low expectations that their ideas would come to fruition in the actual park. The architects participating in the workshop, nonetheless, were not willing to attach their names to the designs they created.

- SCC can make the most of its software by encouraging discussion among the participants. An assistant should enter the discussion into the website if the participants do not write it themselves. This assistance will also accommodate people for whom English is not a first language or for whom typing is a difficulty.

- SCC may not have the luxury of long sessions with its participants. It should therefore analyze ways to efficiently acclimatize participants to its software so that participants can use the software competently and achieve enough comfort and engagement to express themselves fully.

- SCC should make it clear that the ideas of the participants will be presented at the official planning meetings for the Green Line extension. SCC should, of course, make no promises that the ideas will necessarily be implemented given the political nature of the process.

**Financing**

The entire project was funded with an $80,000 grant, which partially covered training, community outreach, Second Life design, and the workshop. The Second Life platform also has certain limitations that may discourage or limit its use. Virtual land is hosted on Second Life servers and available to anyone using the game. There is a high cost for purchasing private virtual space. A full private region of 65,536 square meters, which represents a virtual space that only the owner can edit, costs $1000 plus $295 per month for maintenance (Second Life, 2010). Competitor platforms, such as OpenLife, offer lower prices, but may lack the stability and functionality of Second Life. Cost makes it difficult to host a project at SCC’s scope for the lengthy durations that are usually a reality of a full project span. Also, despite the free availability of the game online, there is a small computer proficiency barrier to installing and using Second Life at home that does not necessarily exist for a web-based application, such as an Adobe Flash-based application that is viewable within a web page. Therefore, the software will primarily be used in workshops and public spaces where paid or volunteer support is present, such as a dedicated space in a public library, school, or rented storefront.

In addition, the funding source influenced how funds were spent and how the public perceived the project. Since Hub2 was funded by Harvard University, the developer of the Allston park space, it reduced the trust of
some public participants toward those running the project. As the project progressed, mounting tensions between the community and the developer were reflected at the meetings.

- Even if SCC has no conflicts of interest with the community, it should make it clear how the software is funded. SCC should emphasize that it has no ties to the state of Massachusetts, the MBTA, nor to other entities that are constructing the Green Line extension.

**Outreach Strategies**

The classroom portion of the project enrolled graduate and undergraduate students as well as non-student residents of Boston. Funds were allocated to do community organizing that brought participants into the Allston workshop.

- SCC has many good outreach strategies in place. It should leverage the novelty of its software to attract participants who do not typically participate in its meetings.

**Staffing**

The absence of planners and architects posed serious challenges; they should be part of the workshops in the future (Gordon and Manosevitch, 2010).

- SCC should leverage its community resources to bring in professionals voluntarily to help enhance their workshops.
After reviewing the case studies and evaluation of the interactive site, the Team has compiled a table of recommendations for SCC to consider as it moves through process of developing an interactive website. The categories for recommendations are: pre-development, site development, site implementation, and curriculum development and implementation. Currently SCC’s inTeractive Somerville would be categorized as being in the early site development stage, but some components of the tool remain in pre-development, while others have moved on to site implementation. The following tables may also serve as a guide for other organizations that are considering using Web 2.0 technologies in planning. In addition, provided in Appendix N is a checklist of key considerations for SCC to use as it moves through all the stages of development. The checklist was created by integrating feedback from SCC’s development process, case studies, and the Team’s evaluation.
### Pre-Development

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Reference</th>
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<tbody>
<tr>
<td><strong>Clarify the Target Population</strong></td>
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<tr>
<td>- Define the intended disenfranchised audiences at the outset of the design process. Determining the barriers that the specific audiences might face at the outset will help with the creation of a more user-friendly tool.</td>
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<tr>
<td>- Adopt a cultural competency lens to assess the needs of the populations targeted. This will help organizations understand the challenges that different disenfranchised audiences might face. It may also inform engagement and outreach strategies.</td>
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<tr>
<td><strong>Select an Appropriate Medium</strong></td>
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<tr>
<td>- Different mediums provide better access to different populations. Selecting the right medium entails an understanding of the demographics being targeted and their access (or lack of access) to any required tools or technologies.</td>
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<tr>
<td>- Solicit feedback from target populations on which Web 2.0 technologies are more accessible to them; obtain diverse input.</td>
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<tr>
<td>- Explore developing some hands-on, visual components to complement the interactive components, which may be effective in engaging people who are less comfortable with computers.</td>
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<tr>
<td><strong>Engage Youth in the Community</strong></td>
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<tr>
<td>- Consider targeting the engagement of young people in the visioning stages, as younger generations are more technologically skilled and bring a unique insight on trends in Web 2.0.</td>
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<tr>
<td>- Help young people understand the dialogues surrounding planning that adults have and help them feel comfortable about communicating what they do, and do not, understand about the process.</td>
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</tbody>
</table>
### Create a Logic Model

- Develop a logic model, which will help an organization better assess how each outreach strategy targets different disenfranchised populations, and clearly align strategies with short- and long-term outcomes.

- Visualize how planned participation methods can meet SCC’s goals, as well as prioritize which groups are most important to engaging.

### Integrate a Variety of Processes in the Design

- Consider leveraging the popularity of Web 2.0 technologies, such as Facebook or Flickr, and finding ways to integrate content from those technologies into the tool that is being developed.

- Integrate audio and video components into the tool, which can be especially helpful for helping remove barriers to access that some users may encounter.
### SITE DEVELOPMENT

