Public Engagement in Municipal Broadband Policy: Lessons from a Silicon Valley Consensus Conference*

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Introduction

In response to the slow and uneven extension of high speed Internet access, many municipal governments in the United States are considering whether to build their own broadband networks, and some (including Philadelphia, San Francisco, and an alliance of over 40 cities in Silicon Valley) are already in the process of doing so. How should municipal broadband networks be financed, built, and operated in order to close the digital divide that separates Americans' access to and use of high-speed internet service along lines of class, race and ethnicity, and geography (U.S. Government Accountability Office, 2006)? Just as important, what is the political process by which localities should answer such questions?

Many hopes have been raised for municipal broadband. In addition to being a medium for news and entertainment, broadband access has the potential to serve as a critical economic engine for communities by creating jobs and opening new opportunities for education and lifelong learning. It can also become a means of enhancing government efficiency and communication with citizens as well as a way for residents to become more informed and active participants in their communities. Basic local services, especially emergency services like medical care, police, and firefighting, can be improved when emergency workers have access to broadband networks. Municipal networks could loosen the concentration of ownership in local broadband, injecting competition from new providers with a stronger public service mission than cable and telephone companies have. Central to this mission would be providing service to underserved communities that are least likely to have broadband access now, including low-income people, racial and ethnic minorities, rural people, and the disabled.

However, municipal broadband projects have not always prioritized the goal of serving the underserved because the constituencies most likely to benefit directly from "digital inclusion" tend to have little political power, are not well-organized to take part in communication policy debates (especially at the local level), and are therefore rarely invited to take part in planning these networks. In response to this lack of participation, Santa Clara University's Center for Science, Technology and Society (CSTS) and the Broadband Institute of California (BBIC, a public policy institute at Santa Clara University's School of Law) organized a consensus conference in October 2006 to engage members of Silicon Valley's underserved communities in making policy recommendations about what will soon be one of the country's largest municipal wireless networks.

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In this paper, written by the conference co-organizers (Raphael and Hammond) and an external evaluator (Karpowitz), we discuss the consensus conference as a unique means of engaging the public in deliberation aimed at fashioning policy ideas and the specific process used by the Silicon Valley consensus conference. We summarize the participants' policy recommendations and offer a preliminary analysis of the conference's ability to foster well-informed deliberation about the issues. We conclude with practical lessons for those considering means of engaging underserved groups in defining digital inclusion plans for municipal broadband projects.

The Consensus Conference Model

Developed by the Danish Board of Technology and reproduced by government and civil society groups around the world, the consensus conference format aims to promote meaningful public education and participation in technology policy more effectively than other forums, such as government hearings and professional conferences. These conferences typically convene approximately 12 to 25 demographically diverse community members. Conference organizers work with an advisory panel comprised of a balanced group of knowledgeable stakeholders involved in the issue at hand to provide the community panel with briefing papers about the issue and to choose a group of experts representing a wide range of perspectives on the controversy. Conference organizers work with the community panelists to identify key questions they want to pose to the experts directly at a public hearing. After hearing from the experts, the community panel then works with an experienced facilitator to arrive at a consensus statement of policy recommendations. These findings are presented to government, the media, and the public to attract attention to the issue and stimulate ongoing deliberation. In some cases, experts may be given an opportunity to respond to, but not to alter, the community members' conclusions.

Scholars and organizers of consensus conferences (e.g., Hendriks, 2005; Sclove, 2004) have found that this process can enrich public debate on technology policy issues by:

- bringing together technical experts and community members in public dialogue aimed at supporting the community's understanding of technical issues;
- inviting community members to take center stage in forming technology policy;
- allowing community members to raise social concerns and identify community needs that are often absent in negotiations between industry and government stakeholders over technology policy;
- promoting reasoned conclusions by the public through deliberation about complex technological, economic, and cultural issues;
- transcending control by any particular stakeholder in the issue, thereby strengthening the panel's ability to offer an authentic and informed opinion.

The consensus conference format also has two major disadvantages. The small sample size of the community panel means that its recommendations cannot be seen as representative of the entire community. Thus, consensus conferences are used to generate policy ideas and gauge the reactions of a slice of the public that has become especially informed about the issue, rather than to determine the ultimate outcome of policy debates. In addition, the conference does not always have a direct impact on policy. Few projects of this kind enjoy the kind of guaranteed attention from public officials that is typical in Denmark, where an agency of the national

government organizes the conference and the results are presented to the legislature at a high-profile press conference.

For the Silicon Valley consensus conference, entitled "Broadband for All?," the organizers recruited an advisory panel of 11 experts and stakeholders from local governments, community-based organizations working on digital inclusion in broadband, and the high-tech and telecommunications industries.[1] The advisory panel oversaw the fairness of the process by approving our plans for recruiting community members, reviewing a background briefing paper for the community members written by the organizers, and approving the composition of the experts who testified at the public hearing. (The list of participants and all other documents referred to in this paper are available at http://broadbandforall.org; the final community panel recommendations are also available in Appendix A). The community panel was recruited by distributing applications to approximately 80 social service agencies and community-based organizations. From the 95 applications received, the organizers selected a panel of 12 members who were diverse by age (ranging from 16 to 64 years old, with 3 seniors and 2 youth), gender (7 males, 5 females), ethnicity (Caucasian, Latino, African-American, Asian-American, Middle Eastern), physical ability (1 wheelchair user and 2 blind), access to broadband at home (5 had no home access), educational level (6 college graduates, 6 High School or less), country of birth (4 were immigrants), and residence within Silicon Valley (from the four counties of Santa Clara, San Mateo, Alameda, and Santa Cruz).

Prior to the three-weekend conference held in October 2006, the organizers distributed the briefing paper and compiled a bibliography of readings on municipal broadband and digital inclusion that were accessible to non-experts. Additional readings were provided to the community panelists during the conference based on the topics of interest to each person. During the first weekend of the conference, the organizers gave community panelists a balanced presentation on the issues summarizing contending points of view on municipal broadband and facilitated discussion among the full group, who defined their questions about the issues. During the second weekend, the community panel questioned 11 experts from industry, government, and community organizations that were recruited by the organizers, with the experts testifying in response to the questions the community panel had defined the prior weekend. During the third weekend, a facilitator helped the community members come to consensus on policy recommendations for local governments.

The briefing paper posed the following initial questions to the panel and encouraged them to develop their own additional agenda of questions and recommendations:

1. Should governments become involved in creating municipal broadband networks?
2. If so, how should municipal broadband networks be paid for, owned, and operated to maximize public benefits, especially to underserved communities?
   - What kind of service should be provided and at what cost?
   - Should the service be available in all areas?
   - What technology should be deployed?
3. Should Municipalities Do Anything More? Will "digital inclusion" require governments to provide additional resources to help underserved communities' use broadband to meet their economic, civic, and cultural needs?

- What kinds of hardware, software, discounted services, training, or content, and for whom?
- How should municipalities pay for this?

The Silicon Valley Context

In late 2005, momentum built for creating a regional municipal wireless project that would cover all of Silicon Valley, stretching south from San Francisco to the southern suburbs of San Jose, east to the towns of Fremont and Milpitas, and west to Santa Cruz. The initiative was spearheaded by Wireless Silicon Valley (WSV), a task force led by city and county Information Technology managers, and including local electrical utilities, county sheriff departments, and public transportation authorities. Their vision for wireless was driven primarily by economic competitiveness goals and by the needs of government agencies (especially emergency responders, firefighters, and policy) for a ubiquitous and affordable network, although introducing competition into broadband service was a secondary goal. Reaching underserved communities ranked lower on the group's list of priorities than in cities such as San Francisco and Philadelphia. The task force defined its vision for the network as including: "A seamless, interoperable network that covers the region; no need to have multiple accounts; the ability to roam throughout the region without losing the signal; emergency response teams will be able to get priority access to the network; a range of service offerings including free and paid services, and varying levels of security; the ability to bring the signal indoors with the aid of standard equipment; adherence to open standards." WSV presented the benefits to the community as consisting of: **"**support for emergency response teams; save mobile workers, including police, fire, public works, sales people, and construction workers, from having to return to the office to file reports or get work orders; attract conventions by making it easy for visitors to connect; offer an alternative broadband service provider to businesses and residents; create opportunities for local wireless companies to develop new products and services; reinforce Silicon Valley's reputation as a center of innovation" (Joint Venture: Silicon Valley Network, 2007).

