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## **Community Broadband Snapshot Report™**

# **Moving the Needle Forward on Broadband and Economic Development**

**National survey analysis report prepared by:**



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## Executive Summary

This August and September, in partnership with the International Economic Development Council (IEDC), I conducted a national survey of IEDC members and others affiliated with IEDC. The primary goal was to better understand how broadband as a community asset impacts economic outcomes. A secondary goal was to provide a reality check to errant claims about broadband and those outcomes.

Nearly 1,000 professionals responded to the e-mail announcing the survey, and 365 recipients completed the survey. The majority of those responding (83%) are senior administrators, managers and staff members working mainly in economic development agencies, local and state government or nonprofit organizations. About 10% of respondents are economic development consultants.

30% and 29% of respondents serve cities and counties respectively. 21% serve regions within their states. There is a heavy representation of rural communities (36%) and 20% of respondents serve a combination of rural, urban and suburban communities. Respondents overall represent areas with wide ranges of populations.

The survey results paint a picture of the state of broadband in U.S. communities. This year's survey asked participants about the presence of wireless and fiber networks, their business models (private-owned, muni networks, co-ops, etc.), the levels of broadband competition and plans for building new community networks. One of the interesting findings is that approximately 12% of respondents' communities plan to start building broadband networks in the next 18 months. Another 22% hope to build a network at some point in the future.

When responding to questions about broadband's impact on various economic outcomes, quite a few participants contradict the positions of policymakers and politicians on several issues. For example, even though politicians from DC to city halls promote the value of broadband in helping low-income individuals find a job, only 11% of respondents believe this. 64% reject conventional broadband remedies for urban areas to say "faster speeds, cheaper services" will have the biggest impact on economic development. The value of computing centers and adoption programs is compromised by dilapidated broadband infrastructure in poor communities.

Survey participants (over 90%) continue to dismiss the FCC's definition of broadband as 4 Mbps down and 1 Mbps up as being sufficient to produce economic outcomes. Respondents in general and those from rural communities in particular, heavily favor 100 Mbps as the minimum speed needed to improve local economies. The remainder of the survey addressed broadband competition, recommended business models and various methods of funding broadband buildouts. The open-ended question at the conclusion of the survey adds a qualitative dimension to the survey as respondents add their personal comments.

## Introduction

Quite a few people view broadband as a service they pay for to get access to information or entertainment, or as a way to send data files from point A to point B. They are missing a HUGE point. Broadband, from a community perspective, is an asset – a thing that has value and adds value to people, places and things.

When UTOPIA, the Utah regional broadband project linking 16 cities and towns, offered residents the opportunity to invest \$3000/home to bring fiber cable to their house, 31% of UTOPIA member Brigham City seized the opportunity. They saw broadband as an asset with short-term benefits, plus when it is time to sell, owners will find built-in broadband increases the value of their major asset, their homes.

Mitchell, SD views broadband as an asset. Starting in 2002 the town orchestrated the efforts of the local Internet Service Provider (ISP), several technology companies and the area college to use that asset to build a local telecommunications industry. Today hundreds of individuals with backgrounds and education in engineering, telecommunications, marketing, software development and business management live in the region fortifying an ecosystem that builds upon itself.

While broadband also facilitates better education, improved healthcare delivery and more effective government services, the survey of IEDC members assesses broadband as an economic development asset. Every year I survey the professionals whose job it is to improve local economies to learn what role broadband can or should play in communities as an economic engine.

As you read this report, let part of your subconscious wrap itself around the idea of broadband as a community-building asset, not just a commodity that easily could be sold – or offered free – at the neighborhood burger joint. Granted, the data and feedback here is a snapshot revealing just some of what it takes to use broadband to produce certain economic outcomes. But it is a good jumping off point for creating local broadband strategies best suited for your community needs.

## **I. Survey Background**

I began working with the International Economic Development Council (IEDC) in 2006 to survey their members' views about how broadband was impacting local economies. The driving force behind this effort was pretty basic – skepticism. As a broadband business strategy consultant, I doubted many politicians and policymakers accurately understood broadband cause and effect.

Mayors across the country and around the globe preached the gospel of broadband's ability to produce certain economic outcomes. Initially, elected officials told constituents, "we need muni WiFi to convince kids who've gone away to college to move back." "Muni WiFi will help increase our convention business." In the past year, a frequent refrain is, "we need broadband so low-income people can find jobs."

The problem is, when leaders promote expectations that broadband cannot produce, or misses the bigger impacts the technology can have, they set constituents up for big disappointments. Broadband does not reach its potential to become community assets, and in fact, the broadband movement may be set back a couple of years. Eventually local and federal governments may end up spending a lot of money the wrong way expecting the wrong outcomes.

The surveys that I conduct, therefore, attempt to uncover answers to questions such as:

- are the often repeated economic outcomes attributed to broadband consistent with the experiences of those who do economic development for a living;
- what types of broadband technologies are best suited for the various expected (or hoped for) economic outcomes;
- do some of the main national and state broadband policy decisions help or hinder the technology's effect as an economic development driver?

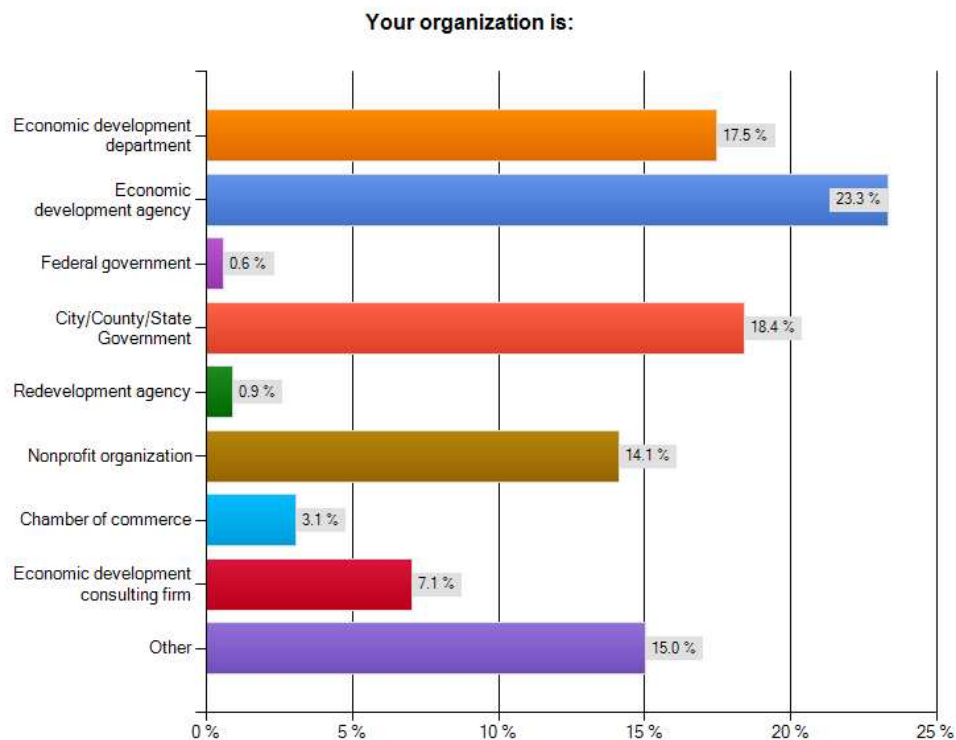
Between one-third and half of the questions have been the same or similar since 2010 in order to provide an evolving picture of certain issues. For example, data for the past three surveys show a steady increase in the direct impact wireless and wired broadband have on key economic outcomes influenced by the technology.

In addition to gathering quantitative data, the survey also has gathered qualitative feedback through open-ended questions that ask respondents to answer freely with their opinions. These comments are included in a separate document. Reading these has given the reports' readers some subjective information that usually expands on what the numbers gathered for some of the previous questions indicate.

## II. Profile of Survey Respondents

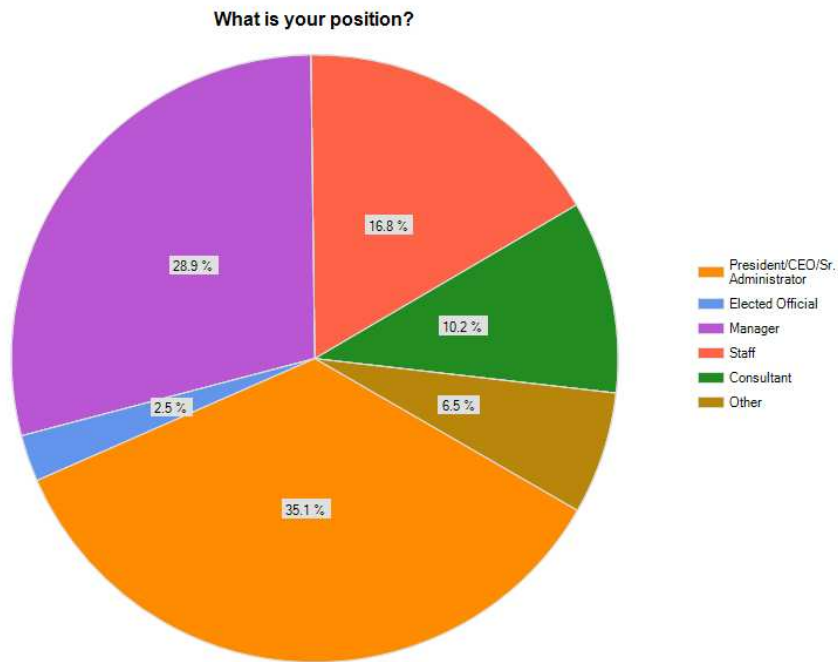
365 economic development professionals and consultants from the United States completed the survey. As shown in **Figure 1**, a sizeable 40.8% of survey respondents work in economic development departments or agencies within their jurisdictions, and 7% work for economic development consulting firms. Nearly 20% bring expertise from a city, county or state government. 14% of respondents work for nonprofit organizations.