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Reference</th>
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<tbody>
<tr>
<td><strong>Create a Blog</strong></td>
<td></td>
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<tr>
<td>• A public blog can help other organizations learn from the process and also serve as a means for informing the community about the upcoming launch of the tool.</td>
<td>Participatory Chinatown</td>
</tr>
<tr>
<td><strong>Keep the Scope of the Project Dynamic</strong></td>
<td></td>
</tr>
<tr>
<td>• The best mitigation of inevitable development delays is to keep the scope of the project dynamic.</td>
<td>Team Evaluation</td>
</tr>
<tr>
<td>• Software features should be divided by their essentiality and then prioritized by their complexity and importance.</td>
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<tr>
<td>• Milestones should be demonstrable via short weekly demos to the manager of the project. This will allow the manager to make informed decisions about reducing scope when delays inevitably occur.</td>
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<tr>
<td><strong>Consider Extending Beta-phase</strong></td>
<td></td>
</tr>
<tr>
<td>• Depending upon continued feedback, the beta-phase may be extended longer for inTeractive Somerville in order for the site to be better modified.</td>
<td>Envisioning Development Toolkit, Participatory Chinatown</td>
</tr>
<tr>
<td><strong>Design Virtual Spaces to Expand People’s Thinking</strong></td>
<td></td>
</tr>
<tr>
<td>• Carefully constrain what information people can contribute, so as to not preclude useful ideas.</td>
<td>Hub2</td>
</tr>
<tr>
<td>• Give participants guidance to expand the topics they explore within an interactive site, such as the placement of new infrastructure, their history with a space, and their social interactions in a space.</td>
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<tr>
<td><strong>Clarify the Roles of the Different Development Parties</strong></td>
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<tr>
<td>• If the development team is geographically dispersed, pay special attention to ensuring the regular flow of information to all parties, and confirm and clarify the roles of all involved parties at the outset and again as roles change.</td>
<td>Team Evaluation</td>
</tr>
<tr>
<td>Recommendation</td>
<td>Reference</td>
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<tr>
<td><strong>Align Website to Targeted Ethnicities/Languages</strong></td>
<td>Team Evaluation, Envisioning Development Toolkit</td>
</tr>
<tr>
<td>• Address how well the tool reaches populations that don’t speak English as a first language.</td>
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<tr>
<td>• In the first stages of site development, assess which populations find it easiest to navigate the tool and determine if the experience they have aligns with their expectations.</td>
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</tr>
<tr>
<td><strong>Manage Accessibility and Usability</strong></td>
<td>Hub2</td>
</tr>
<tr>
<td>• Accessibility to the tool through either workshops or home is essential; if accessibility is a problem, determine solutions that can increase access to the tool.</td>
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<tr>
<td>• If using the software requires hands-on assistance, focus on ensuring accessibility at workshops by making sure that assistants are present.</td>
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<tr>
<td><strong>Create Roles for Young People at Community Meetings</strong></td>
<td>Participatory Chinatown</td>
</tr>
<tr>
<td>• Young people may be more inclined to participate if they can take responsibility for a specific task or role.</td>
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<tr>
<td>• Young people may be particularly helpful when it comes to outreach and promoting the tool to friends and family members.</td>
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</tr>
<tr>
<td><strong>Make Possible Conflicts of Interest Clear to the Public</strong></td>
<td>Team Evaluation</td>
</tr>
<tr>
<td>• Remain honest about potential conflicts of interest. For example, if the site is primarily used as a tool to build support for specific campaigns that relate to the planning process, this should be made clear to site users.</td>
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</tbody>
</table>
**Integrate the Evaluation Survey into the Tool/Site**

- Refrain from using paper surveys and integrate the evaluation survey into the tool so that feedback submission is relatively seamless.
- Consider offering an incentive for participation in evaluation process (e.g., a voucher or coupon for a local business)
- Consider tying user login names to the surveys, which will enable the tracking of individual usage of the site over time.

**Pursue Visible Community Sites for Workshops**

- Increase visibility of the site by consistently identifying new community sites with computers where workshops can be offered. This would increase visibility around the planning process while also providing the greatest level of access for those without a computer or home internet access.
- Employ floating volunteers to assist users at all workshops. This could be an ideal leadership role for young people and other diverse community members.

**Use Demographic Information to Inform Future Versions of the Site**

- Demographic information from the survey can help clarify which populations are using the tool and which populations do not record a positive experience with the tool. The prevalence of the latter would suggest that tool or curriculum modifications may need to be made.
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Source</th>
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<tbody>
<tr>
<td><strong>Refine Curricula to Fit the Target Populations</strong></td>
<td>Envisioning Development Toolkit, Participatory Chinatown</td>
</tr>
<tr>
<td>• Different curricula and tools may need to be developed to accommodate the unique interests and needs of different populations and the range of skills that different populations have.</td>
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<tr>
<td>• If targeting youth, consider a curriculum than can be more easily integrated into the city’s schools.</td>
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<tr>
<td><strong>Encourage Interaction Between Participants</strong></td>
<td>Team Evaluation</td>
</tr>
<tr>
<td>• Dialogue can complement and deepen ideas and knowledge gained from the online experience. Create the time and space for interaction and deliberation of planning ideas and concerns between the participants at the workshops; this is a critical component of the interactive experience.</td>
<td></td>
</tr>
<tr>
<td><strong>Carefully Consider the Length of Workshops</strong></td>
<td>Hub2</td>
</tr>
<tr>
<td>• Workshops need a substantial amount of time—at least two hours—to allow time to train the participants and to gather their feedback. Conversely, participants’ personal time is valuable and they may only be able or willing to participate for a limited amount of time.</td>
<td></td>
</tr>
<tr>
<td><strong>Pay Special Attention to the User Experience</strong></td>
<td>Team Evaluation</td>
</tr>
<tr>
<td>• Sometimes less information is more helpful to an experience. For example, if a popular education model is important, allow time for open exploration. Make workshop exercises more open-ended and less structured to allow users to more openly navigate the tool, instead of providing step-by-step instructions on how a tool should be used and what tasks need to be accomplished.</td>
<td></td>
</tr>
<tr>
<td><strong>Develop the Curriculum and the Site Together</strong></td>
<td>Team Evaluation</td>
</tr>
<tr>
<td>• Try to avoid a “chicken vs. egg” situation, where curriculum developers are waiting for software developers and vice versa.</td>
<td></td>
</tr>
<tr>
<td>• Have frequent conversations to clarify goals for users’ experience on the site and communicate the overarching goals to developers so they may grasp the user experience that the client is striving for.</td>
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</tr>
</tbody>
</table>
CONCLUSION

The use of interactive technologies to engage the public in planning is a nascent field. There is a certain excitement about the technologies’ potential for engaging disenfranchised and disengaged populations. Thus far, the field has shown promising results, but the lack of a long track record prevents a full understanding of its impact in helping organizations and government engage marginalized communities. It is important to consider this technology as one of many tools for engagement. Whereas traditional community organizing and face-to-face planning meetings still define the primary means of engagement in urban planning, interactive tools can augment the effort by reaching younger and more technologically-inclined populations. Interactive tools can also enhance deliberation processes by helping communities visualize changes to their neighborhoods before they occur.

In using interactive technologies, particular care must be given to quality at all aspects of the tools’ lifecycle—from development and release to maintenance and refinement. Towards this end, frequent evaluations of interactive sites during development are important to achieve a high quality user experience.

In the case of SCC, the continued development and anticipated launch of the inTeractive Somerville website should take into account the recommendations extracted from the case studies. Additionally, the information in the Appendices of this report can serve as a toolkit for SCC’s continued assessment and evaluation of the site.

Other agencies, including government and academic planning programs, should take note of the interactive technologies that are emerging. These include tools useful to urban planning outreach and education. Community-based organizations like SCC should demonstrate the efficacy of interactive technologies in order to encourage governmental agency partners to adopt such engagement tools so that maintenance is not entirely dependent on the organizations.