WSV opted for private construction, service provision, and ownership of the network, issuing a request for proposal (RFP) to vendors in April, 2006 for a Wi-Fi network spanning the valley. By that time, 36 cities, counties and other entities had signed on to the RFP, agreeing to participate in the network. Several months later, WSV awarded the project to Silicon Valley Metro Connect, a consortium including IBM, Cisco Systems, Azulstar (an Internet Service Provider), and Seakay (a nonprofit organization specializing in connecting and training underserved groups). The consensus conference was held about a month after the winning proposal was announced. Coming at this time, the conference offered the first concerted effort at public consultation on the project, in an environment of sparse media coverage of the project and little or no organized attempts to influence its directions from community-based organizations. The WSV director sat on the advisory panel for the conference and representatives from several of the Metro Connect partners testified at the public hearing. Although many of the contours of the network had been defined – including private ownership and management – WSV and Metro Connect were embarking on negotiations to finalize the details of pricing tiers of service, planning digital inclusion efforts, and defining a privacy policy. Thus, much was still to be determined. (These negotiations are continuing at the time of this writing in early 2007).

Outcomes of the Conference

Independent Generation of Issues

A common claim about consensus conferences is that, more than other deliberative formats, they allow community participants to raise issues and viewpoints on them that are highly relevant to their own experience but that experts may not have fully considered (Guston, 1999). Thus, we were interested to see to what extent community panelists were able to go beyond merely adjudicating between a range of policy arguments and positions provided to them by the conference organizers and in the public hearing to add their own arguments and positions.

Despite the brevity of the conference, the community panel independently raised two major issues that were not mentioned in the organizers' briefing paper. After agreeing fairly quickly that municipalities should involve themselves in some way in creating broadband networks, the panel moved on to consider how these networks should be built and operated. First, they expressed deep concerns about privacy and security on the network, sparked in part by one panelists' experience of being a victim of identity theft online. As they examined WSV and Metro Connect's plans, they were troubled that a proposed free tier of service would offer lower levels of privacy and security than subscription tiers available to the public. Several panelists expressed worry that a "free" tier of network service, while perhaps intended to close the digital divide, would still leave underserved communities vulnerable to identity theft and other problems. Thus, the nature and meaning of digital equality, including the potential trade-offs between price and quality, became a source of considerable discussion. Ultimately, the panel extended the principle of equal access to privacy and security protections, affirming in their final recommendations that "Privacy and security protections should be made available equally across all tiers of service."[2] The panel went on to recommend that:

a) Local governments should affirm that users own their personal information. Registration information and information about users' online behavior is owned by users and not proprietary information owned by the broadband provider or municipal governments.

b) Broadband providers should be responsible for ethical and legal standards in how user data is handled. Providers should not track or sell personally identifiable information to third parties. Providers should be able to use information in aggregate as long as it does not reveal personally identifiable information. Providers should not provide information to government entities without a court order.

c) Internet service providers should provide easily accessible information about security and privacy risks.
    - Users should be clearly notified by the service provider about what security or privacy levels and what protections they have.
    - Security and privacy information should be provided in easy-to-understand, non-technical language.
    - FAQs and support information should be provided.

- When possible, information should be provided in multiple languages, based on the demographics of the community.

The other major issue that panel raised independently was the role of public engagement in planning and overseeing municipal broadband networks. Disappointed to find that there had been little public consultation at the outset of the project, the community members posed the question: "How can the public become involved meaningfully in planning, implementing, and operating the network?" After studying the role of public involvement in some other municipal broadband projects, such as Philadelphia's, the panel recommended that:

a) Public involvement should begin at the earliest stages of the process and continue after the network is up and running. A broadly representative public advisory board which includes members of underserved communities should be involved at every stage.
    - At the earliest stages, the public advisory board should contribute to the development of the RFP and to the partnership(s) formed to respond to the RFP. Later in the process, the advisory board should work to ensure that network providers follow through on their promises to users.

b) Public forums and hearings should be held in a variety of venues at all stages of the process. Municipalities should also consider new and creative means for involving the public. Such opportunities should allow for greater levels of deliberation among community residents and frequent two-way communication between residents and other stakeholders.
    - Aggressive recruiting and incentives for public involvement are critical, especially since the underserved may be the most reluctant or least able to participate.

c) As municipalities or regions consider building networks, pilot projects can be designed to encourage immediate public involvement, test recommendations, and evaluate different models.

In their deliberations, the panel's concerns often stemmed from the underlying issue of equality of access, which they extended to encompass privacy and public involvement. For them, privacy and security became part of the basic needs that should be met by any tier of service. Involvement in the planning process by the public, especially the underserved, became both a means to ensuring equal access to broadband (substantive democracy) and a good in itself (procedural democracy).

Other Recommendations

For a detailed review of each recommendations and their rationales for each, see Appendix A, which includes the panel's final report. Here, we summarize several key themes.

The panel affirmed that municipal governments should indeed commission broadband networks, primarily to bring the underserved fully online. However, the participants struggled to

come to consensus on the proper balance of public and private forces, in the end affirming that "municipal governments should be involved in developing and controlling broadband networks and should require private companies to operate the networks in ways that provide public benefits." They concluded that "public funding, private funding or a combination of the two could be used to finance networks."

Surprisingly, the most contentious question for the panel was whether a free tier of service should be offered, or whether requiring small monthly fees of low-income people would in fact encourage them to value broadband more, and therefore use it and benefit from it more. However, they agreed that "regardless of pricing structure, a free or discounted tier available to low-income users should offer the same speed and other features available to households that pay full cost." And the panel called for providing free access at some locations likely to reach underserved groups, such as public libraries and homeless shelters.

The panel generated many ideas for digital inclusion programs, beginning with representation by underserved groups in the planning of municipal networks. The group asserted the importance of, and offered a number of detailed recommendations for, the provision of training, hardware, software, technical support, local content in multiple languages, and assistive technology for the disabled. In addition, participants averred that municipal networks serving a mix of urban and rural areas "should be required to make service available to all rural residents or assist them to set up their own community networks."

Quality of Deliberation

Because conference conferences are composed of small groups of deliberators who discuss issues together repeatedly and are exposed to considerable information, scholars and practitioners generally express high hopes for the quality of the deliberative experience (see Hendriks, 2005; Einseidel 2001). Here we examine two dimensions of high-quality deliberation – participants' levels of information about the issues under discussion and their ability to address differences of opinion – through responses to surveys administered to the community panelists prior to the conference, at the end of each of the three weekends of the conference, and one month after the panelists concluded their efforts. When appropriate, we compare change in the panelists' attitudes with a non-deliberating control group comprised of participants with similar demographic backgrounds. The control group was surveyed prior to the conference and one month after its completion.

Table 1 about here

Table 1 highlights participants' sense of their own levels of knowledge after each of the three consensus conference weekends. From the first weekend on, participants felt that they were receiving high-quality information about municipal broadband and that they were learning new information and considering new points of view. Clearly, participants had a strong sense that the conference was a good learning experience and that it exposed them to ideas they had not considered before. After the first two weekends, participants were, on average, unsure whether they understood enough to make effective recommendations, but by the end of the last

weekend, when their recommendations were complete, the panelists felt strongly that their policy recommendations were backed by sufficient information.

Figures 1a-1b about here

Of course, evidence of the participants' subjective sense that they were learning a great deal does show that the panelists did, in fact, increase in their understanding of the issues. For direct evidence of learning, we turn to open-ended knowledge items that were asked of participants and of a comparable control group who did not participate in the deliberations.[3] With these more objective measures, we again find strong evidence that participants' understanding of municipal broadband increased dramatically over the course of the conference. Figure 1a shows that many more community panelists understood the difference between broadband and dialup internet access after the conference. Whereas only two-thirds of panelists could describe the difference without prompting prior to the conference, more than 90 percent correctly answered the question one month after the conference's conclusion. Knowledge levels of a comparable control group also increased, but by only 7 percentage points, as opposed to the 25 percentage points from the community panelists. Not only did more panelists understand the differences between types of access, after the conference they were also better able to independently generate a significantly longer list of activities computer users could do with broadband that would not be possible with dialup access. As Figure 1b shows, community panelists were able to generate, on average, almost one more broadband advantage after the conference than before. Again, this increase is even more impressive when compared to the relative lack of change in the control panel.

Figure 2 about here

Similarly, the conference generated in community panelists a much better sense of how access to broadband within the United States compares to access in other countries. Whereas prior to the conference no community panelist knew that the U.S. ranks 12th among OECD countries in broadband subscribers per capita, fully three-quarters of community panelists identified the correct answer following the deliberations.[4] These dramatic patterns are shown graphically in Figure 2. Again, while the panel of deliberators showed substantial increases in knowledge, the control group exhibited essentially no change.

Figures 3a-3b about here

After the conference, community panelists also proved better able to recount arguments for and against municipal broadband. These changes are less dramatic in comparison with the control panel, and the change with respect to the number of arguments against broadband is especially small (though still in a positive direction). If quality deliberation is in part about the ability to offer reasons, however, community panelists show meaningful evidence of an increased ability to engage in substantive reason-giving. At the same time, the fact that the control panel also showed positive changes does raise the question of how much the increase is due to the deliberative experience itself and how much is simply the result of the increased attention to the issue of municipal broadband associated with some involvement with the project.