**Figure 1.**

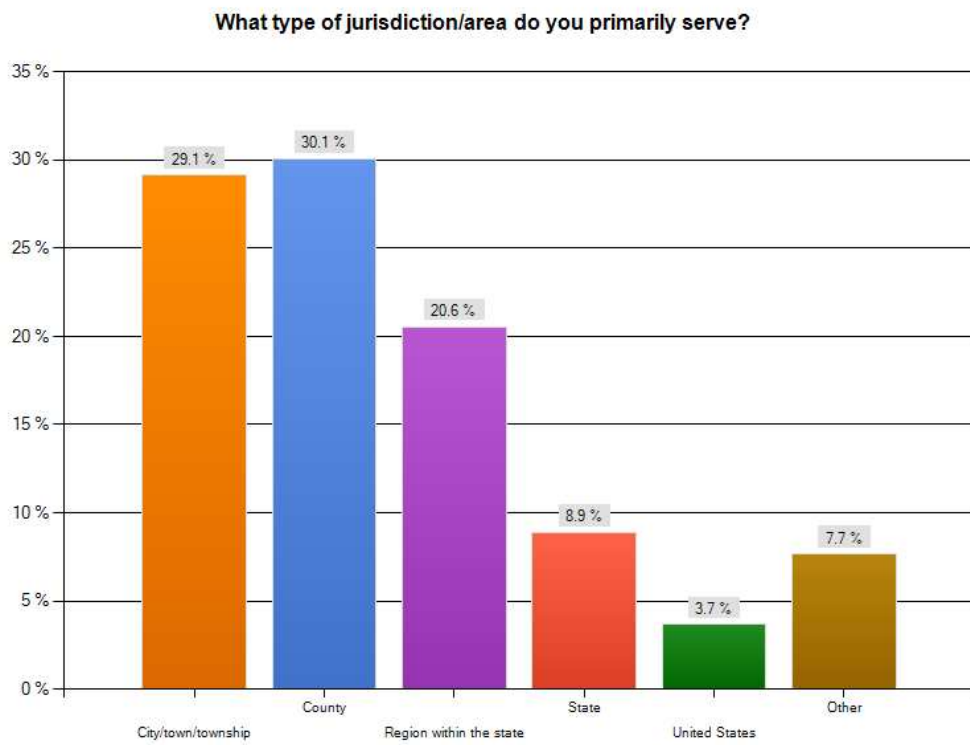


In **Figure 2** we see that the majority of survey respondents are collectively presidents and administrators (35%), managers (29%) and regular staff (17%). The remaining respondents have consulting or other roles within their respective organizations.

**Figure 2**



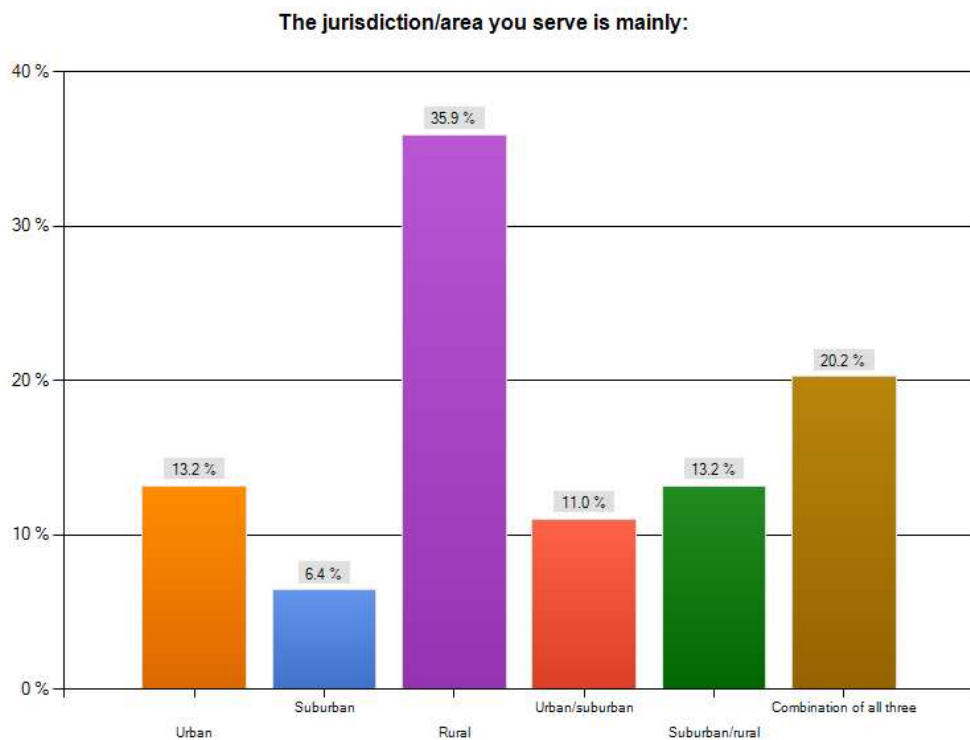
**Figure 3.**



In terms of their jurisdictions (Figure 3), 59% of those surveyed primarily serve cities, towns and counties. Nearly 21% serve a region within their state, while the remainder of respondents serves their entire state, the United States or some other area.

In this year's survey, over one-third of respondents (35.9%) describe the jurisdictions they serve as rural, and another 13% say they serve suburban/rural communities (Figure 4). 20% of respondents say the respective areas they serve are a combination of urban, suburban and rural communities. 13% and 7% respectively say their areas are just urban or just suburban. The remaining 11% serve jurisdictions comprised of mixed urban/suburban areas.

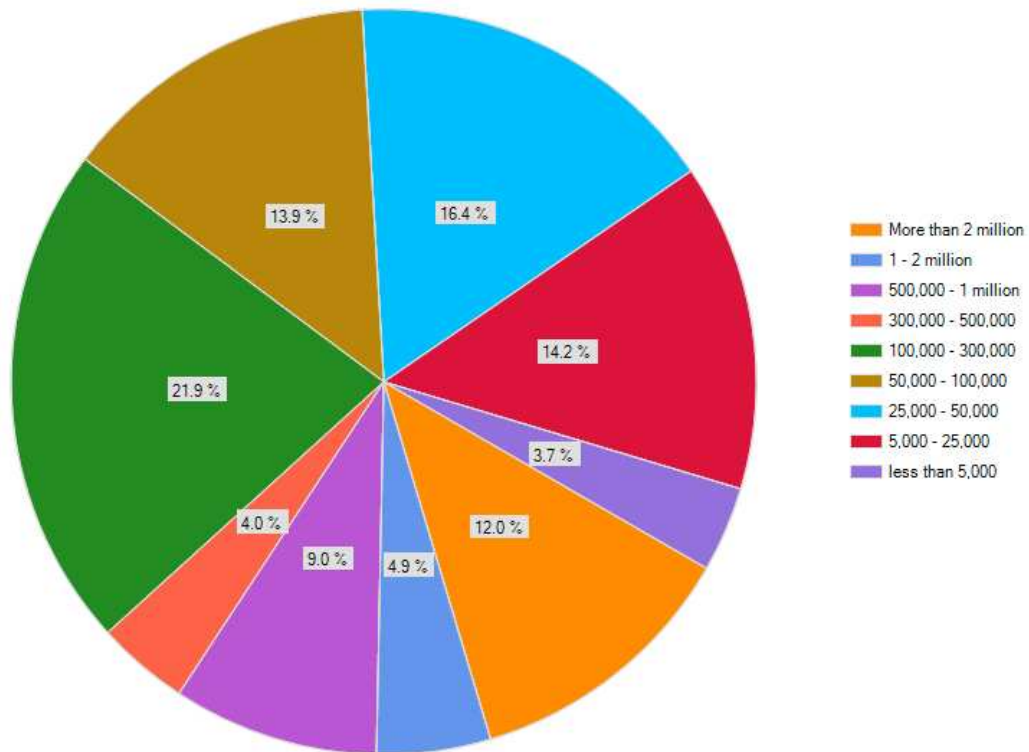
**Figure 4.**



As you can see in Figure 5, the areas served by respondents represent a good mix of small, mid-size and large areas. Readers should not assume that an area is the same as one single city just based on populations. A respondent who is responsible for a county or region could easily be responsible for hundreds of thousands of constituents.

**Figure 5.**

The population of the jurisdiction/area you serve is:





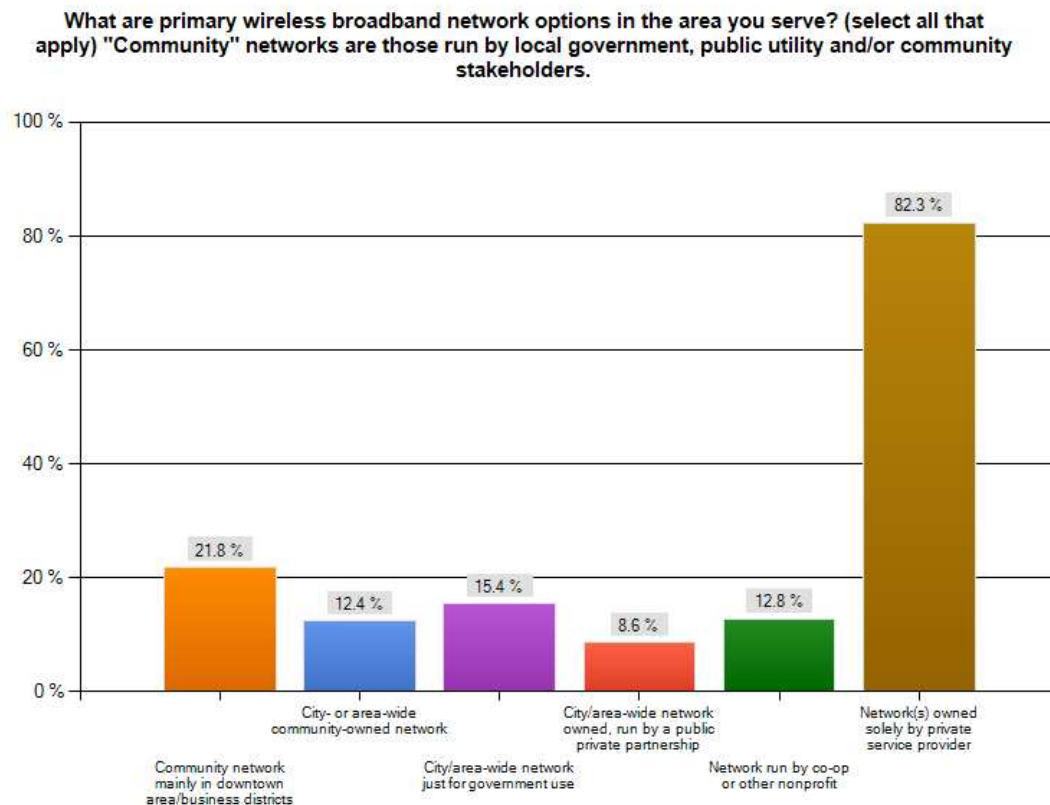
### III. The current state of broadband in respondents' jurisdictions

It is helpful to have an overview of what types of broadband is available in the communities that survey respondents serve. These questions attempt to develop a general picture of coverage. However, a detailed picture is elusive. For example, details on actual (versus advertised) speeds are hard to come by even though the FCC and other federal government agencies are spending quite a bit to create accurate broadband maps.