Leveraging the use of new strategies for engaging disenfranchised populations is an opportunity to promote equity, but it also risks adding excessive complexity to engagement efforts if such strategies are not carefully considered. Care must also be taken to clarify that use of the interactive technologies alone does not exemplify substantial participation in planning processes and that engagement in other public participation processes is strongly encouraged. A strategy for ensuring continued engagement is especially important for marginalized populations for whom such technologies might be their first exposure to the urban planning process.

It is hoped that this report and the proposed evaluation toolkit contribute to discourses on the challenges and opportunities presented by Web 2.0 technologies for participatory planning. Those pursuing the integration of these technologies in planning should actively track new developments in the field and proactively consult with peers for guidance.


Groundwork Somerville website.”Core Community Principles for Neighborhood Development Along the Green


Metropolitan Area Planning Council Website. 2010.


LIST OF INTERVIEWEES

Mariana Arcaya, PhD Student, Harvard University, and Data Analyst, Metropolitan Area Planning Council
Eric Bourassa, Transportation Manager, Metropolitan Area Planning Council
Chris Brown, GIS Analyst, Metropolitan Area Planning Council
Robert Goodspeed, PhD Student, Department of Urban Studies and Planning, Massachusetts Institute of Technology
Eric Gordon, Assistant Professor, New Media, Emerson College and Project Director, Hub2
Meridith Levy, Director of Community, Power, and Resource, Somerville Community Corporation
John Mangin, Yale Law School Fellow, Center for Urban Pedagogy
Christian Spanring, Metropolitan Area Planning Council
Appendix A: Resource List of Web 2.0 Technologies for Participatory Planning

Below is a list of websites that collect a variety of open-source and private interactive technologies that are recommended for use in participatory planning.

http://www.choosingviz.org

ChoosingViz.org is a government recommendation site that attempts to aggregate all software tools related to participatory planning. The United States Federal Transit Administration has released the site ChoosingViz.org to answer the challenge of “Matching Your Public Participation Need with the Right Technology” [ChoosingViz.org]. The site is a catalog of visualization tools that support public participation. It lists the pros and cons of different tools and implementation techniques. It categorizes software by the projected user skill level, cost, and the project scope (e.g. neighborhood versus city.) The tool relies on academics and practitioners for data about the available software. As of this writing, there are 89 products listed, including GIS software, 2D and 3D drawing programs, and simulators. SCC and its partners may find this site useful if they expand or revamp their software project in the future.

http://www.mit.edu/~rgoodspe/tools.htm

This database, Web Tools for Participation and Collaboration in Planning, is compiled by Rob Goodspeed, a PhD student at the Department of Urban Studies and Planning at Massachusetts Institute of Technology. Description from the website:The database includes resources for communicating by email, technology to create interactive websites that allow visitors to edit text or leave comments, online voting systems, and collaborative platforms for small groups, among others. The list is biased towards free or low-cost, flexible, and open-source websites or software. Where I include consultants or proprietary tools, they are particularly relevant to urban planning. This is very much a work in progress, and I am always interested in feedback, suggestions for additions, or corrections to the data. Contact me at rgoodspe [at] mit.edu.

http://www.smartgrowthtools.org

SmartGrowthTools.org is a dynamic database of resources for professional planners, public agencies, and concerned citizens developed by the nonprofit organization Place Matters. The site aims to serve as a repository for interactive tools and information about processes that can support better community design and decision making. There are 69 examples of technologies used to facilitate urban planning. However, the database is not exclusive to technologies for participation. The other technologies that are not exclusive to participation are tools that help planners and citizens visualize urban design proposals.
Appendix B: Interactive Technologies in the Government and Nonprofit Sectors

Below is a selection of cases of where universities have helped innovate interactive technologies for planning and where government has adopted them. The examples were highlighted in a session at the American Planning Association 2010 conference titled Applying Technology to Transit Planning.

The two examples below represent the adoption of both open-source and private interactive technologies. These examples show that some governments are using interactive technologies to advance their own planning agendas. In addition, where there is government interest in such technologies, perhaps there is an opportunity for nonprofit advocacy groups to join efforts with government towards the common goal of more participatory planning.

MetroQuest in Denver, Colorado
Source: http://www.metroquest.com/

MetroQuest is an example of a university-based innovative interactive technology that has been adopted by local governments to increase support for planning initiatives and modern policy values. In 2009, the Denver Regional Council of Governors (DRCOG—pronounced Dr. Cog) and several other municipalities in Canada and the United States adopted MetroQuest. This is a web software product that originated at the University of British Columbia and has since become a private company (MetroQuest, 2010). The site allows the public to make multiple choice selections about their preferences for Denver area development scenarios, such as the future developmental density mix, the transit system, and environmental policy. These choices then influence various year 2040 projected outcomes in such topics as commuting time, air quality, and cost of living. The outcomes are visualized with graphs and GIS (Geographic Information System) maps. In addition to the online tool, 24 interactive workshops have been held as of March, 2010 (Denver Post, 2010), which expand upon the online tool to include more maps, a workshop facilitator, and discussions of different case scenarios. Users of the online tool are permitted to submit a rating and written feedback about the scenarios they choose. SCC should be aware that government is increasing using interactive tools to influence policy, and thus SCC should insist that the governmental organizations with which it interacts use such tools in accordance SCC’s policies.

Next Stop Design
Source: http://www.nextstopdesign.com/

Next Stop Design involves the concept of crowdsourcing, which is short for crowd-outsourcing, where the public’s input is used to perform a job traditionally done by a hired employee. They solicit public submissions of bus stop designs in a competition to engage people in the design side of planning and indirectly encourage transit use. As part of a research project entitled “Crowdsourcing Public Participation in Transit Planning,” the University of Utah’s City & Metropolitan Planning program created a site that allows users to design a bus stop as a contest. The first contest ended in December 2009. Designs ranged from amateur 2D sketches to professional 3D renderings. The publicity of the project attracted more participants from outside Utah than within, which may cause future contests to be categorized between local and non-local designers. In addition to enabling submissions, the site offers a rating feature and discussion forum. The first contest attracted over 260 designs and more than 11,000 votes. The project received 2008 grant funding from the U.S. Federal Transit Administration. This would suggest that SCC should consider tapping into the creativity of its community to increase engagement, and to generate design ideas that can influence government decisions.
Appendix C: inTeractive Somerville Project Goals and Objectives

Below is an outline of the initial project goals and outcomes as defined by SCC and volunteer programmer Gerald McCollam.

Source: inTeractive Somerville Project Wiki, 2010

Goals of Project

- To engage “hard to reach” Somerville residents, such as low income and immigrant residents, who ordinarily do not get involved in city planning efforts.
- To cross the digital divide by giving people access to an innovative technological tool
- To capture concrete ideas and recommendations from the community “on line” that will then be used to influence real decisions for planning around the Green Line Corridor
- To give people a place to exchange ideas regarding the Green Line Corridor
- To create a place to synthesize ideas, priorities and recommendations between on the ground planning and on line planning
- To inspire people to connect with the greater Community Corridor Planning process, and become more actively involved both on line and on the ground
- To create a multi-media locale to make planning more visual and rooted in people’s daily experiences and literally, what they see.
- To move the realm of planning into new terrain, encouraging people’s first hand experiences, and anecdotal understanding and use of data and media to influence public outcome around land use planning.