Figures 4-5 about here

Not only did community panelists come to know more about the issue of municipal broadband, but their attitudes about the issue changed in substantial ways. Whereas prior to the conference, community panelists were, on average, unsure about whether high-speed internet access should count as a luxury or a necessity, by the end of their deliberations, their opinions had moved sharply in the direction of regarding broadband as a necessity. As Figure 4 shows, average opinion moved more than one point on a five-point scale (approximately 20 percent of the scale), and this change remained largely intact nearly a month after their last group discussions. The control group was slightly more likely to see high-speed internet access as a necessity to begin with, but they exhibited none of the dramatic attitude change evident among community panelists.

In addition, and again in sharp contrast to the control group, community panelists came to feel a greater level of certainty about their opinions regarding municipal broadband. Prior to the conference, community panelists reported moderately strong opinions, with a mean level of 2 or "somewhat strong" on a 1 ("very strong") to 4 ("not strong at all") scale. By the last weekend of deliberations, nearly every panelist reported having "very strong" opinions about the subject. This high level of opinion strength waned slightly in the month after the conference, when participants' intense engagement with the issue had ended, but even so, participants still showed significantly stronger opinions (measuring, on average, 1.42 or somewhere between "very strong" and "somewhat strong") than they had before taking part in the group deliberations.

Beyond increases in knowledge about the substantive issues at stake, community panelists also came to perceive the complexity of opinion within the group. On at least some accounts, quality deliberation includes the ability to recognize points of common agreement, but also to give space for the possibility of deep disagreement when it exists (see, for example, Mansbridge 1983). Early in the process, community panelists focused primarily on the ways in which they agreed. The group quickly developed a strong sense of camaraderie and collective purpose, in part because they realized early on that they shared a common interest in championing the perspective of underserved communities.

Figures 6a-6b about here

This heavy focus on group solidarity was reflected in their evaluations of the first weekend, when very few panelists perceived significant divisions amongst themselves about the issue of municipal broadband. As Figure 6b reveals, most panelists strongly resisted the notion that "important disagreements" separated the panelists. In response to an open-ended query about what the panelists "disagreed most" about, many panelists could not name any point of disagreement. One panelist wrote, "I don't see any disagreements yet," and another commented, "There weren't any serious disagreements."

Over the course of the process, however, participants came to perceive a greater diversity of perspectives being discussed (see Figures 6a and 6b). This may be because with time, individuals felt freer to express their differences or because as their knowledge of the topic increased, they understood better their own unique interests and perspectives. Whatever the

reason, by the final weekend, participants reported an increase in disagreement about the policy issues under discussion as well as a much greater variety of perspectives. In other words, they came to see that their preferences and interests diverged in some respects. By the end of the final weekend, all twelve participants named at least one important difference of opinion among the group in response to open-ended queries.

These findings raise important questions about whether such heightened attention to difference represents a deliberative breakdown, especially in a conference explicitly dedicated to consensus outcomes. We interpret this increased awareness of diversity as a clear sign of deliberative quality, however. Attention to difference is an important part of the deliberative process, which aims to achieve common ground not by erasing distinctions between views but recognizing and, when possible, reconciling them. High-quality consensus does not mean an absence of disagreement, but rather a willingness to engage differences productively and to press forward together to achieve outcomes acceptable to all, even if some important disagreements remain (as they inevitably will in any real-world political process). The panelists' ability to achieve a hard-won consensus on the issues of public ownership and whether tiers of service should be free or merely discounted for low-income users are cases in point. The experience of the community panel thus appears to support claims that consensus-oriented deliberative processes must also incorporate elements of adversarialism to be successful, encouraging participants to explore their differences and allowing room for negotiating them, or even putting them to a majority vote (Karpowitz and Mansbridge, 2005). We note, too, that the facilitator's efforts included several exercises designed to help the panelists both recognize and productively discuss their diverse interests.

Table 2 about here

Moreover, it is also clear that the panelists' increasing awareness of difference came within the context of a strong commitment to each other and to the group process as well as a willingness to engage their disagreements in an atmosphere of respect and civic friendship. Despite their perception of more differences being aired as the conference proceeded, the participants generally found those different perspectives were welcome in discussion and that they were carefully considered (see Table 2.) Participants' tended to disagree with the statement that some perspectives were not adequately considered or discussed, although the panelists were somewhat less conclusive here. Yet they shared a strong sense that the panel respected each other's thinking even amidst disagreement and were not made uncomfortable by those disagreements. In the end, the panelists were able to come to a genuine consensus on ten pages of detailed recommendations. At the end of the third weekend, their mean level of agreement with the statement "I fully support all of the community panel's policy recommendations" was 1.5 on a scale from 1 (strongly agree) to 5 (strongly disagree) (SD=.492, p=.009).

Lessons for Public Engagement

Because analysis of the consensus conference experience is ongoing, with detailed investigation of both the discussion transcripts and the quantitative surveys still to come, this paper represents only an initial overview of the project. Even at this early point, however, several lessons about the strengths and weaknesses of the consensus conference as a means of

engaging underserved communities in the municipal broadband and digital inclusion policy process are emerging.

First, a drawback of the consensus conference is that it is a costly and labor-intensive format for engaging the public. Properly done, such a conference requires organizers to involve many constituencies in each step of the project, preparing materials to educate community panelists about the issues and expert and advisory panelists about the value of public engagement. Expert facilitation of the community panel is needed to support its deliberations and help it to achieve a consensus that is neither false nor trivial in its recommendations. By design, then, the traditional consensus conference is not a means for engaging large segments of the population. This means that a sensible strategy for involving the public in municipal broadband issues will likely include other forms of public participation. As we suggest below, we believe the consensus conference experience has given us valuable insights regarding how those other forms might be structured, including how they might incorporate some elements of the consensus conference. Similarly, we believe the lessons from the consensus conference will help us understand how that unique form of public engagement might complement other, more traditional methods for citizen input, including public hearings.

Second, for organizers there is a trade-off between the legitimacy gained by acting as policy-neutral educators and conveners of the public and a loss of control over the community panel's policy recommendations. Academic institutions are especially well-suited to playing the role of coordinating diverse stakeholders, educating the public, and facilitating their dialogue. Conversely, academics and advocates with strong commitments to policy positions play an invaluable role in the political process on behalf of the public interest, but that role is rather different from the consensus conference organizer. To be plain, the consensus conference organizer cannot ventriloquize community members to ensure that they say what we want them to say in the end. To do so would be to undermine the legitimacy of the exercise. Thus, this role is not for everyone, nor is it always the best way to support underserved communities' access. For example, at a stage in a municipal broadband project when issues and interests are more clearly defined, an advocacy role may indeed be more appropriate.

Regardless of its limitations, this model of public engagement also presents some great advantages. First, the consensus conference format is uniquely suited to increasing underserved people's understanding of the issues in a very brief time, to fostering community members' ability to deliberate about issues with others, and to facilitating their ability to come to consensus on policy matters. We suspect that community panelists, who knew little about municipal broadband and digital inclusion before the conference, learned far more than they would have from attending standard public hearings or from reading materials on their own prepared by one or the other side of the debate. In part, this is because community panelists committed to an intensive process of spending three weekends focused on the issues, but it is also likely that panelists learned more from having discussed the issue with each other and from being asked to come to agreement on policy recommendations, which involved weighing the pros and cons of each position and taking a variety of diverse interests into account. Whereas more traditional forms of citizen engagement are usually attended by those who already have developed opinions or interest in the topic, the consensus conference brings into the conversation those whose voices might not otherwise have been heard and helps them develop interest and proficiency in the

topic. Indeed, as we have shown, community panelists came to see the importance – even the necessity – of broadband for themselves and for their communities.

Second, the consensus conference format allows community members to introduce their own issues into the debate, rather than simply selecting among options provided to them. Many public engagement efforts directed by government or industry involve presenting a finished plan to the public for comment or giving them a restricted range of options to approve or reject. The public is rarely asked to help set the agenda. In contrast, the consensus conference allowed the community panel to raise their own issues as well, and the panel raised several that the organizers had not introduced in the background briefing paper, for the sake of simplicity. These concerns included protecting privacy and security and ensuring public participation in planning and overseeing municipal broadband projects. The panel made a number of specific recommendations about these issues.

Third, the consensus conference process confers a unique legitimacy on underserved communities' policy prescriptions. Involving industry, government, and nonprofit access advocates in overseeing the project, in recruiting the community panel, and in testifying at the hearing offered a number of advantages over the typical public hearing conducted by government agencies or the standard community-based organization's public education/organizing meeting. The process used generated buy-in from a broad group of stakeholders. The organizers especially got the attention of Wireless Silicon Valley. Representatives from WSV participated in the advisory panel, testified at the public hearing, and met with the conference organizers afterward to discuss the community panel's recommendations and ways of involving the public in their digital inclusion efforts. Because this is an ongoing conversation, it is too early to make any claims about the direct or indirect policy impacts of the conference, and in any case such effects are especially difficult to measure. However, our experience suggests that in the early stages of a municipal broadband project, in the absence of public attention to or understanding of the issues, a consensus conference can be a valuable first step in catalyzing discussion and attracting attention from community-based organizations that represent underserved groups, as well as from more established policy actors in government and industry. In the earliest phases of public engagement, there is little to be gained from processes of consultation, such as public opinion polls, that might reach a representative sample because the public knows so little about the issues. In addition, one way of overcoming the narrow sample of participants in a consensus conference would be to involve larger numbers of community members by partnering with other organizations, such as schools, to conduct their own small-group deliberations using the same briefing materials and public hearing. This would be a way of extending public dialogue to larger numbers of people without losing the benefits of well-informed, face-to-face discussion in groups.