82% of respondents represent areas with wireless networks that are owned entirely by private sector (**Figure 6**). Smaller percentages of respondents serve communities that have local government- or community-owned, limited-reach networks that cover portions of the area (21.8%) and government-use only networks (15.4%).

A nearly equal percentage of respondents serve areas with community-owned (i.e. municipal) networks as those that have networks owned solely by nonprofit organizations. In 2011 community-owned networks outnumbered nonprofit-owned networks by several percentage points.

Figure 6.

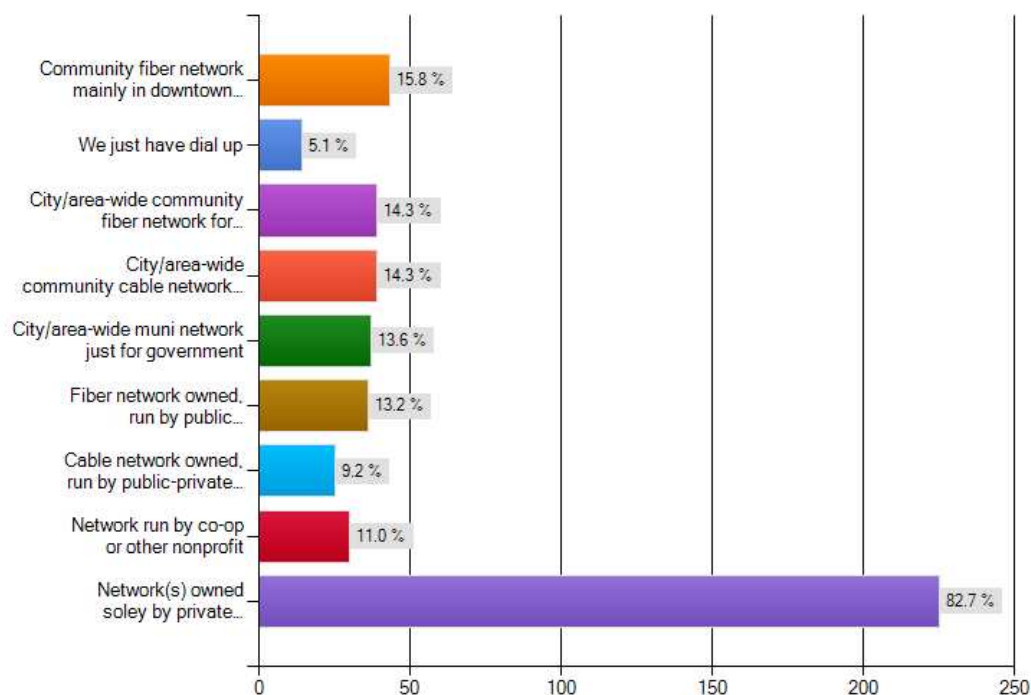


Note: the percentages total more than 100% because respondents could pick more than one answer.

Survey respondents also were asked about wireline (fiber and cable) network availability, which you can see in **Figure 7**. For the most part, the percentages of respondents with nonprofit-owned, community-owned, and public-private partnerships are all within a few points of respondents with wireless networks.

**Figure 7.**

**What are primary wired (cable, fiber) broadband network options in the area you serve? (select all that apply) "Community" networks are those run by local government, public utility and/or community stakeholders.**



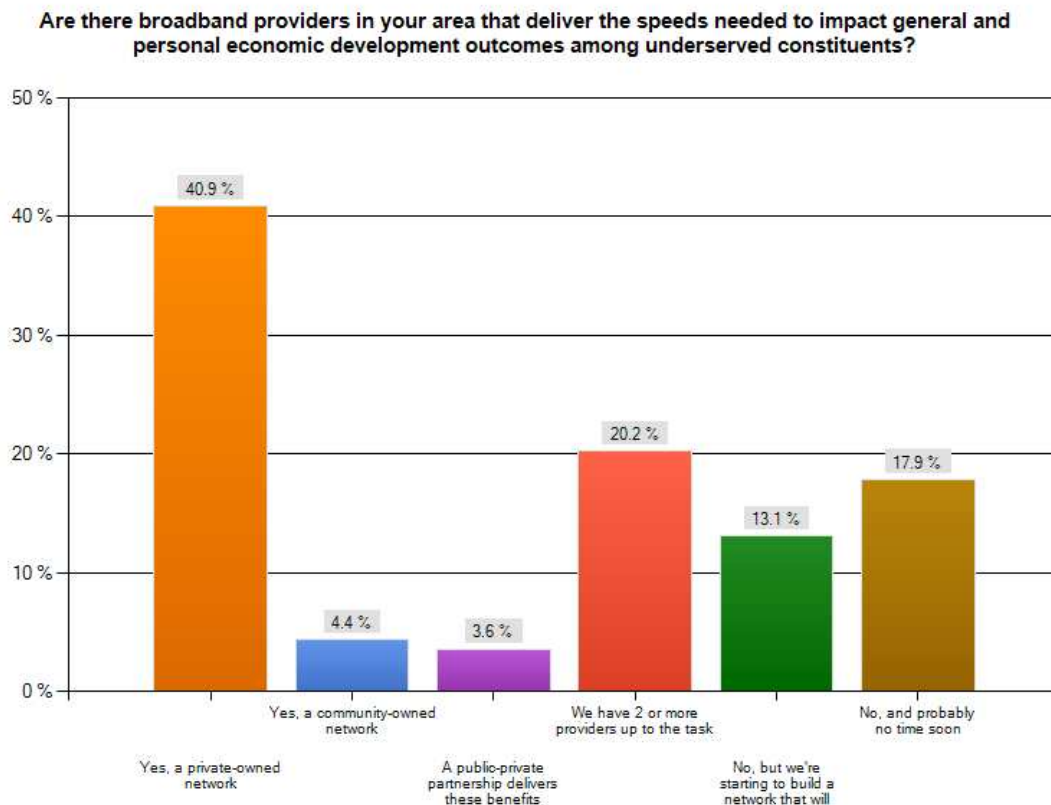
### **A competitive market?**

Many policymakers at the federal and state level appear to determine whether a community is served, underserved or un-served is by the mere presence of at least one entity providing Internet access services. Until recently, a provider could show they had one customer in a census tract and the entire tract would be considered served. Furthermore, the degree to which a community is considered covered is determined by a provider's "advertised speeds."

Any broadband policy or funding program is flawed when how much or to what degree a community is served is dependent upon such shallow measures of what constitutes “served.” Survey respondents were asked if providers currently deliver Internet access speeds needed in their jurisdictions to achieve economic outcomes such as those presented in the next section of this report.

**Figure 8** indicates 18% of respondents don’t have sufficient speeds and have given up hope this problem will be resolved. Another 13% do not have enough speed to get the job done, but they are trying to find or create a solution. The remaining respondents seem to be taken care of for now. But how soon will advancing technology leave the remaining respondents with inadequate speeds?

**Figure 8**



For a network to become a community economic development asset, it must have enough speed and capacity to facilitate these outcomes. The presence of sufficient competition contributes to whether a community is well served in this regard. Respondents were asked, “are there enough competitors in your area to improve broadband price, speed, and/or availability for constituents?” Public activists continually berate the Federal and state governments for failing to tackle the lack of sufficient competition in quite a few communities.