Primary Desired Outcome

A more diverse body of residents, particularly those who ordinarily don’t get involved, contributes ideas and recommendations to influence land use plans along the Green Line Corridor.

Specific Outcomes

- Teachers and program coordinators consider Frank a useful educational tool and agree to host a series of workshops in which the mapping tool is presented and used by students/participants. We anticipate that most of “Frank’s” users will be introduced to the functionality of the tool through these guided workshops.
- Participants of Frank upload photos, video clips, and contribute ideas to a blog.
- Conversations about the Green Line stations and the land use around the stations occur between participants in an organized way.
- Ideas and recommendations are prioritized by users of Frank.
- Land use planning decisions are shaped and influenced by ideas and recommendations that have come out of Frank, or from participants of Frank who then get involved on the ground.
- Users have a better understanding of current land use trends and circumstances along the Green Line, and are more prepared to offer suggestions for what to protect or create along the corridor in preparation for the Green Line.
- Users incorporate ideas, priorities, etc. that come out of the on-the-ground planning process as they establish their own suggestions.
Appendix D: CCP’s Core Community Principles

Core Community Principles for Neighborhood Development Along the Green Line Corridor

As part of Community Corridor Planning, a grassroots initiative to engage Somerville residents in the land use planning of the Green Line Corridor, community members ratified a list of eleven core principles. The principles listed here were chosen from a larger list of principles generated by over 300 residents who participated at various community meetings held between April and October, 2009, which were then prioritized and ratified at a community meeting attended by 150 people on October 28, 2009. The community members engaged with CCP would like to see all decisions related to the planning of the Green Line and the land use in the half mile areas around the 7 proposed stations to reflect this list of Corridor Core Principles.

- **More Local Jobs**: We want a fixed percentage of respectable jobs of all types with good wages and benefits for Somerville residents, from construction to permanent.
- **Increase Commercial and Economic Development**: We want to see the creation of squares as destinations, with careful attention to mixed use of commercial/residential, reuse of buildings, and economic development to increase the tax base.
- **Keep and Add Local Businesses**: We want locally owned, culturally diverse, clean businesses in commercial areas with employees who live in Somerville.
- **Keep Somerville Affordable**: We want to make sure people of all economic means have the ability to afford housing and living costs, so that Somerville residents, such as child care workers, cab drivers, local business employees and others can stay here affordably.
- **Maintain Our Diversity**: Preserve and encourage economic and ethnic diversity of residents and businesses.
- **Improve the Green Environment**: We want a safe, environmentally friendly neighborhood with more green space, trees, and gardens; reduction of noise; avoidance of light pollution; and prevention of toxic chemicals in the air.
- **Encourage Walking and Biking**: We want to encourage walking and cycling, through safe, bike/pedestrian friendly design of streets and paths around and between stations.
- **Create Community Gathering Spaces**: We want both indoor and outdoor safe, public gathering spaces for community members.
- **Improve Access**: We want above standard, safe access to and between stations for people with disabilities, strollers, and pedestrians in general.
- **Community Involvement**: We want to make sure residents are included on an ongoing basis in the planning, design, and zoning changes to the stations and areas around them. Youth, artists, and others should help design stations, with attention to amenities. We need an easy and clear process for residents to address problems as they come up, with ways of immediately resolving unseen impacts.
- **Connecting Buses and Trains**: We want to ensure inter-modal access between neighborhoods and stations, for new train service to be adequate and speedy, and for existing bus lines to continue to serve areas not connected by train.

Contact Community Corridor Planning at:
(617) 628-9988, or (617) 776-5931 x 230 or CommunityCorridorPlanning@GroundworkSomerville.org

A partnership of Groundwork Somerville, the Somerville Transportation Equity Partnership (STEP), the Somerville Community Corporation (SCC) and the Somerville Community Health Agenda, CCP is a grassroots, non-profit coalition committed to resident participation in planning for a livable, equitable Somerville.
Appendix E: IRB Exempt Survey Question

Workshop: _______________  Participant #: ____________

INTERACTIVE SOMERVILLE MAPPING TOOL USER SURVEY

1. Is this the first time that you have heard of or used this interactive site?
   ☐ Yes
   ☐ No
   ☐ Don’t know

2. How much did you learn using this site?

<table>
<thead>
<tr>
<th></th>
<th>Nothing</th>
<th>Very little</th>
<th>Neutral</th>
<th>Some</th>
<th>Very much</th>
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</table>

3. How easy was the interactive site to use?

<table>
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<tr>
<th></th>
<th>Very difficult</th>
<th>Moderately difficult</th>
<th>Neutral</th>
<th>Moderately easy</th>
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</table>

4. How interesting was this interactive site?

<table>
<thead>
<tr>
<th></th>
<th>Uninteresting</th>
<th>Moderately Uninteresting</th>
<th>Neutral</th>
<th>Moderately Interesting</th>
<th>Very Interesting</th>
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</tbody>
</table>

5. Did the maps offered on the site cover the kinds of information you wanted to see?

6. How familiar are you with the proposed Green Line extension into Somerville?

<table>
<thead>
<tr>
<th></th>
<th>Completely unfamiliar</th>
<th>Very unfamiliar</th>
<th>Somewhat unfamiliar</th>
<th>Somewhat familiar</th>
<th>Very familiar</th>
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7. After using this tool, how well do you feel you understand the Green Line Corridor planning process and the opportunities for you to get involved?

<table>
<thead>
<tr>
<th></th>
<th>Not well at all</th>
<th>Not well</th>
<th>Neutral</th>
<th>Well</th>
<th>Very well</th>
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</table>
8. After using the site, do you think you are more likely to continue participating in the Green Line extension process, through town meetings and community events?

☐ Yes
☐ No
☐ Maybe

9. How often are you involved in local community activities (e.g. public meetings, volunteering)?

☐ Once a week
☐ At least once a month
☐ Several times a year
☐ Never

10. Does this interactive site make you interested in learning more about your community?

☐ Yes
☐ No
☐ Maybe

DEMOGRAPHIC INFORMATION

Age:

☐ Under 18
☐ 18-29
☐ 30-44
☐ 45-59
☐ 60+

Gender:

☐ Male
☐ Female

Race: (please check all boxes that apply)

☐ Asian/Pacific Islanders
☐ Hispanic
☐ African-American
☐ Caucasian
☐ Other (please specify) _____________________
Education:
- Some high school
- High school degree
- Some college
- Associate’s degree
- Bachelor’s degree
- Some graduate school
- Graduate degree
- Vocational school

What computer skills do you have? (please check all boxes that apply)
- Internet (e-mail, search engines, games)
- Word processing (Word, Excel)
- Graphic design (Photoshop, Publisher)
- Website design
- Movie production and editing
- Coding languages (C++, Perl)

Is English your primary language?
- Yes
- No

Do you speak other languages regularly? If yes, what other languages do you speak?
- Yes
- No

Other languages: _____________________________________________________
Appendix F: IRB Exempt Beta Workshop Focus Group Questions

Original Beta Workshop Focus Group Questions

1. What was your general impression of the site?
   a. How easy was it?
   b. How entertaining was it?
   c. How much did you learn?