We emphasize, again, that these are our initial impressions and that considerable work remains to be done in evaluating the conference and its effects. We look forward to exploring further the meaning of consensus, the ways participants came to understand the substantive issue of digital equality, and the efficacy of the consensus conference as a means of civic engagement. Even at this early stage, however, we believe we have identified important insights into the conference dynamic and its effects, and we believe these insights can be useful to others interested in promoting civic engagement on technology policy.

Table 1. Community Panelists' Views of their Knowledge

Question	Weekend 1 Mean	Weekend 2 Mean	Weekend 3 Mean
The conference organizers provided sufficient information to enable the community panelists to make informed policy recommendations	1.5 (.82)	1.4 (.79)	1.3 (.45)
I learned new information about the issue of broadband access that I did not know before this weekend	1.2 (.40)	1.1 (.29)	1.5 (1.17)
This weekend's community panel discussions are helping me see new perspectives I had not considered before	1.3 (.47)	1.5 (.67)	1.4 (.90)
I do not yet understand enough to make a good recommendation about municipal broadband policy	3.0 (1.13)	3.3 (1.38)	4.7 (.89)

Note: All responses are on a 1-5 scale, with 1 meaning "Strongly Agree" and 5 meaning "Strongly Disagree", Standard Deviation in parentheses.

Figure 1a

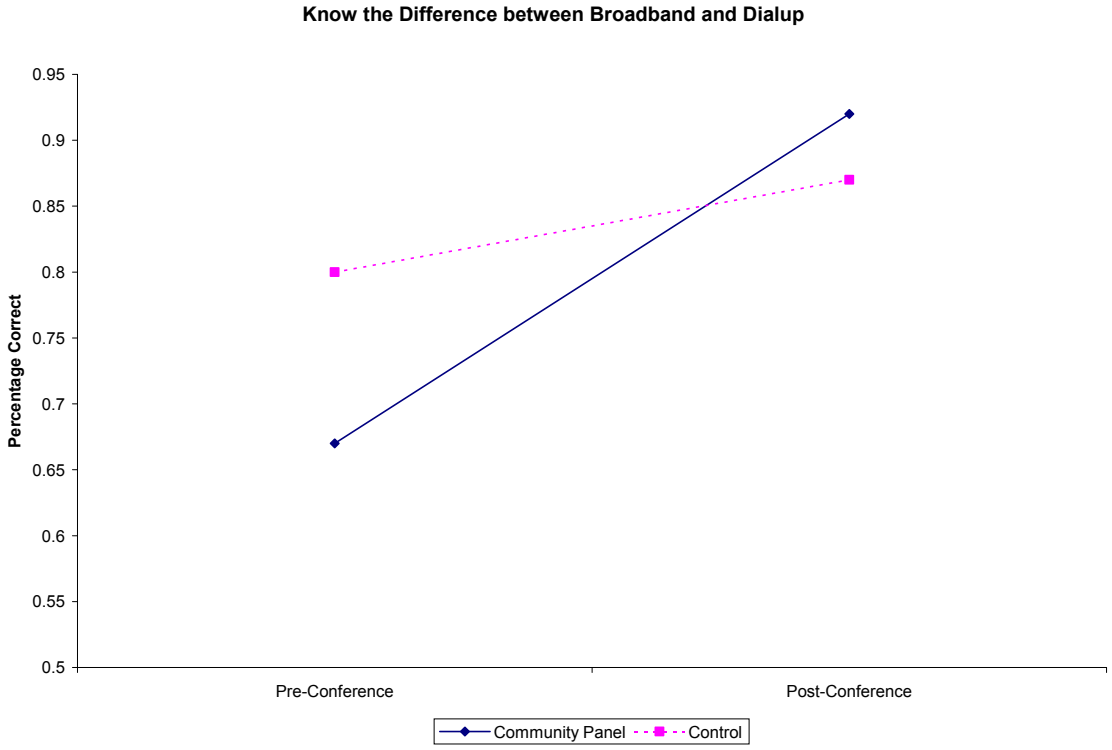


Figure 1b

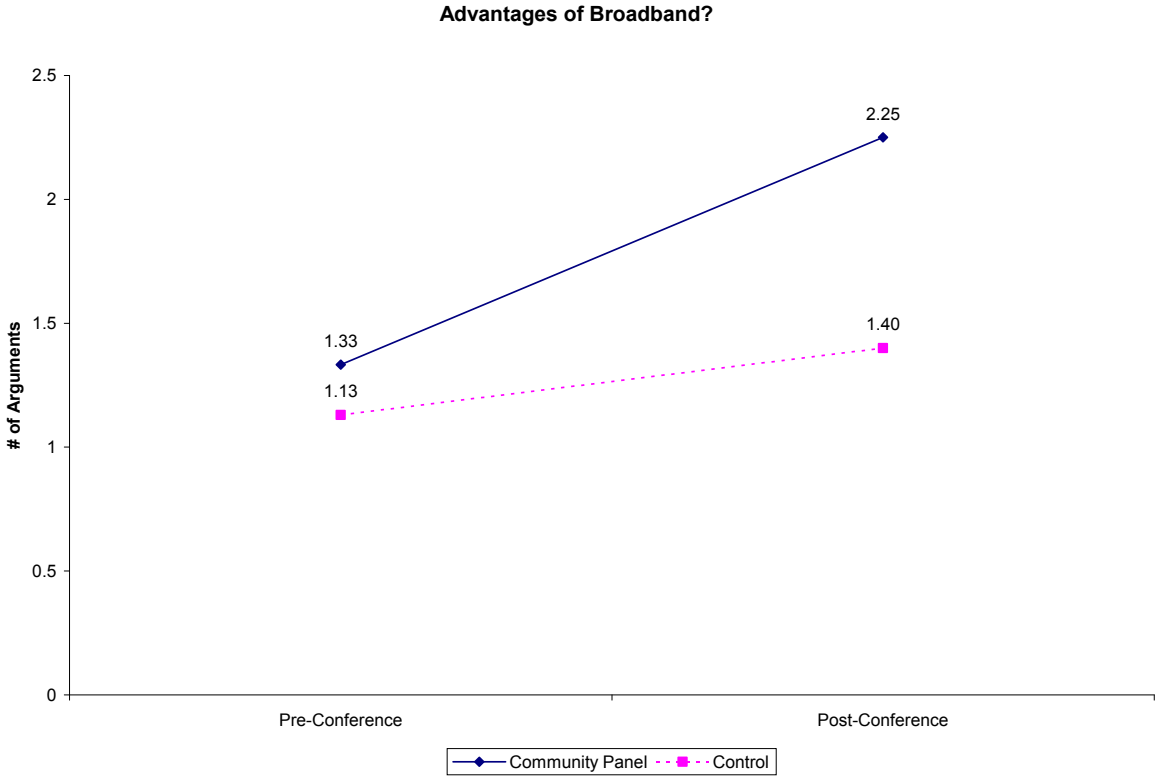
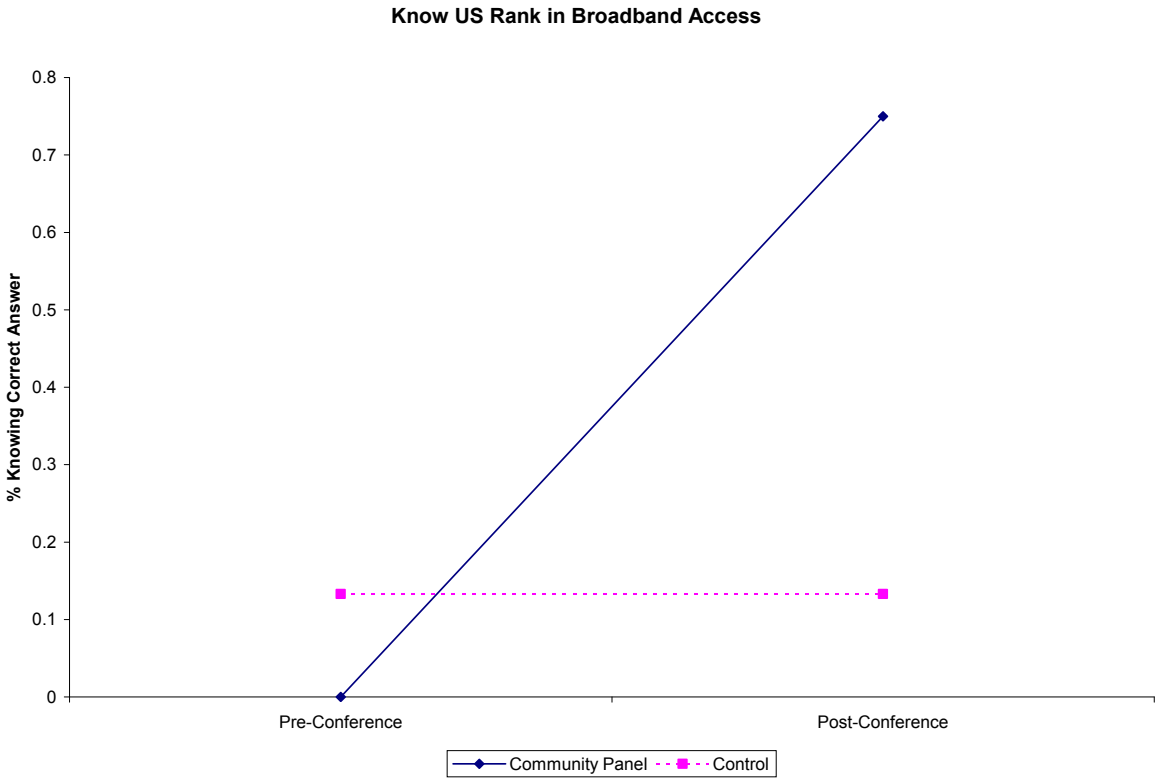