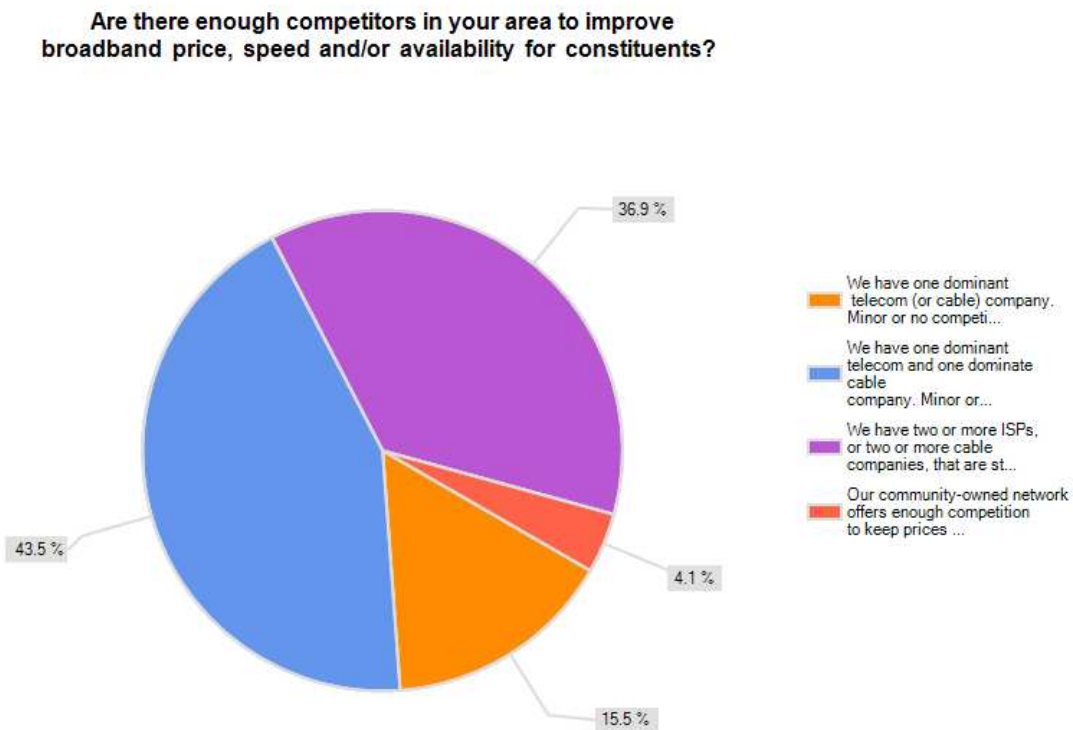
For this survey, “sufficient” means there are enough competitors that are large enough and have enough market strength to force each other to keep prices low, as well as regularly introduce new, better and faster services. Typically, communities that lack sufficient competition either have just one or two large providers dictating prices and quality of services, or they only have small local providers that are limited in where they are able to deliver services. This topic is vigorously debated, particularly when considering possible remedies.

**Figure 9** shows a significant 43.5% of respondents reporting that their jurisdictions exist under duopoly conditions, with just one cable and one telecom company, and not enough competitors to each to impact pricing or service quality. 15.5% are in a more difficult position since they work in areas with monopoly conditions.

37% of respondents report that they have at two or more telecom providers, or two or more cable companies that are all strong enough to provide sufficient competition. 4% feel that their community-owned networks encourage a competitive marketplace.

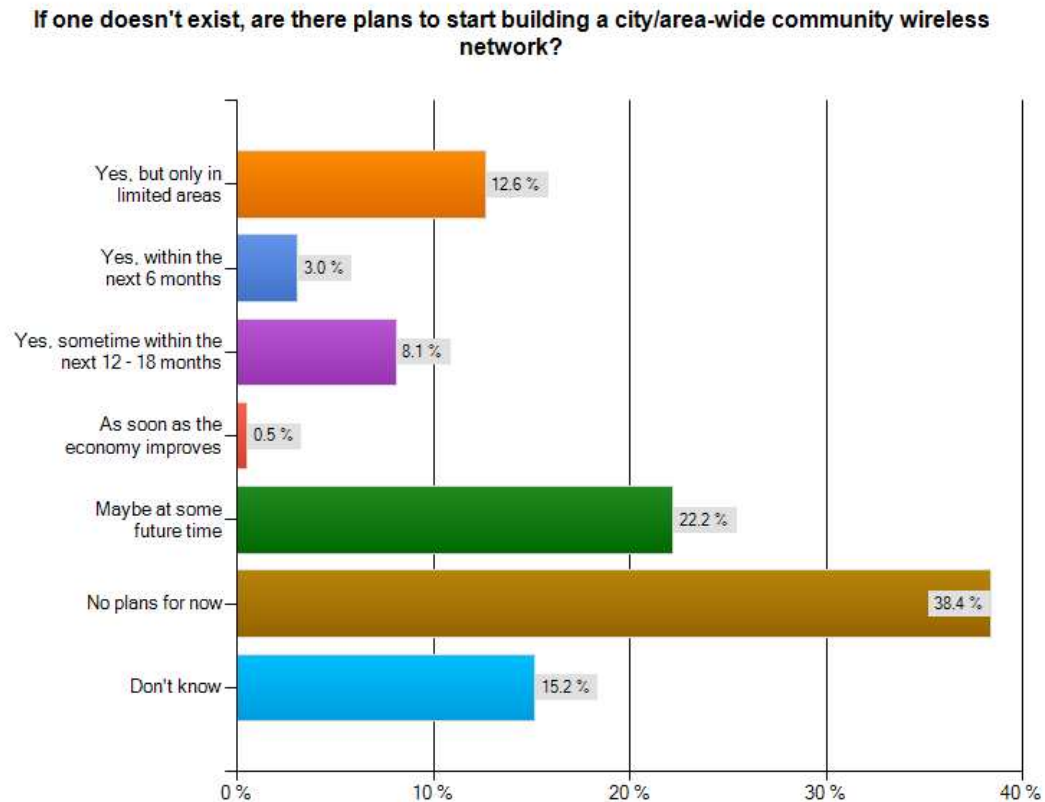
Most telling, though, is the response when 117 of the respondents were given a simple “yes” or “no” option to answer the same question. Only 39.3% replied “yes.” 60.7% replied “no.”

**Figure 9.**



It is helpful to ascertain whether or not respondents seem to be happy with the level of competition in their jurisdictions. However, it is also important to determine if communities have plans to build their own networks that they own and operate on their own or through public-private partnerships.

**Figure 10.**



Survey respondents were asked if communities in their jurisdictions had plans to build a city- or area-wide wireless network and a fiber network. The responses to both questions were fairly similar (within one-to-four percentage points) for most answers, so we are publishing only the chart for wireless networks (**Figure 10**).

## IV. Assessing broadband's impact on economic outcomes

Policymakers and politicians tend to isolate two or three economic outcomes that they consider to be the primary outcomes broadband can influence. They then use these outcomes to drive broadband initiatives. However, what happens when these individuals are off the mark? How often do they throw good money after bad policy based erroneous assumptions about broadband's economic impact?

This section of the survey asked economic developers to weigh in on some of policymakers' frequently cited economic outcomes used to justify building broadband networks. Survey respondents critiqued six outcomes: 1) attracting new businesses, 2) making local companies more competitive, 3) revising depressed business districts, 4) revising depressed communities, 5 improving individuals' ability to earn income, and 6) increasing home-based businesses.

Specifically, respondents were asked, "How has [wireless/fiber] impacted (or how would you expect it to impact) economic development in your community." For each outcome, respondents indicate whether they feel it will have a direct or an indirect impact on that outcome. The objective is to gather data that communities can use to assess technology in the context of what specific outcomes they want to achieve.

**Figure 11** compares wireless and fiber's direct impact respectively, while **Figures 12 and 13** look at the direct and indirect impact of each technology.

**Figure 11. Broadband's direct impact on economic outcomes by technology category**

	Wireless	Fiber
Attract businesses	39.9%	58.3%
Revive businesses districts	22.5%	28.5%
Local companies	39.3%	51.8%
Revive communities	20.2%	27.5%
Improve Individuals	21.0%	30.1%
Home businesses	41.3%	48.0%

In general, more respondents believe that fiber has a direct impact on economic outcomes compared to fiber, particularly when it comes to attracting new businesses to a community. This has been consistent every year of the survey.

There are two other categories of broadband technology: cable/DSL and satellite. In the 2011 survey, the respondents who felt cable/DSL has a direct impact on outcomes were almost in identical percentages as for wireless. Subsequently, I decided to wait to ask about this technology again in 2013.

Satellite is generally considered a good technology for delivering TV service. Conversely, those who use it for broadband communication vigorously dismiss it because Internet access speed is too slow plus data can be lost in transmission. There are claims in the broadband industry that the next generation of satellite technology will be much better. However, I will wait to see if this comes to market before adding this technology for consideration.

It is important to note that there are numerous factors that should determine whether a community uses fiber, wireless or a combination of both when they are soliciting broadband services or building networks. Economic outcomes are only one dimension, albeit a critical one. Some other factors include costs, terrain and population density. Communities should do thorough needs assessments of their businesses to help determine which economic outcomes are the main priorities, and then use this data to begin weighing the technology options.

**Figure 12. Economic impact of wireless broadband**

	<b>Direct</b>	<b>Indirect</b>
<b>Attract businesses</b>	39.9%	20.1%
<b>Revive businesses districts</b>	22.5%	19.8%
<b>Local companies</b>	39.3%	26.8%
<b>Revive communities</b>	20.2%	19.4%
<b>Improve individuals</b>	21.0%	21.9%
<b>Home businesses</b>	41.3%	22.7%

**Figure 13. Economic impact of fiber broadband**

	<b>Direct</b>	<b>Indirect</b>
<b>Attract businesses</b>	58.3%	15.5%
<b>Revive businesses districts</b>	28.5%	24.5%
<b>Local companies</b>	51.8%	22.9%
<b>Revive communities</b>	27.5%	19.4%
<b>Improve individuals</b>	30.1%	27.3%
<b>Home businesses</b>	48.0%	23.8%