2. What do you think it lacked? What would you add?

3. Do you have any other suggestions for the site?

4. How informative was the site, regarding the Green Line project?

5. Do you think that it would encourage you participate in public processes and meetings?

6. Do you think it would encourage you to participate in the Green Line extension?

7. Do you have any more feedback regarding the site?

8. What barriers do you see for you using this?
Appendix G: inTeractive Somerville Beta Workshop Script

In the interest of standardizing the information we present at the workshops, this is a brief set of talking points.

INTRODUCTION: (before the workshop begins)

We are graduate students from the Urban and Environmental Policy and Planning program at Tufts University. We are working with Somerville Community Corporation to evaluate the interactive mapping tool you are going to use today. SCC wants to know how easy this site is to use, how interesting/fun it is to use, and what you feel like you learned from using it. Our role is to collect this information from you and to make sure it is

As evaluators of the tool, during this workshop:

- one of us will act as a ‘floating’ volunteer who is available to assist you with any difficulties you may be having, and
- one of us will be an ‘independent’ volunteer who will only be observing the workshop and will not be available to answer questions.

At the end of the workshop, we hope that you can spare up to 30 minutes to complete a very short survey (5-10 minutes) and chat with us to share your general thoughts on the experience (20 minutes). We will ask you to sign a confidentiality and consent agreement form before we ask you any questions.

Your participation will help us improve this tool and the workshops. Please feel free to ask us any questions or concerns you have about our project, the survey, or the focus group. Thanks, and we look forward to talking to you at the end of the workshop!

SURVEY: (after workshop, before survey)

You have been selected as a possible participant in this study because of your position as a stakeholder in the community. You must sign the confidentiality and consent form before you may take the survey. If you are under the age of 18, you are required to obtain parental consent.

The agreement states that you can decline to take the survey, or refrain from answering certain questions, at any point. If you do so, none of the information you supplied will be used in the final report. There are no foreseeable risks for you if you participate in this survey.

Privacy and Confidentiality: All responses from the survey are completely anonymous. Before it is submitted to SCC, this paper survey will be assigned a workshop number and a participant number. However, the participant number is not in any way associated with your name and the surveys are distributed randomly. This and additional information regarding confidentiality and consent is also on the form, and you will be given a copy for your reference.

FOCUS GROUP: (non-minors only, before focus group)

A focus group is, in essence, a group conversation, during which we will offer a few questions and guide the group. Conversation between all participants is strongly encouraged. Your participation allows us to better understand your experience in a more in-depth and unstructured way.

The conversation will be recorded, but no quote will be attributed to you (by name) in our final report without verifying 1) whether you want to be quoted and 2) whether you would like to change your quote in any way. We hope this will encourage participants to freely express their opinions. It is anticipated that the conversation will take about 20-30 minutes.
WORKSHOP ABBREVIATION SUGGESTIONS:

Low tech group - LT
High tech group - HT (if they are being broken up into 2 sessions, HT 1 and HT 2)
Somerville High School Design Class - SHS DC
Somerville High School Green Club - SHS GC
Appendix H: Beta Workshop Floating Volunteer and Independent Observer Forms

Floating Volunteer Form

**Volunteer name:**

**Workshop:**

How many questions were you asked or did you assist with?
- What were they?
- How long did it take the different issues to be resolved?

Were workshop participants hesitant to ask for help?

Were there one or two individuals who needed help, or was the entire workshop having issues?

Other comments?

Observation Form

**Observer name:**

**Workshop:**

How many problems and issues did you observe?
- What were they? (Related to use of computers / interactive tool / curriculum etc.)
- How long did it take the different issues to be resolved?

What were the weak points of the workshop?

What were the strong points of the workshop?

How engaged and interested were the participants?
- What components of the site or workshop seemed most engaging?
- What components of the site or workshop seemed least engaging?
- What do you think caused participants to not be engaged?

By the end of the workshop, what was the general mood of the participants? (Did they seem tired and just want to leave / eager to ask more questions etc.)

Other comments?
Appendix I: Recommended Survey and Focus Group Questions (Beta and Post-Beta)

In Appendices I.I through I.IV, we provide four evaluation form templates for SCC’s inTeractive Somerville:

- Two sets of survey questions that SCC can use as it continues to beta test the tool: one version is for use if a focus group will follow it, and another version is for use if no focus group will take place.
- One set of focus group questions that SCC can use for beta and post-beta workshops. These questions are subject to change depending on any modifications that are made to the curriculum after April 30, 2010
- One set of website evaluation questions that are recommended for integration into the inTeractive Somerville website post-beta. This set of post-beta evaluation questions will replace the need for paper surveys once the site is launched. It does not necessarily replace the need for administering a focus group, however.
# Appendix I.I: Final Recommended Beta Survey Questions

*(Administer if a focus group WILL be offered)*

1. How easy was the interactive site to use?

<table>
<thead>
<tr>
<th>Very difficult</th>
<th>Moderately difficult</th>
<th>Neutral</th>
<th>Moderately easy</th>
<th>Very easy</th>
</tr>
</thead>
<tbody>
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<td>1</td>
<td>2</td>
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<td>4</td>
<td>5</td>
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</table>

2. How much did you learn about the Green Line extension using this site?

<table>
<thead>
<tr>
<th>Nothing</th>
<th>Very little</th>
<th>Neutral</th>
<th>Some</th>
<th>Very much</th>
</tr>
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3. How interesting was this interactive site?

<table>
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<tr>
<th>Uninteresting</th>
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<th>Moderately Interesting</th>
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<td>1</td>
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</table>

4. How comfortable were you working with the website?

<table>
<thead>
<tr>
<th>Very Uncomfortable</th>
<th>Uncomfortable</th>
<th>Neutral</th>
<th>Comfortable</th>
<th>Very Comfortable</th>
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<td>1</td>
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<td>5</td>
</tr>
</tbody>
</table>

5. Is this the first time that you have heard of or used this interactive site?

- [ ] Yes
- [ ] No
- [ ] Don’t know

6. How familiar are you with the proposed Green Line extension into Somerville?

<table>
<thead>
<tr>
<th>Completely unfamiliar</th>
<th>Very unfamiliar</th>
<th>Somewhat unfamiliar</th>
<th>Somewhat familiar</th>
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</tbody>
</table>
7. After using the site, do you think you are more likely to continue participating in the Green Line extension process or other community planning events?