Figure 2


Know US Rank in Broadband Access
% Knowing Correct Answer
0.8
0.7
0.6
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0.3
0.2
0.1
0
Pre-Conference
Post-Conference
Community Panel
Control

Figure 3a

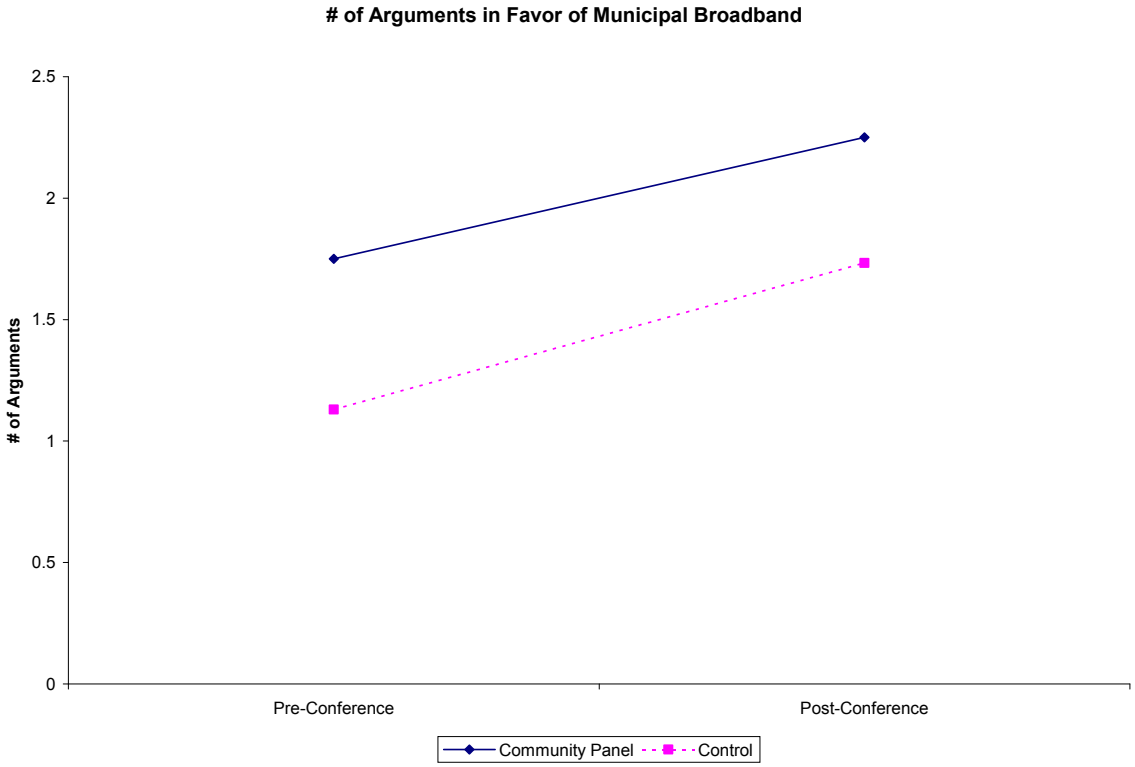

Figure 3b

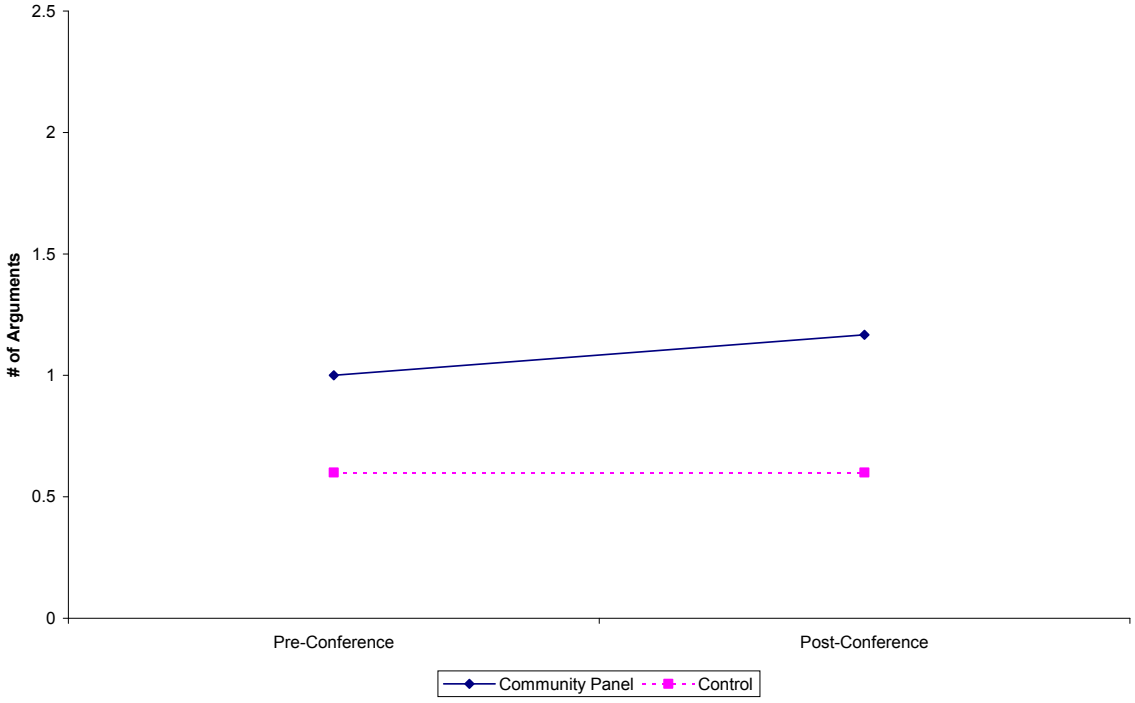

Figure 4

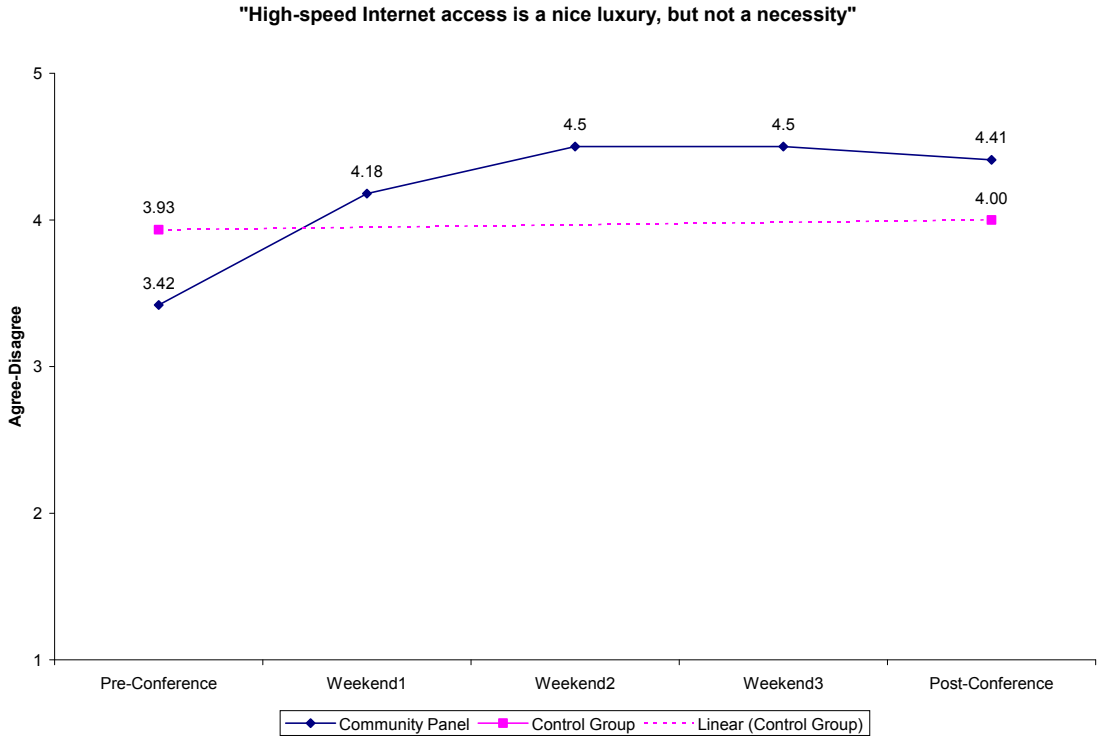

Figure 5

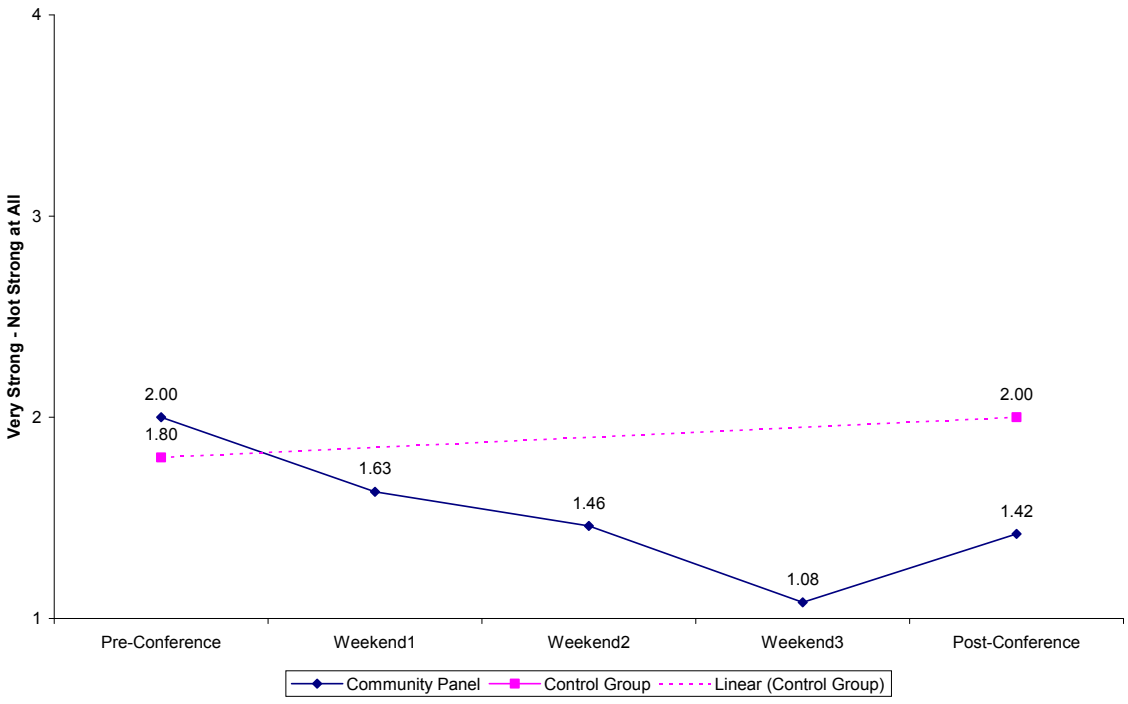

Figure 6a

"Using a scale from 1 to 7, with one meaning "not diverse at all" and seven meaning "very diverse", how diverse were the points of view expressed during the conference this weekend?"

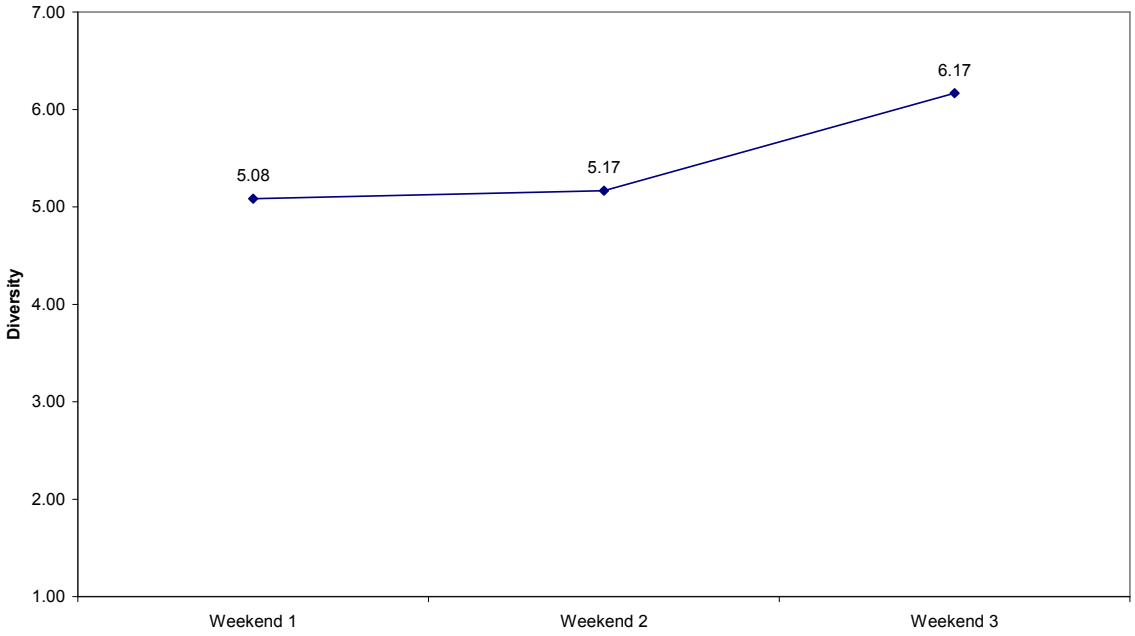

Figure 6b

"At the end of this weekend, important disagreements remained among community panelists regarding the issue of municipal broadband policy."

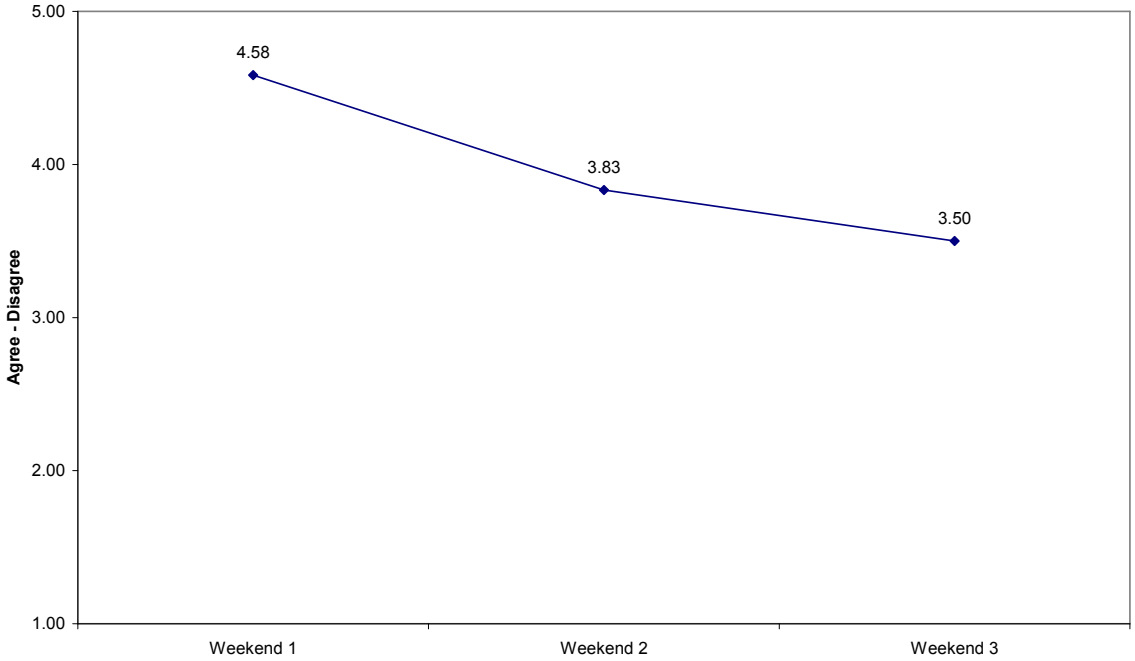

Table 2. Community Panelists' Views of the Quality of Deliberation

Question	Weekend 1 Mean	Weekend 2 Mean	Weekend 3 Mean
All different perspectives about municipal broadband were welcome during the group discussions	1.5 (.82)	1.3 (.65)	1.5 (1.00)
The community panelists carefully considered all sides of the issue	1.5 (.68)	1.8 (1.03)	1.5 (.80)
Some important perspectives or ideas about municipal broadband were not adequately considered or discussed	3.5 (1.37)	3.3 (1.30)	3.9 (1.44)
Community panelists respected each other's ideas, even if they disagreed about some important issues	1.5 (.82)	1.4 (.51)	1.4 (.79)
The group discussions this weekend made me uncomfortable because there was so much disagreement	4.9 (.30)	4.6 (.79)	4.4 (1.24)

Note: All responses are on a 1-5 scale, with 1 meaning "Strongly Agree" and 5 meaning "Strongly Disagree." Standard Deviation in parentheses.