### **Broadband and personal economic development**

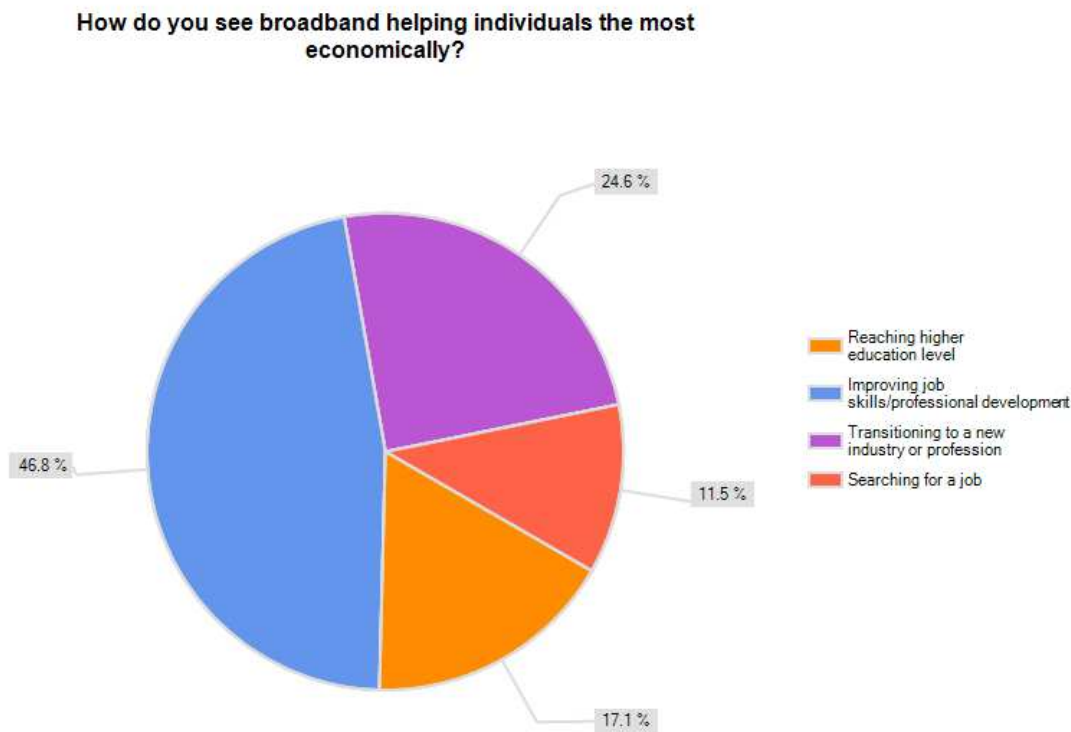
One of the most common economic outcomes attributed to broadband is that it will help individuals find jobs. Many broadband efforts aimed at reaching low-income individuals reflects this thinking: building new computing centers, discounts for Internet access subscriptions, funding broadband adoption programs that encourage people to use the Internet.

As shown in **Figure 14**, only 11.5% of economic developers see facilitating job hunting as the best broadband can do to help individuals. A much greater 46.8% indicated improving job skills and professional development was the best target outcome, while 24.6% believe that helping individuals to transition into a new industry is where broadband shines. Reaching a higher education level is how 17% of respondents see broadband having the biggest impact.

Survey results here reflect a point made earlier about policymakers not being on the same page as economic developers. In this case, the popular talking point is that broadband is good for job hunting, but to create programs specifically to tackle this goal shortchanges broadband's main value. The agency doesn't get the best return on its investment, individuals may be finding job listings but are they really any more prepared to compete in getting the job or getting ahead once they get the job. Employers in all sectors are similarly shortchanged since they lose the opportunity to get more skilled workers in the available workforce.



**Figure 14.**



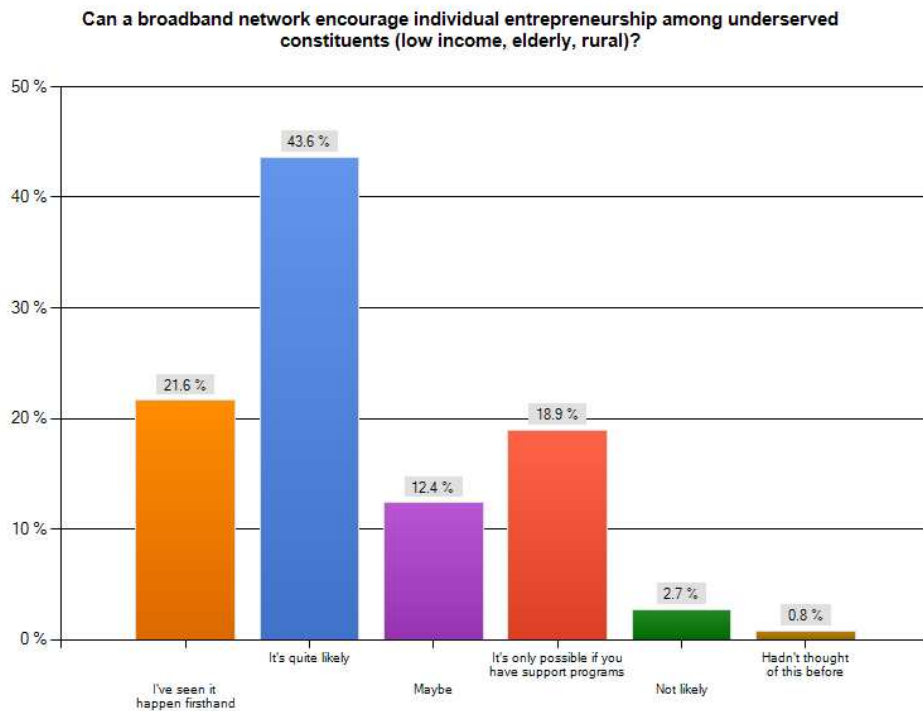
In addition to these outcomes related to work and job skills, respondents also were asked if they believe broadband can be used to encourage low-income individuals to become entrepreneurs (**Figure 15**). A significant 65% have either witnessed this type of outcome, or believe such an outcome is likely.

It is important to note the 19% who believe the only way to produce this outcome is to put support programs into place. As with most assets, just having broadband does not produce results. There has to be programs that teach people basic disciplines such as how to create effective Web sites, or operate a business. Digital literacy and other tech training programs need to compensate for the lack of both before individuals can fully utilize broadband. This reinforces the previous point about shortchanging the value broadband delivers.

Over the years of surveying IEDC members, this question has always received strong support, and the percentage of respondents who have witnessed this outcome in their communities steadily inches up. Economic developers should keep local stats on how many low-income constituents leave the unemployment rolls to become entrepreneurs due in some part to sufficient broadband being available. It also would be helpful to track how many of these constituents leave jobs to become

entrepreneurs. Anecdotally, the lack of data drawing clear lines between outcomes and broadband leaves many dissatisfied.

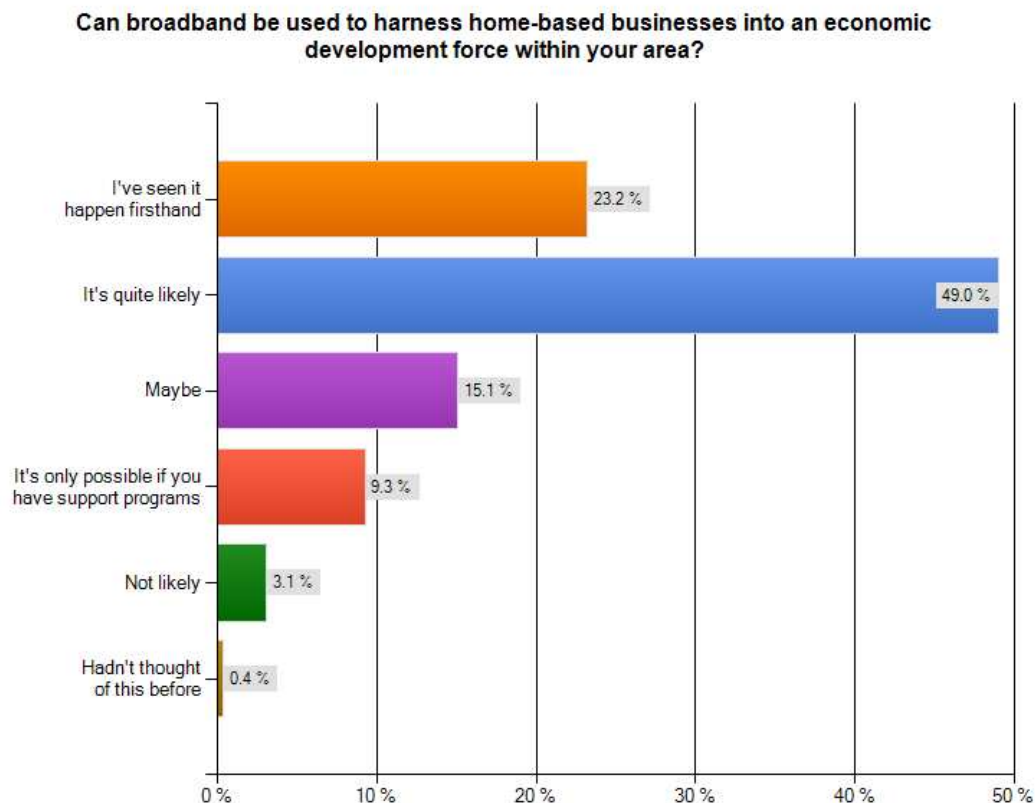
**Figure 15**



To broaden the question to cover the greater community, not just underserved individuals, survey participants were asked if they see broadband as a way to turn home based businesses into an economic force within the community (**Figure 16**). Informally, I hear economic developers discussing the value that home-based businesses bring to the economy, particularly as a way for unemployed individuals of all types to become income earners again.

A slightly higher percentage of respondents than for the previous question has either witnessed this or feels that this outcome is very likely when broadband is in the picture. Though the percentage of those who feel support programs are a must (9.3%) is less than those for the previous question, this may be because respondents feel underserved people have more hurdles to overcome to be successful. However, since home-based businesses often operate below the radar screens of agencies and organizations such as chambers of commerce, it may require more support programs than people imagine just to identify and reach these entrepreneurs.

**Figure 16**



### **The need for speed**

Survey participants were asked what is the minimum speed required by 2014 to achieve the various economic outcomes listed (**Figure 17**). Less than 10% believe 4 Mbps, which is how the federal government defines broadband, is sufficient for any of these outcomes. Between 26% and 32% respondents feel the minimum communities need is 100-120 Mbps. Generally, 20-25 Mbps is the second most popular speed considered necessary for reaching these outcomes, with 22% - 28% of respondents who indicate this is the minimum they need.

Surprisingly, 1 gigabit per second of speed polls lower than some might expect given all the publicity Chattanooga and Kansas City receive for their gig networks. Among economic development pros, a gig seems moderately important. For example, only about 16% felt it is the minimum needed if the goal is to revive depressed communities and businesses, and even less (9%) felt you need a gig to increase home-based businesses.

However, when the goal is attracting new businesses to town, 27% feel a gig minimum is a must-have and another 16% say communities need 500 Mbps to reel in companies. It seems formal data is finally being collected (though no studies have

been released) to learn how much broadband influences where businesses decide to move or expand facilities.