☐ Yes
☐ No
☐ Maybe
☐ Already involved

8. How often are you involved in local community activities (e.g. public meetings, volunteering)?

☐ More than once a week
☐ Once a week
☐ At least once a month
☐ Several times a year
☐ Never

DEMOGRAPHIC INFORMATION

Age:

☐ Under 18
☐ 18-29
☐ 30-44
☐ 45-59
☐ 60+

Gender:

☐ Male
☐ Female

Is English your primary language?

☐ Yes
☐ No
Do you speak other languages regularly? If yes, what other languages do you speak?

☐ Yes
☐ No

Other languages: ______________________________________________________________

Race: (please check all boxes that apply)

☐ Asian/Pacific Islanders
☐ Hispanic
☐ African-American
☐ Caucasian
☐ Other (please specify) ____________________

Education:

☐ Some high school
☐ High school degree
☐ Some college
☐ Associate’s degree
☐ Bachelor’s degree
☐ Some graduate school
☐ Graduate degree
☐ Vocational school

What computer skills do you have? (please check all boxes that apply)

☐ Internet (e-mail, search engines, games)
☐ Word processing (Word, Excel)
☐ Graphic design (Photoshop, Publisher)
☐ Website design
☐ Movie production and editing
☐ Coding languages (C++, Perl)
**Appendix I.II: Final Recommended Beta Survey Questions**

_(Administer if a focus group WILL NOT be offered)_

1. How easy was the interactive site to use?

<table>
<thead>
<tr>
<th>Very difficult</th>
<th>Moderately difficult</th>
<th>Neutral</th>
<th>Moderately easy</th>
<th>Very easy</th>
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</table>

2. How much did you learn about the Green Line extension using this site?

<table>
<thead>
<tr>
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<th>Some</th>
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</table>

3. How interesting was this interactive site?

<table>
<thead>
<tr>
<th>Uninteresting</th>
<th>Moderately Uninteresting</th>
<th>Neutral</th>
<th>Moderately Interesting</th>
<th>Very Interesting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

4. How comfortable were you working with the website?

<table>
<thead>
<tr>
<th>Very Uncomfortable</th>
<th>Uncomfortable</th>
<th>Neutral</th>
<th>Comfortable</th>
<th>Very Comfortable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

5. Is this the first time that you have heard of or used this interactive site?

- [ ] Yes
- [ ] No
- [ ] Don’t know

6. How familiar are you with the proposed Green Line extension into Somerville?

<table>
<thead>
<tr>
<th>Completely unfamiliar</th>
<th>Very unfamiliar</th>
<th>Somewhat unfamiliar</th>
<th>Somewhat familiar</th>
<th>Very familiar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
7. After using the site, do you think you are more likely to continue participating in the Green Line extension process or other community planning events?

☐ Yes
☐ No
☐ Maybe
☐ Already involved

8. How often are you involved in local community activities (e.g. public meetings, volunteering)?

☐ More than once a week
☐ Once a week
☐ At least once a month
☐ Several times a year
☐ Never

9. What features do you think the site lacked? What would you add?

10. Are there components of inTeractive Somerville that didn’t function, or didn’t function well? What happened?

11. What parts of inTeractive Somerville were confusing? Why?

12. Do you have any suggestions for the site’s design and color-scheme?

13. In your view, what is the purpose of inTeractive Somerville and how can it be used?

14. What barriers do you see for using this site?

DEMOGRAPHIC INFORMATION

Age:

☐ Under 18
☐ 18-29
☐ 30-44
☐ 45-59
☐ 60+
Gender:

☐ Male
☐ Female

Is English your primary language?

☐ Yes
☐ No

Do you speak other languages regularly? If yes, what other languages do you speak?

☐ Yes
☐ No

Other languages: _____________________________________________________

Race: (please check all boxes that apply)

☐ Asian/Pacific Islanders
☐ Hispanic
☐ African-American
☐ Caucasian
☐ Other (please specify) _____________________________

Education:

☐ Some high school
☐ High school degree
☐ Some college
☐ Associate’s degree
☐ Bachelor’s degree
☐ Some graduate school
☐ Graduate degree
☐ Vocational school
What computer skills do you have? (please check all boxes that apply)

☐ Internet (e-mail, search engines, games)
☐ Word processing (Word, Excel)
☐ Graphic design (Photoshop, Publisher)
☐ Website design
☐ Movie production and editing
☐ Coding languages (C++, Perl)
Appendix I.III: Final Recommended Focus Group Questions

(For use during and post-beta)

1. What was your general impression of the site?
   a. How easy was it?
   b. How fun was it?
   c. How did the site look? Do you have any suggestions for aesthetics?

3. Did you get stuck in any part of inTeractive Somerville? Where?

4. Are there components of interactive Somerville that didn’t function, or didn’t function well? What happened?

5. What do you think it lacked? What would you add?

6. What parts of interactive Somerville were confusing and why?

7. What part of interactive Somerville would you want to explore more?

8. In your view, what is the purpose of interactive Somerville and how can it be used?

9. How informative was the site about Somerville and the Green Line project?

10. Do you think it would encourage you or others to participate in public processes or meetings? Why or why not?

11. What barriers do you see for using this site?

12. Do you have any more suggestions or feedback for the site?
Appendix I.IV: Recommended Survey Questions for Integration into Final Website

This survey is recommended for integration into the inTeractive Somerville website using a tool like UserVoice. These questions do not replace those that can be asked in a focus group post-workshop. Administering a focus group is still recommended.

1. How easy was the interactive site to use?

<table>
<thead>
<tr>
<th>Very difficult</th>
<th>Moderately difficult</th>
<th>Neutral</th>
<th>Moderately easy</th>
<th>Very easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

2. How much did you learn about the Green Line extension using this site?

<table>
<thead>
<tr>
<th>Nothing</th>
<th>Very little</th>
<th>Neutral</th>
<th>Some</th>
<th>Very much</th>
</tr>
</thead>
<tbody>
<tr>
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4. How comfortable were you working with the website?

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<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

5. After using the site, do you think you are more likely to continue participating in the Green Line extension process or other community planning events?

☐ Yes
☐ No
☐ Maybe
☐ Already involved

6. What suggestions do you have for inTeractive Somerville?
DEMOGRAPHIC INFORMATION

Age:

☐ Under 18
☐ 18-29
☐ 30-44
☐ 45-59
☐ 60+

Gender:

☐ Male
☐ Female

Is English your primary language?

☐ Yes
☐ No

Do you speak other languages regularly? If yes, what other languages do you speak?