NOTES

[1] The project was funded by grants from the Community Technology Foundation of California and from the California Consumer Protection Foundation.

[2] All quotes from the community panel's recommendations are from Broadband for All? (2006).

[3] The control panel was comprised of individuals who had expressed an interest in joining the community panel, but who were not selected. Organizers worked to ensure that the control panel had similar demographic characteristics to the community panelists as well as similar levels of interest in the topic.

[4] Answers were given in response to the following open-ended question: "Imagine a list that ranked the countries of the world by what percentage of their residents had access to broadband internet. The country with the highest percentage of residents who had broadband access would be first on the list. What number on this list do you think the United States would appear?" In both the pre- and post-tests, correct answers were counted as a ranking of between 10 and 14 or if they did not provide an exact number, a more general answer that expressed familiarity with the idea that the United States ranks low relative to other similar countries.

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Appendix A

Final Report
and Recommendations

Introduction

Some local governments across the USA have commissioned their own high-speed Internet networks, and many other counties and cities are considering it. They believe "municipal broadband" will help make the Internet more available and affordable. But some Internet providers have questioned whether governments have the expertise to ensure these networks are economically viable and do not compete unfairly with existing private broadband service. And it is not always clear how municipal broadband will reach underserved groups that are least likely to have Internet access now.

Between September 30 and October 15, Santa Clara University's Center for Science, Technology and Society and the Broadband Institute of California held a consensus conference on municipal broadband in Silicon Valley, which will soon be blanketed by a municipal network that could reach over 40 cities and 2.4 million residents. The conference was funded by the Community Technology Foundation of California and the California Consumer Protection Foundation.

The Community Panel

Consensus conferences have been used worldwide to engage the public in making well-informed judgments about complex technical issues. This conference involved assembling a diverse community panel of Silicon Valley residents from underserved groups. On the first weekend, community panelists learned about the issues by reading and discussing background briefing papers and defined their questions about municipal broadband. On the second

weekend, the organizers convened a public hearing, where policy experts from government, industry, and community organizations offered a range of perspectives in response to the public panel's questions. On the third weekend, the community panelists reached consensus on policy recommendations for local governments. An advisory panel of stakeholders in the public, private, and nonprofit sectors oversaw the fairness and comprehensiveness of the criteria for choosing the community panel, the briefing materials, and the presenters at the hearing.

These are the community panel's questions, evaluations of the issues, and recommendations.

1. Should Cities Be Involved in Municipal Broadband?

Evaluation

The panel believes that government involvement in broadband networks, including wireless broadband networks, provides significant benefits to people that currently use the Internet and people that do not currently use the Internet. New networks can provide greater mobile access, lower broadband costs, improved access to content, including government information and services, and more provider choices for consumers.

While some argue that governments are too inefficient to provide service, or that government involvement in broadband represents unfair competition with private companies, the panel believes these concerns are outweighed by the benefits of government involvement.

While private companies will focus on their economic interests, governments are more likely to consider a broader range of issues such as such as maximizing public benefits, digital inclusion, access for disabled consumers and non-English language speakers, privacy and security, rural access, training and education, and public involvement and outreach.

Recommendation

a) The panel believes municipal governments should be involved in commissioning broadband networks, in particular to ensure service to the underserved (i.e., low-income, rural, physically challenged, non-English language speakers, seniors).

2. How should municipal broadband networks be paid for and run to maximize public benefits, especially to underserved communities?

Evaluation

Broadband is important infrastructure. The panel believes that unless governments are involved in the deployment of broadband networks, underserved communities will not be served by these networks.

Municipal governments have knowledge of underserved communities and a history of serving them. Municipal government involvement is also likely to lead to more local employment. However, local governments can be less efficient than private companies in operating networks.

Municipal governments can require that private companies operate the networks in ways that maximize public benefits. Since public resources are being used by private companies, including utility poles and public rights-of-way, the panel believes municipal governments have an ongoing stake in how the networks are managed.

Because of its extraordinary technological and economic resources, Silicon Valley should set the standard for the rest of the nation.

Recommendations

a) Municipal governments should be involved in developing and controlling broadband networks and should require private companies to operate the networks in ways that provide public benefits.

b) Municipal governments involved in commissioning networks should use the competitive bidding process as a way to maximize public benefits. For example, competitive bids should be evaluated on their plans to provide digital inclusion programs.

c) Both public and private entities should be involved in network oversight. For example, a broadband oversight committee could be established with equal representation of public, private and municipal interests. Ongoing public input should inform decisions about these networks. However, private companies should build and operate the networks.

d) Public funding, private funding or a combination of the two could be used to finance networks.

e) Municipal governments should set reasonable tiers of service that cover basic needs, including privacy and security.
   - Free access should be provided at some locations, such as schools, libraries, employment offices, shelters (for the homeless, battered women, etc.), emergency service providers and government and non-profit agencies that serve underserved communities.
   - Privacy and security protections should be made available equally across all tiers of service.
   - Regardless of pricing structure, a free or discounted tier available to low-income users should offer the same speed and other features available to households that pay full cost.

3. What "digital inclusion" efforts, if any, should be part of municipal broadband networks?

Evaluation

When some members of a community do not have access to broadband because of their economic circumstances, they miss out on basic social, economic, and political opportunities. Digital inclusion efforts are an important way for municipalities to invest in their residents and to

create true equality of opportunity. While digital inclusion will increase the cost of municipal networks, such costs are offset by increased economic opportunities for those with the greatest needs.

The community panel worries about potential “disconnects” between the underserved and other stakeholders in broadband networks. Those who plan such networks need to reach out actively to underserved communities and strive to see the digital world from the perspective of those who have the least. Making claims about "broadband for all" without understanding the needs of the underserved could create a false – and ultimately disappointing – level of expectations.

Most fundamentally, digital inclusion efforts are necessary because the finest broadband network in the world will be of little aid to those who do not have the hardware and software to access it.

Recommendations

a) Because digital inclusion should be a core goal of municipal broadband networks, a Task Force on Digital Inclusion should be established. The task force should:
   - Include representatives from underserved populations.
   - Contribute at every stage of the process with all relevant stakeholders.

b) Because hardware and basic software is essential to accessing the Internet, the community panel recommends that providing such equipment to low-income households be part of any municipal broadband network.

c) Digital inclusion means bringing the outdoor network indoors. Many members of underserved communities (the elderly, for example) are not likely to use an outdoor network. For them, equal access to broadband means a secure connection inside their homes. The panel recommends that hardware provided to low-income households should include a wireless bridge or modem to bring the network indoors.

d) The cost of digital inclusion programs should be addressed at the beginning of the process.
   - Digital inclusion should be included in the request for proposals (RFP) process, with competitive bidding.
   - Municipalities and network providers should create a digital inclusion fund from one or more of the following sources:
     - Money upfront plus a percentage of annual revenues from service providers.
     - Philanthropic contributions and federal or state grants.
     - Taxes and public financing.
     - Seeking discounts from hardware and software providers.

e) Digital inclusion efforts should include education of underserved communities, who need to understand why the Internet is important to them.
   - Such efforts might include a traveling "Techmobile" (similar to the library's bookmobile), which would work with schools and community-based organizations to give underserved communities a chance to try the Internet, to understand

better why it is useful for them, to sign up for more education and training, and to offer feedback about how broadband networks could serve them.

f) Digital inclusion efforts should be tailored to the needs of each community. Those who plan and create broadband networks need to be on the ground, in the places where the underserved live to find out what is needed most.

4. How should municipal broadband networks be made accessible to people with disabilities and Non-English language speakers?

Evaluation

Broadband can significantly enhance participation in the workforce and society for people with disabilities. But because people with disabilities are also disproportionately low income, they face a double barrier to broadband access: lack of accessible technologies for using the Internet and the high cost of service. Internet hardware, software, and content are not always designed to be compatible with assistive technologies adapted to the needs of people with limited vision, hearing, dexterity or mobility, such as screen reader programs for the blind. People who rely on assistive technologies are often limited to using the Internet in places where it is available, which may not include public libraries, schools, or others' homes. The disabled, a majority of whom are unemployed, are less likely to have workplace Internet access.