**Figure 17. Minimum broadband speeds needed**

	<b>2-4 Mbps</b>	<b>10-12 Mbps</b>	<b>25-50 Mbps</b>	<b>100-120 Mbps</b>	<b>500 Mbps</b>	<b>1 Gigabit</b>
<b>Lure businesses</b>	3.6%	6.8%	13.6%	32.1%	16.3%	27.6%
<b>Local companies grow</b>	4.1%	11.8%	23.5%	32.1%	13.1%	15.4%
<b>Revive business districts</b>	7.4%	14.4%	21.4%	29.3%	11.2%	16.3%
<b>Revive communities</b>	8.4%	16.3%	24.2%	25.6%	10.2%	15.3%
<b>Boost worker training</b>	6.4%	16.0%	26.5%	26.5%	12.3%	12.3%
<b>Home businesses</b>	8.3%	15.6%	28.4%	27.1%	11.5%	9.2%
<b>Improve individuals</b>	4.2%	15.3%	25.0%	31.8%	15.3%	8.5%

The question of speed is important because this is the crux of so many critical broadband issues. Federal government agencies have defined broadband as networks that move data at 4 Mbps down and 1 Mbps up. Entities requesting money from these agencies can qualify for billions of dollars by meeting these standards that are clearly viewed as inadequate. Broadband maps from federal and state agencies can determine that communities are served by broadband – and thus are ineligible for government assistance – if those communities meet this low threshold.

When state governments are developing broadband policies, establishing funding programs, committing resources and measuring the success of policies and programs, the federal definition of broadband guides those actions. If “improving the economy” is a major reason for committing resources to broadband efforts, it is difficult to expect success when guided by a speed threshold 90% of experts believe is insufficient to achieve the outcomes.

## V. Process and Policy

In the last two years, it has been informative to ask economic developers to weigh in on a several operational issues that pertain to community broadband, and also national policy issues.

This year respondents were asked what business operations structure would be most advisable for respondents' respective communities. Having recently written an analysis report on the viability of alternative forms of funding broadband, I see an apparent growing interest in finding options besides floating bonds or raising taxes.

The options from which respondents were asked to assess were: 1) enlist a community foundation to pay for at least half of the network buildout; 2) recruit a group of local business owners to invest in the infrastructure; 3) pass a bond measure; 4) sell pre-paid subscriptions to residences and businesses; 5) issue stock shares or promissory notes to constituents and others; and 6) approach banks or traditional financial institutions. All of these methods of funding broadband networks have been, or are currently being done successfully in various U.S. communities and in the U.K.

It was surprising that almost 70% of respondents indicated is not likely that they could get community foundation support for broadband (**Figure 18**). Most community foundations were formed to raise money and fund projects that help the local economy, and would seem to be receptive to supporting projects such as broadband. There are over 400 foundations in the U.S., so it is likely that a sizeable number of respondents serve areas that do not have foundations. We will probe this further in 2013.

Pre-selling subscriptions is almost tied with banks in terms of the percentage of people who are fairly certain their community can execute this strategy successfully, and those who give it a 50-50 chance of success. This was something of a surprise. Going to banks and financial institutions has been a practice for decades for funding all types of civic projects. Pre-selling broadband, however, has a track record of success, but very little has been written about this strategy.

That said, maybe a sizeable number of respondents believe that demand for broadband is significant enough that individuals and businesses are willing to invest in it under the right conditions. One might assume that if respondents believe pre-selling subscriptions can work, they would also feel selling stocks or promissory notes might work. This latter tactic was almost equal with the faith in foundations. However, creating investment vehicles is likely perceived as being much harder to do by virtue of the perceived legal paperwork and compliance requirements. It may require more explanation of how others executed this tactic before economic developers feel comfortable following suit.

**Figure 18. Funding options**

	<b>Yes</b>	<b>Maybe</b>	<b>Not likely</b>
<b>Community Foundation</b>	9.6%	22.7%	66.9%
<b>Local businesses fund</b>	14.9%	32.7%	50.8%
<b>Bond measure</b>	16.8%	27.8%	53.1%
<b>Pre-paid subscriptions</b>	20.5%	42.6%	36.1%
<b>Stocks, promissory notes</b>	12.1%	29.0%	58.1%
<b>Banks, fin. institutions</b>	21.2%	40.8%	36.8%

### **Structured for broadband success**

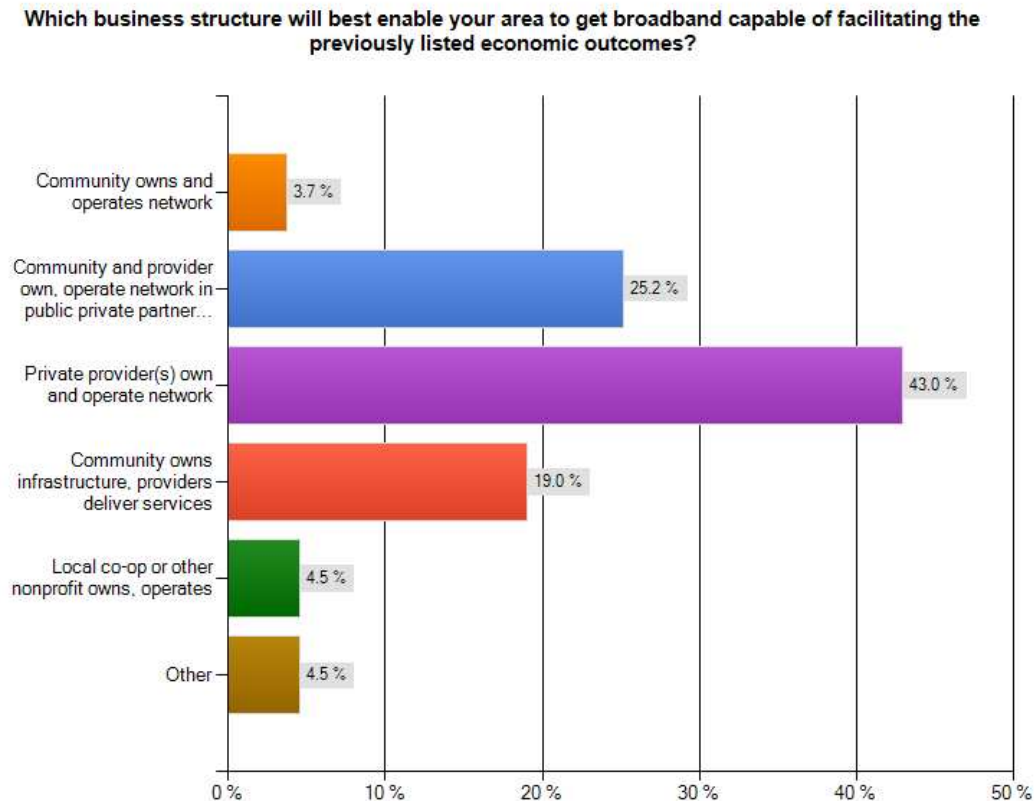
Another operations issue that community stakeholders have to flesh out is what type of business structure they want in place to own and operate the network. Typically, for the years that communities have pursued broadband, most have preferred private-sector providers to be in this role and providing services (52% in the 2011 survey). Only when incumbent providers repeatedly refused to deliver services have communities sought other alternatives, including municipal or public utility ownership.

This year's survey asked economic developers what network ownership option they believe would best benefit their communities (**Figure 19**). Understand that respondents' communities could be pursuing one option for broadband while a respondent may favor a different option.

A sizeable percentage of respondents (43%) still believe that private providers owning and operating the network is the best way for their community to go. However, this is down nine percentage points from last year's survey. There is a smaller yet significant percentage (25.2%) that prefers public private partnerships in which both parties own and operate the network together. This is up nine percentage points from last year.

Another 19% favor a specific type of partnership in which the community owns the broadband infrastructure and a private company delivers services over that infrastructure. This is a three-percentage point increase from last year. Interest in community-owned networks via a co-op or nonprofit organization dropped slightly this year, and interest in municipal networks is about the same as in 2011.