☐ Yes
☐ No

Other languages: __________________________________________________________

Race: (please check all boxes that apply)

☐ Asian/Pacific Islanders
☐ Hispanic
☐ African-American
☐ Caucasian
☐ Other (please specify) __________________________
Education:

- Some high school
- High school degree
- Some college
- Associate’s degree
- Bachelor’s degree
- Some graduate school
- Graduate degree
- Vocational school

What computer skills do you have? (please check all boxes that apply)

- Internet (e-mail, search engines, games)
- Word processing (Word, Excel)
- Graphic design (Photoshop, Publisher)
- Website design
- Movie production and editing
- Coding languages (C++, Perl)
Appendix J: Evaluation Results from inTeractive Somerville Beta Workshop

The bolded comments below were issues brought up multiple times by participants.

Process Evaluation

1. Posting comments and ideas
   a. At times they didn’t work
   b. Not obvious where comment box is below map
   c. Comment box should be labeled “comments”
      i. Station label comments were called “responses”
   d. **Should be able to click on a station to make a comment**
   e. **Should be able to click on your house to make a comment**
   f. Posting option shouldn’t say create; it should say post
   g. **It phrases an idea as a question when it may not be**
   h. You can post a comment as another author
   i. Should be grouped with photos
   j. **Posting an idea on a station should remember the station where you navigated from because you have to select the station again from a drop-down menu when you navigate there**
   k. **Should have a way to post comments where others can vote, rate, like, and comment on them, so that important ideas rise to the top (like Starbucks site)**

2. Posting photos
   a. It would be nice to drag a photo to the site, rather than uploading it
   b. Would be better at beginning, rather than many steps into the site
   c. Uploading photos didn’t work for some people
   d. **Should be able to click on a location to post a picture, rather than going to top navigation bar**
   e. **Should be grouped with comments**

3. Homepage
   a. The homepage should be identified more clearly, rather than clicking on inTeractive Somerville
   b. It should have tabs on top that can guide you with the tabs having drop-down menus, so that you can explore the website more easily [the drop-down menu would be similar to the MBTA website].
   c. Most information should be available on homepage, rather than navigating links
4. OpenID
   a. Difficulty at this stage
   b. When you register, it should take you back to homepage

5. Maps
   a. The map should be larger
   b. When you click on the globe, it takes you to a full view of the globe
   c. The functions are similar to Google’s, but people not familiar with Google would like labels of the zoom and move functions
   d. Should have the function of hovering over an area and getting more info
   e. Should have station labels on the stations
   f. Streetview function isn’t clear on map—making it more prominent would be easier
   g. Nothing explains half-mile buffer or the other map options
   h. Making directions available (similar to GoogleMaps)
   i. More content on local businesses and attractions about why Somerville is special

6. 11 Principles
   a. They’re not all on the same page
   b. It’s not clear that there are blogs for them
   c. This should be more prominent on the website and better explained

7. Tabs
   a. The places tab is confusing if you’d like to look at other stations because it gives you other community places
   b. Only three stations appear in tabs—where are the others?

8. Search
   a. Create a search option
   b. Create a search option for the map to find an address

9. Aesthetics
   a. More color; change pastels
   b. More visually appealing; it’s a bold concept and the site should be bold also
   c. Difficult for “old eyes” to see
Program Evaluation

1. Who is the targeted group?
   
   a. The older participants were unable to use the site, especially since it mirrors Google, while the younger generations found that it didn’t follow traditional websites close enough (e.g. Google, Amazon).
   
   b. An older participant commented that this site is for younger people; not for older people, and that this site shouldn’t initially be made easy for everyone. They should focus on making it easier for younger people (a group that would better adopt this tool) and then move on to other groups.

2. How do you attract people to the site?
   
   a. Providing bus schedules for current transit lines in Somerville.
   
   b. People who really want to make comments will use it, but why else would you visit it? GoogleMaps provides similar services—how is it different?
   
   c. Making it accessible for SmartPhones, so you can take a picture with your phone and upload it to the site.
   
   d. Connecting it to other sites like Facebook, Twitter, boston.com.

3. What is the purpose of the site?
   
   a. The message and goals of the site should be better communicated. At this point, it’s unclear as to what the purpose of it is. Making 11 principles more clear would help. A respondent suggested changing the name. The mission needs to be more clear.
   
   b. The Green line content isn’t coming across in the website. It’s imperative that content about the Green Line extension come across. An individual also suggested not referring to it as a corridor because it makes it sound like a highway.
   
   c. The data and content feels fragmented on different pages—should be more streamlined.

Self-reported ease of use, amount learned, and interest:

Ease of use: People found the site slightly easy to use (average of 3.25 on a scale from 1 to 5: 1 being very difficult, 5 being very easy). A user commented that it was easy to use, but a little confusing.

Amount learned: Respondents reported learning on average 3.5 on a scale from 1 to 5: 1 being nothing and 5 being very much—3.5 falling between neutral and some. People thought that the site has a lot of potential to be informative and educational.

Interest: People found the site slightly interesting with an average of 3.375 (on a scale from 1 to 5: 1 being uninteresting, 5 being very interesting).

**It should be noted that many of the surveyed people were already involved in the community, specifically with SCC, other Somerville advocacy organizations, or the transit corridor process. Most people that reported education had at least a bachelor’s degree with half reporting graduate education. English was the primary language for 75% of respondents. Most people could use Word processing and the Internet for e-mail and searches.**
Appendix K: Tufts University Confidentiality and Consent Agreement

Tufts University

Confidentiality and Consent Agreement

You are invited to participate in a research study of the usability and effectiveness of a web-based tool created to increase community participation. Tufts University graduate students Jennifer Chin, Andy Likuski, Jay Monty, Markie McBrayer, and Ayesha Dinshaw are conducting this study under the guidance of Rachel Bratt (Tufts faculty) and Somerville Community Corporation (SCC).

You were selected as a possible participant in this study because of your position as a stakeholder in the community. You may choose not to participate, or to end your participation at any time. If you do so, none of the information you supplied will be used in the final report. There are no foreseeable risks for individuals participating in this study. Your participation in the study will allow for an evaluation of the usability of an interactive mapping tool, and to gauge its usefulness in increasing potential long-term community participation in planning. It will also provide you with information on the Green Line corridor and tools to offer your feedback on the project.