Accessibility to municipal broadband networks for the disabled needs to be considered at three levels: the network hardware, software and content provided by the network operator and the municipality, and users' hardware and software. At each level, municipalities should observe the spirit of the Americans with Disabilities Act Guidelines for Accessible Design.

In addition, language barriers keep many from using the Internet. The Internet is an increasingly important medium for informing Non-English language speakers about current events and government in the USA and their countries of origin, culture and entertainment, and how to become involved in their local communities. Content offered in languages other than English can also benefit English speakers by helping them learn additional languages and exposing them to additional viewpoints on public issues.

Recommendations

a) Municipal broadband networks must be compatible with widely used assistive technologies. Any software and content offered by network providers and municipalities should interact seamlessly with these technologies.
   - For example, online customer support and security protection programs provided by the network operator should be compatible with major screen reader programs for the blind.

b) In addition, digital inclusion programs should make assistive technologies available to users of the network.

c) Digital inclusion training programs for people with disabilities should consult and partner with existing adaptive technology departments of local colleges, nonprofit agencies, and computer training programs.
    - Outreach about training should be provided through agencies that already serve the disabled (by offering rehabilitation services, paratransit, etc.)

d) Municipalities and network providers should strive to offer technical support and home pages in multiple languages most commonly used in the community, in a cost-effective manner, using community agencies, volunteers or professional translators whenever possible.

e) English language content provided by municipalities and network providers should be in simple language illustrated with images for ease of reading and translation by Non-English language speakers.

5. What is the role of privacy and security on the network? How do we protect privacy and security?

Evaluation

As more new users receive broadband service, issues of privacy and security become more important. Users need to understand the risks and security issues involved in accessing the Internet, such as identity theft. Otherwise they will be unable protect their personal information, their financial security, their privacy, their identities and their families.

Users are often unsure how the information they provide to the broadband provider will be used. And there are questions regarding whether providers or customers own user information, such as registration information and lists of websites users visit. Users have a right to keep their personal information personal. If they do not feel their information is secure they will be less likely to use the network.

While the panel believes that users are responsible for protecting their privacy and security online, it believes also that providers and governments should take steps to protect users.

Recommendations

d) Local governments should affirm that users own their personal information. Registration information and information about users' online behavior is owned by users and not proprietary information owned by the broadband provider or municipal governments.

e) Broadband providers should be responsible for ethical and legal standards in how user data is handled. Providers should not track or sell personally identifiable information to third parties. Providers should be able to use information in aggregate as long as it does not reveal personally identifiable information. Providers should not provide information to government entities without a court order.

f) Internet service providers should provide easily accessible information about security and privacy risks.
   - Users should be clearly notified by the service provider about what security or privacy levels and what protections they have.
   - Security and privacy information should be provided in easy-to-understand, non-technical language.
   - FAQs and support information should be provided.
   - When possible, information should be provided in multiple languages, based on the demographics of the community.

6. How can the public become involved meaningfully in planning, implementing, and operating the network?

Evaluation

The needs and perspectives of *all* community members, including the underserved, need to be included in every stage of broadband network planning, implementation, and operation. Municipalities should encourage public participation processes that involve the entire community. The general public can bring important insights to the table that providers may not be aware of; sometimes the most basic concerns escape the attention of "experts." Public involvement ensures that user concerns and issues will not be overlooked or become a mere afterthought.

Because the public has a valuable contribution to make, genuine public participation, including active outreach to underserved communities, needs to start early in the process, well before the equipment starts going up. Outreach efforts need to include more than simply consulting elected representatives. The public interest can best be discovered by consulting the public directly. The public needs to become aware of the issues and contribute to the process before the critical decisions are made. This is also the most cost-effective approach to public participation.

Some may worry that many community residents, and especially members of underserved communities, are not capable of understanding complicated technical issues or that public involvement will unnecessarily slow the process of broadband network deployment. The community panel feels strongly, though, that high levels of technical expertise are not necessary to offer valuable ideas about how the network will affect the end user. Involving the public, especially the disadvantaged, will likely mean active outreach and offering incentives to participate.

Recommendations

d) Public involvement should begin at the earliest stages of the process and continue after the network is up and running. A broadly representative public advisory board which includes members of underserved communities should be involved at every stage.
   - At the earliest stages, the public advisory board should contribute to the development of the RFP and to the partnership(s) formed to respond to the RFP.

Later in the process, the advisory board should work to ensure that network providers follow through on their promises to users.

e) Public forums and hearings should be held in a variety of venues at all stages of the process. Municipalities should also consider new and creative means for involving the public. Such opportunities should allow for greater levels of deliberation among community residents and frequent two-way communication between residents and other stakeholders.
   - Aggressive recruiting and incentives for public involvement are critical, especially since the underserved may be the most reluctant or least able to participate.

f) As municipalities or regions consider building networks, pilot projects can be designed to encourage immediate public involvement, test recommendations, and evaluate different models.

7. What services should be provided to rural areas?

Evaluation

Broadband could provide important benefits to rural areas. Small businesses and farms can access information that can make them more efficient and able to develop new markets for their goods. New residents can be attracted if telecommuting to work is available. Distance learning can offer more educational opportunities in areas with few schools and libraries. Government services are more accessible online. Local broadband could help boost social interaction and community involvement in isolated rural areas.

However, private broadband providers are less willing to build networks in rural areas because it is not as profitable as serving densely populated areas. Residents may be less aware of the benefits of broadband. Telecommunications infrastructure is often harder to maintain than in more populated areas and providers tend to repair it more slowly.

To provide equal opportunity for all, government often must become involved in initiating rural broadband networks, with priority to low-income areas.

Recommendations

a) Municipal broadband networks that serve rural areas, or a mix of urban and rural communities, should be required to make service available to all rural residents or assist them to set up their own community networks.
   - Such service may be paid for by a combination of federal subsidies, private grants, donations from corporations and community businesses, and advertising on the network.

b) Nonprofit-government partnerships could:
- Coordinate nonprofit computer refurbishers to supply equipment to residents.
- Coordinate technical support and network repairs, perhaps via volunteer networks (like rural fire departments).
- Provide social networking software and community content on home pages of rural networks.
- Urge government policies that expand the reach of wireless broadband in rural areas, such as WiMax or other advanced technologies.

8. How should users be trained and educated to protect their interests online?

Evaluation

Many people lack basic knowledge about computers and the Internet. A broadband network serves the community best when all residents understand the *necessity* of computer literacy in today's society as well as the many ways in which broadband access will open the door to increased opportunity.

Basic education and training is needed because despite all its advantages, the Internet can be an overwhelming and potentially dangerous place, especially to new users. Community residents need to know and use basic safe practices.

Education is especially important for parents, whose children may be more comfortable with Internet use than their parents. Parents should learn about the uses and abuses of the Internet and about the activities their children are engaging in online. Parents and children need to learn to communicate effectively about Internet use.

The community panel recognizes that education and training efforts will involve increased costs for the broadband network, but the panel also believes that training programs can themselves generate economic opportunities and growth.

Recommendations

a) Whenever possible, training programs should emphasize small group instruction and peer-to-peer teaching methods.
- Municipalities should identify existing government and nonprofit agencies that are prepared and/or willing to provide training, such as senior centers, youth centers, schools/adult education facilities, and libraries.
- Education and training programs should take full advantage of an area's technology resources and incorporate volunteers whenever possible.
    - Municipal-business partnerships should bring those with computer expertise, including technology companies, technology entrepreneurs, and students, into neighborhoods, schools, and community organizations where they can educate and assist underserved communities.

b) Municipalities should explore the possibility of seeking federal, state and corporate grants to fund training programs. Because such grants are not likely to cover the entire cost, partnerships between municipalities, community organizations, and area businesses should be encouraged.

c) Training programs should include education in basic security and the potential dangers of Internet use – "Security 101." Users need to know how to protect themselves, and they need to know what security measures network providers are – and are not – taking. Training classes should emphasize that people need to be proactive in taking personal responsibility for avoiding identity theft and fraud.

d) Training should also include basic skills, such as how to set up and use an email account; how to protect one's passwords; and how to access critical sites, such as social services. Users should know how to evaluate a website for legitimacy and security.

e) Training opportunities should be designed to reach as many community residents as possible.
   - Training opportunities should be publicized widely, targeting media and locations that reach underserved communities.
   - Training should be available in different languages, based on the demographics of the community.
   - Training and education programs should be designed for all age groups and for people with physical challenges.

f) Education and training efforts should make use of content or portal sites like OneEconomy's "Beehive" – a central place to connect to government services, as well as educational and job opportunities. Content on such portal sites should be tailored to each community.

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The ***California Consumer Protection Foundation*** administers consumer trust funds and distributes grants in the public interest.