**Figure 19.**

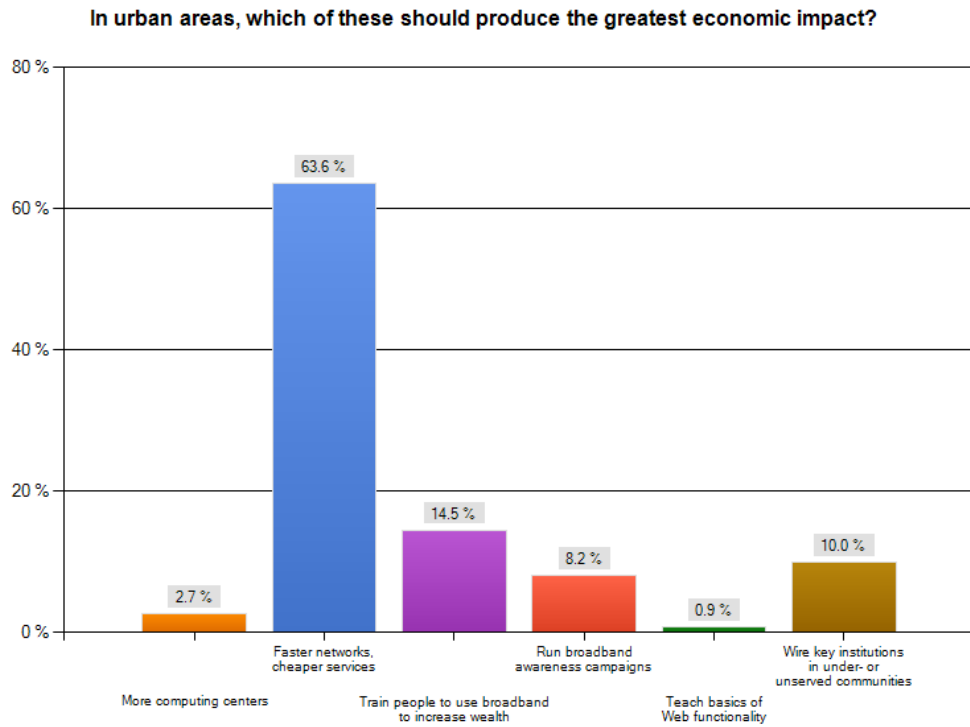


### **Are we doing this urban broadband thing right?**

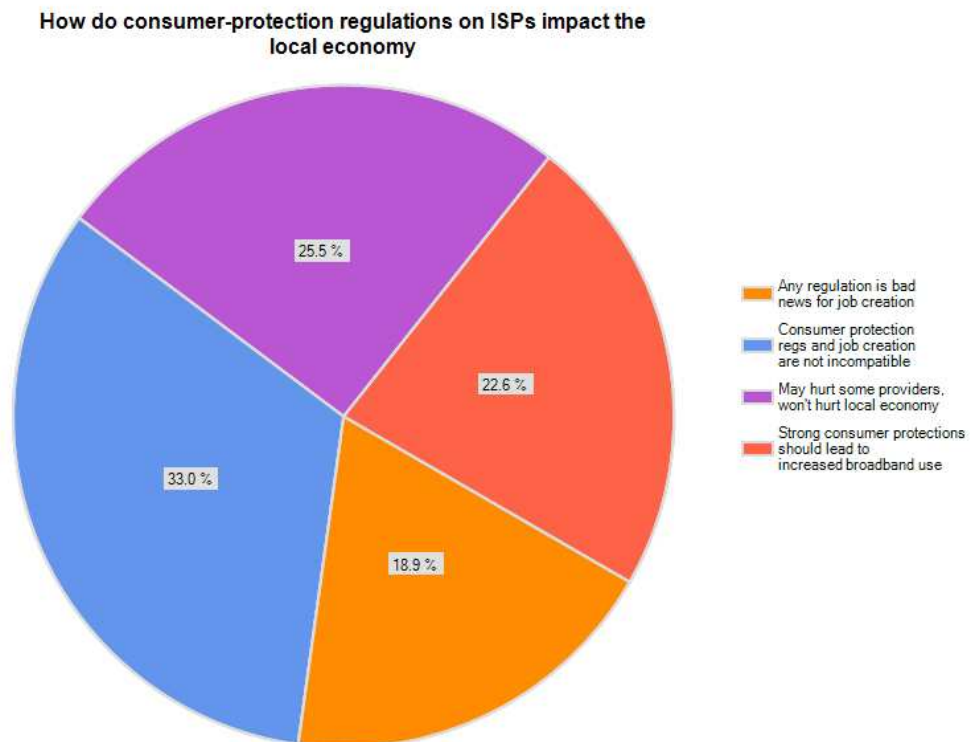
Conventional wisdom seems to be that broadband infrastructure assistance should go mostly to rural communities. Low-income urban communities seem relegated mainly to grants and resources that address adoption of existing broadband services. But, when given the list of “traditional” remedies such a building computer centers and broadband marketing campaigns, a clear majority of respondents (63.6%) encourage “faster networks, cheaper services.”

**Figure 20** shows that once a discrepancy between policymakers economic developers. Those programs that received hundreds of millions of broadband stimulus dollars are ignored by 64% who favor faster speeds, cheaper services. 14% favor training low-income people how to use broadband to create wealth.

**Figure 20.**



**Figure 21.**





Another policy question posed to the professionals addressed national and state consumer protection regulations placed on broadband and telecom providers. Specifically, how pro-consumer regulations impact local economies? A common refrain heard from incumbent providers and their supporters in national and state legislative bodies is that any regulations kill job creation as well as innovation. About 19% of respondents share this sentiment. However, one-third of respondents believe you can codify consumer protections and still create jobs.

Furthermore, a quarter of economic developers concede that some large providers may be hurt by broadband regulations, but local economies – including the local private sector – will not be harmed. A sizeable portion of respondents (22.6%) believes that strong consumer protections should lead to increased broadband use.

### **Comments on the state of broadband**

This year, the survey respondents who answered the final, open-ended question were split into two groups, each with a different question.

One group commented on **“Do you expect an increase in communities (through co-ops, nonprofits, community foundations, etc.) literally taking broadband infrastructure buildouts into their own hands? If so, how will these organizations overcome funding challenges?”**

The second group answered the question: **“How can you and your professional peers help communities get broadband services that improve local economic development?”**

[Download comments for Question 1.](#)

[Download comments for Question 2.](#)

### **Additional statistics**

The report is a synopsis of all the data collected. Economic developers can engage us to provide additional data from the survey, cross-tabulate data and provide additional analysis services. E-mail [craig@cjspeaks.com](mailto:craig@cjspeaks.com) for more details.

## **VI. In the final analysis**

This section of the report offers a general analysis of the 2012 survey results. The analysis is written to give communities a stepping off point for interpreting what the data means. They will need to supplement this document with some local analysis.

The data in section III is straightforward and doesn't require much interpretation, though it does help to separate out the responses from just rural or just urban communities, and compare some 2012 survey results with the 2011 results. For example, 15% of rural respondents expect to start building a wireless network in the in the next 12 – 18 months, and 16% plan to start fiber networks in that timeframe. Looking at all respondents together, only 8% (wireless) and 11% (fiber) plan to start networks 12-to-18 months. It seems that rural communities have the drive more so than other areas to build community-owned networks.

It is interesting to note that, whereas 5% of respondents overall only have dial-up Internet access, there are 14% of rural respondents in this predicament. This points to the dire shortcomings rural communities face.

Among rural respondents, those who serve communities that own a fiber network is three percentage points higher than all respondents, but conversely those whose rural communities own cable networks are two percentage points lower. One can take from this that rural areas prefer fiber to cable. Taken together with 2011 data showing cable's direct impact on outcomes is close to that of wireless, it seems government policy should not encourage providers trying to serve communities by milking the last dime from cable infrastructure.

11% of general respondents serve communities that have wired networks run by co-ops or nonprofits, but 16.7 of those in just rural areas do. This is likely because rural areas have over 100 years experience creating and running co-ops that provide services private sector companies refused to deliver. Policymakers and government officials should create programs that encourage the increase of co-ops.

### **Competitors and partners**

Responses to the question asking if communities have enough competition to produce low costs and high speeds are telling when comparing results from all respondents to those just from rural respondents. For example, 15.5% of all respondents report that the areas they service have a monopoly provider with minor or no competitors. However, 35% of rural respondents have monopoly conditions. Conversely, 37% of total survey participants report they have a competitive environment, but only 24% of rural respondents report the same.

Those whose rural areas are served by a duopoly (42%) are just a couple of percentage points lower than all respondents combined, so in this regard rural communities may not be in worse shape than everyone else. However, a duopoly still produces the same grim reality of high prices and poor or no service in many parts of a community. At least it is encouraging to see 4% of respondents serve areas that have community networks that are offering enough competition to favorably impact speed and price.

Whatever solutions communities hope to come up with to address competition must address the fact low-density population areas do not offer a business case (i.e. profit opportunity) for many private-sector companies except maybe small local providers. If communities find a small provider that is able to build a reasonable ROI model, stakeholders have to plan extremely well to ensure the network can financially sustain the provider. Conversely, any provider hoping to meet constituents' needs in sparsely populated areas has to be prepared for a long stretch working on thin margins before getting a payback.

If communities cannot address the ROI needs of private sector companies, then they must be prepared to take on responsibilities for running a network, through either municipal government or a nonprofit organization owning it. With approximately 30% of rural respondents expressing plans to pursue a network over the next two years, or "sometime in the future," it seems more rural communities than others are intending to take the reins on their broadband future. The percentage of those planning to launch projects in the next 12 – 18 months has doubled from last year.

### **Impact on economic development outcomes**

In rural communities wireless' impact is similar to the responses of all survey participants, with about a four percentage points more rural respondents saying this technology has a direct or indirect impact on economic outcomes. Looking total survey participants, the percentage this year saying that wireless has a direct or indirect impact on local economies is greater than 2011 respondents, also by three or four percentage points.

When looking at the numbers for the impact of fiber, respondents from rural communities reveal a slightly larger gap between themselves and the total number of respondents. There are six-to-eight point higher percentages of rural respondents who believe fiber has a direct or indirect impact on outcomes.

The significance of these particular data points is that both wireless and fiber networks have a greater importance to rural communities in addressing the set of outcomes assessed in this survey. Mainly, it confirms the mostly accepted perception that rural areas are in greater need of broadband since their economy is suffering more than urban areas and subsequently rural communities will benefit

more from the technology. Again, a survey of a greater number of urban economic developers should be taken before drawing that as a final conclusion.

It is interesting to note the sizeable difference between the impact respondents see wireless and fiber networks having on improving depressed business communities and individual communities in general relative to the other outcomes. If broadband attracts new businesses to an area and makes current local businesses more competitive, don't both of these outcomes revitalize depressed business districts? Similarly, if broadband leads to an increase of home-based businesses, doesn't this by default lead to communities becoming less depressed and individuals becoming more prosperous as household income increases?

One reason for this difference may be that with the intense national and local focus on creating jobs as soon as possible, diverting resources to any project that does not address this immediate objective has a lower priority. It would seem that the broadband industry (or economic development organizations) need to step up its education that draws a tie between the two sets of outcomes.

As economic developers look at speed and outcomes, they should be aware of changes in technology that blur the distinction between wireless and wireless. For example, fixed wireless is a broadband technology going through rapid evolution that is enabling these networks to deliver 1 gigabit speed or more. Three or four years ago, wireless was considered a cheaper technology to deploy, but one with speed and service quality limitations. With the newest fixed wireless, communities should have additional options as they mix and match economic need with speed.

### **Broadband's impact on individuals**

We cannot discuss broadband's economic impact without addressing how it specifically impacts individuals, particularly since so many public officials seem to minimize this outcome, at least in terms of attention they give it. When the media and officials talk about Chattanooga and Lafayette, LA, they talk about the big companies that move there, they don't talk about the numbers of individuals making greater strides financially because of broadband.