The Tufts team study aims provide SCC with concrete suggestions on the usability and potential success of the tools, based on SCC’s four preliminary goals that the tools:

- provide a user-friendly way for the public to learn about urban planning and the Somerville Green Line expansion
- provide an interactive experience that is fun and engaging for users of various ages and cultural backgrounds
- provide an experience that may encourage users to continue engaging with SCC and attend future Somerville Green Line Community Corridor planning meetings
- provide a means for gleaning ideas and recommendations that can be integrated into on the ground meetings as part of CCP

The survey will be administered after the presentation of the interactive mapping tool and is expected to last approximately ten minutes. In the report, all individuals’ survey answers will be anonymous: individuals will be identified by group and ID number. However, quotes from focus groups may be transcribed for inclusion in the final report, which will be made public through Tufts University Department of Urban Policy and Planning and Somerville Community Corporation. If your quote is to be included in the final, published report, you will have a chance to review and alter your quote as well as give final permission for the quote to be published. Please check the two boxes below to agree to the conditions of the survey and/or focus group before you begin either process.

If you have any questions or concerns, please do not hesitate to contact Markie McBrayer, who is the Study Coordinator, at markie.mcbrayer@gmail.com.

You will be offered a copy of this form to keep.

Your signature below indicates that you have read and understand the information above and have chosen to participate in this study.

“I will participate in this study under the following conditions:

_______ My survey responses will be anonymous.

_______ I have the opportunity to review and edit my quote/s from the focus groups prior to their being published, or to deny permission for them to be published.”

Signature ____________________________ Date ________________
Printed Name ____________________________
Appendix L: Case Study Interview and Assessment Questions

Case Studies Interview Questions

- Can you talk about how the idea for X came about?
- Was the development of the X aligned with any particular planning process that was underway in X?
- Who was involved in the development? Mainly adults? Teens? Others?
- What are your short-term and long-term goals for the X?
- How do people find out about this resource? How do you do outreach?
- How long did it take to develop the X and/or the different components of X?
- How much would you say it cost to develop the entire X and/or different aspects?
- How long would you say it took to develop the whole X?
- How do you see the X changing or expanding?
- What would you say were some unexpected challenges you encountered in the X’s development?
- What feedback would you share to anyone hoping to develop an interactive program/tool/site for engaging marginalized populations in planning?

Case Study Assessment Questions

- What is the program/tool/site’s target population? Is this target immediately clear from the design and the content on the program/tool/site?
- How useable is the site when considering the target population?
- Are the outreach strategies culturally appropriate?
- Does the program/tool/site break down planning information in a way that is accessible to the target population?
- (This question is not aligned to SCC site goals, but aims at assessing overall community engagement in program/tool/site development): How was the community engaged at each step of the development process?)
Appendix M: Descriptions of Case Study Organizations

Below is some information about the organizations whose work is profiled under Case Studies.

**Asian Community Development Corporation (Case Study: Participatory Chinatown)**
Source: [http://asiancdc.org/](http://asiancdc.org/)

The Asian Community Development Corporation, a community-based organization, is committed to high standards of performance and integrity in serving the Asian American community of Greater Boston, with an emphasis on preserving and revitalizing Boston’s Chinatown.

The Corporation develops physical community assets, including affordable housing for rental and ownership; promotes economic development; fosters leadership development; builds capacity within the community and advocates on behalf of the community.

**Center for Urban Pedagogy (Case Study: Envisioning Development Toolkit)**
Source: [http://www.anothercupdevelopment.org](http://www.anothercupdevelopment.org)

CUP makes educational projects about places and how they change.

Our projects bring together art and design professionals - artists, graphic designers, architects, urban planners - with community-based advocates and researchers - organizers, government officials, academics, service-providers and policymakers. These partners work with CUP staff to create projects ranging from high school curricula to educational exhibitions.

Our work grows from a belief that the power of imagination is central to the practice of democracy, and that the work of governing must engage the dreams and visions of citizens. CUP believes in the legibility of the world around us. What can we learn by investigation? By learning how to investigate, we train ourselves to change what we see.

**Hub2 (Case Studies: Hub2 Project in Allston and Participatory Chinatown)**
Source: [http://hub2.org](http://hub2.org)

Hub2 gives people the tools they need to more meaningfully engage in the design and development of their neighborhoods. We believe that urban planning should be done in full cooperation with the neighborhoods being planned. We have developed a system of participation that involves a combination of immersive, 3D computer games and face-to-face conversation. The result is greater understanding of urban issues, greater cooperation between planners and citizens, and a method of civic participation that is not only meaningful, but lots of fun.

Project Director: Eric Gordon is an assistant professor of new media at Emerson College. Researcher / Game Content Designer: Steve Schirra is a lecturer at Emerson College.

**Metropolitan Area Planning Council (Case Study: Participatory Chinatown)**
Source: [http://www.mapc.org](http://www.mapc.org)

The Metropolitan Area Planning Council (MAPC) is a regional planning agency serving the people who live and work in Metropolitan Boston. Our mission is to promote smart growth and regional collaboration, which includes protecting the environment, supporting economic development, encouraging sustainable land use, improving transportation, bolstering affordable housing, ensuring public safety, advancing equity and opportunity among people of all backgrounds, and fostering collaboration among municipalities. MAPC’s 101 member communities are represented on the local level through eight subregional groups, staffed by appointed officials from each city or town and led by one MAPC staff coordinator.
Appendix N: List of Key Considerations for Transition from Beta to Launch

The following is a list of key considerations for SCC as it moves the inTeractive Somerville site from beta to launch. Key questions are grouped according to the planning phase in which they should primarily be addressed.

| Pre-Development                      | Audience: Who is your target audience? Describe the different groups.  
|                                      | Target Audience Limitations: What are some of the barriers that the target audiences might face to using the site/tool?  
|                                      | Audience Accommodations: What can SCC do to minimize barriers to using the tool for the target audiences? |
| Site Development                     | Website bug checking: What is your system for periodically logging bugs on the site to ensure a good user experience? Who is responsible for this work?  
|                                      | Website capacity: What is the ideal number of daily or weekly users SCC expects to have on the site? Is the site's server equipped to handle the expected load?  
|                                      | Maintaining interest: How will the site evolve to maintain user's interest? How will SCC collect ideas for how to improve the website's content and experience? |
| Site Implementation                  | Outreach resources: How much energy does the CCP coalition intend to devote towards publicizing this resource? Once the Somerville green line planning charrettes commence, what is the proposed strategy for promoting continued use of the site?  
|                                      | Publicity strategy: In addition to traditional means for spreading the word about the site (word of mouth, flyers, emails, events), could SCC use existing technologies to publicize the site, such as Facebook or Twitter or YouTube? |
| Curriculum Development and Implementation | Curriculum: What are your curriculum goals for the different audiences?  
|                                      | Curriculum implementation: What is important about how the actual workshop experience is like for the audiences? Since SCC uses a popular education model, how does this translate to the actual workshop experience?  
|                                      | Curriculum skill level: Can variations of the curriculum be constructed to suit most technical skill and age levels? |
| Program Termination                  | What are the appropriate circumstances for ending the program?  
|                                      | Should the site remain active after all public input processes have ended?  
|                                      | How should the site data be archived once the site is no longer available online? |