In the broad sense, the technology's perceived economic impacts on individuals leads officials and programs to emphasize access (adoption) as the end goal. They set the expectation among communities that once constituents have access, their economic lot will improve. However, what these survey questions' results reveal is that there is more involved.

Using broadband to its full potential to improve job skills, professional development and education requires networks fast enough to support online training programs, collaboration and multimedia capabilities. It requires broadband connections to

institutions. It also requires support programs from the local business community, government and nonprofits.

To ignore this reality means shortchanging the potential value broadband produces. It means low-income people likely will be frustrated when they realize they don't have the skills to use the Internet, or to compete effectively for the many jobs requiring tech skills. Internet access alone doesn't do much to help individuals advance within their jobs or professions they currently have. Yet broadband vendors, politicians, and policymakers raise these expectations when they overhype the capabilities of broadband adoption. Adoption doesn't mean jack without addressing the greater issues survey respondents indicated are important.

Expanding the discussion to include the question of converting low-income, elderly and rural individuals into entrepreneurs is significant. Starting a business, even a one-person operation, can be the only option when there are few or no jobs locally. And do not forget the news stories about companies that made it their policy not to hire people who had been unemployed for a long period. The Internet opens opportunities for those willing to hang out their digital shingle, even if their wares or services do not involve technology.

Everyone reading this report should take note, the percentage of people who believe you cannot transition individuals into entrepreneurs without support programs (18.9%) is an increase of five percentage points over results in the 2011 survey. Also, there is a 10-point higher percentage of economic developers in rural communities than all respondents combined who have witnessed this transition, which likely means there are models available of programs that work.

Home-based businesses are a distinct category of entrepreneur. People don't have to be unemployed or quit a day job to run one. In general, it is easier to start a business at home because it can be under the radar of current bosses, zoning laws, etc., particularly since there is no office overhead and commuting.

Communities would do well to consider publicity drives, small-business assistance programs, online support and other tactics to proactively create, grow and track home-based businesses as a line item in local economic growth. They should pay particular attention to the correlation between facilitating home businesses and having fewer people who would otherwise be unemployed. These individuals don't have to make huge profits to benefit the community. Just by being self-sufficient and not on public assistance removes a financial burden on the community.

## **Speed and economic development**

The data collected from economic developers about speed and specific economic outcomes is important because it is valuable information to help communities make good economic decisions. These minimum speed requirements often are not made

assuming that every individual needs this much speed. These are speeds that are necessary for supporting hundreds or thousands of businesses and individuals in a community that will be using the network simultaneously.

At a practical level, speed is the linchpin to economic impact. Every application, whether it's a training video, voice conferencing software, Web-based business productivity tools and so on, requires bandwidth (capacity) and speed. Many people and organizations doing business online are accessing data, sending data or both, often hundreds of megabits or more at a time. Everything that enables broadband to impact economic outcomes involves applications and data, and some level of speed, capacity and reliability is required to use both effectively.

While gigabit networks grab many headlines, in this year's survey as well as last year's 50% - 55% of respondents identified 25 Mbps to 120 Mbps as the minimum speeds needed by 2014 for the various outcomes. The majority of this subset of respondents believes they need 100 – 120 Mbps. When we separate out rural respondents and urban/suburban respondents from this subset, a majority of the rural respondents favor 100 – 120 Mbps, while a majority of the urban/suburban favored 25 – 50 Mbps. The urban responses seem to merit further study and with a larger number of urban economic developers than the 49 who answered this question.

When analyzing the broadband needs of communities with the intent of creating an economic development asset, extrapolate to the local level what these survey respondents have estimated. Economic developers should view this data as a framework for looking at potential outcomes, and determining what their constituents need from broadband to reach the outcomes.

I should make note of the question some will ask – who needs a gig, particularly since higher percentages of respondents felt they could get by with 100 Mbps? In conversations with stakeholders from various cities and towns across the US, they distinguish between what they need now or next year, and what they feel will be necessary five-to-ten years from now. A gigabit is popular because astute communities are looking to the future. As an economic development asset, a gig network will only appreciate in value as time goes on, and it will increase the value of the many other assets that are impacted by the network.

## **Broadband speed and broadband policy**

The issue of speed also is important for several political and policy reasons. The FCC's current definition of what speed constitutes broadband (4/1 Mbps) is clearly woefully short of what's needed for any meaningful economic development. Yet this definition impacts policy at a national and even state level.

In addition, one National Broadband Plan goal is 100 Mbps to 100 million homes, but by 8 years from now in 2020. While this goal influences policy, nothing in the Plan's position addresses businesses that need that speed much sooner. And what about the remaining two-thirds of the country (mostly rural areas) that doesn't get 100 Mbps? The 4/1 Mbps goal is supposed to suffice for them.

Even though the FCC has criticized the fact that about 40% of businesses can't get faster broadband and called for improvements, the Plan's policy speed goals carry the potential to undermine its rhetoric. Furthermore, incumbent service providers can milk the FCC's weak benchmark to claim their coverage areas are "served" and fight efforts to bring true broadband to underserved areas.

These are just a few small tips of icebergs that float in the broadband waters where government policies and programs blend with large incumbents' actions. National and state policies as well as large market players can either enable or stifle communities' ability to get the broadband capabilities they need. Bad policy and adversarial incumbents ultimately harm local communities.

As these and several other survey results regarding broadband's economic impact reveal, some government policies and programs are at odds with what economic developers believe to be true. As a group, economic developers have the best knowledge of community needs and realistic broadband-driven economic outcomes they should expect. It is important (some would say imperative) that these pros become a force that educates and fights at the local, state and national level for the best interests of their communities and getting better broadband.

## **Money and operations**

The love of money may be the root of all evil, but the discussion of money is the root of many broadband discussions. Often one of the biggest hurdles to moving forward with broadband plans is the issue of money, particularly: who is going to pay for building, expanding or enhancing the network. Survey results show a very strong favorable reaction to approaching banks and traditional financial institutions, and also pre-selling subscriptions to the network.

The belief that tapping banks would have at least a 50-50 or a definite chance of being successful, particularly in this economically difficult time for local communities, speaks highly of the value respondents place on broadband. It also bolsters the case for treating broadband as an economic asset. Local banks are more likely to fund creation of assets more so than funding services, some of which can be easily perceived as just entertainment.

Support for pre-selling subscriptions also speaks favorably of the power of treating community broadband as an asset. The UTOPIA project is an example of communities using this tactic. This is a most direct way of making broadband an

asset as homeowners pay \$3000 (which can be financed) to bring fiber cabling literally to their doorstep. The technology becomes an asset that improves the overall value of the home. Commercial property owners have been doing this for several years, placing fiber throughout their buildings. Owners find it keeps their properties filled and increases the value of those buildings.

The survey only provided minimal details about how each of these funding options work, but it is likely that with more information about how to fundraise from local businesses, offer stocks and tap foundations, support would be higher. You can [read a detailed analysis of fundraising options](#) to determine if some of these can be fine-tuned to meet your community needs.

Determining what business structure a community should use to run its broadband operation goes hand in hand with funding decisions. Creating a nonprofit both opens financing opportunities and possibly limits options. Setting up a co-op creates different legal requirements than a nonprofit corporation even though a co-op itself is a nonprofit.

### **Who controls the business of broadband?**

One of the biggest changes in the survey results this year from 2011 is the 9-percentage point drop in respondents who feel private service providers owning and operating the network is the best way to achieve economic outcomes. With that comes a 9-percentage point increase of those favoring public private partnerships (PPPs). It is likely that with the increase in PPP success stories and the desire of communities to be more in control of their destinies have caused this shift.

Although the respondents were not asked for details about the type of private partner they would prefer, observations point to mostly local and smaller regional ISPs and telecom companies being the most preferred and the most open to PPPs. Stakeholders believe these providers are vested in the community more so than large regional and national providers. A key to succeeding is to create terms governing these partnerships that allow providers to make a reasonable profit and help more than hinder providers' operations.

19% of respondents favoring communities owning the infrastructure while private companies provide the services reflects a feeling that this is the most mutually beneficial relationship. Each party is able to do what it does best. Communities, particularly local governments, are often pretty good about funding, building and maintaining critical infrastructure. With the exception of public utilities, ISPs and telcos generally are better at running a telco service. Public utility companies operate in many ways similar to a telco, and subsequently have shown they are capable of adding Internet services to their utility operations.



Rural respondents show even less support for the private sector owning and operating broadband (38.5%), which is reasonable considering how disinterested incumbents have been in servicing these areas. AT&T running to state legislatures trying to remove incumbents' obligation for any responsibility for rural constituents only increased rural communities' animosity toward incumbents in general. A greater percentage of rural respondents also favor communities owning the infrastructure and providers delivering services (23.1%).

These results reveal that rural economic developers in particular see an increased need to control the network so they can better direct how that technology is used, whether or not incumbents are part of the picture. Several recent news reports of rural communities that are dying economically clearly convey that small and rural town officials feel dramatic measures are needed. In turn, officials are likely pressuring economic developers to produce jobs, so makes sense they want to have a leadership role in using whatever technology and programs will turn their economic situation around.

### **National programs and policy**

When it comes to urban low-income communities, this seems to be another area where there is a disconnect between policy (or perceptions of what certain policies should be) and what economic developers feel is best for constituents. I've addressed before this insistence that what urban areas need are a lot of computing centers and marketing programs.

This cart-without-the-horse approach falls short. When the current infrastructure is abysmal in poor communities, there are no horses to bring the carts bearing the wealth of benefits computing centers produce. And what is the point of marketing the value of Internet access when shoddy infrastructure will only frustrate and disappoint those who believe the adoption hype?

Respondents to the survey pretty much nailed it when they were asked what would produce the greatest economic impact in urban areas. Nearly two-thirds ignored everything else that's being federally funded, including the relatively expensive wiring of major institutions, and said, "faster networks and cheaper Internet services." Only 10% felt wiring institutions alone would have a major impact, but not too many urban areas received money for this anyway.

The exception that has not been tried, which 14.5% of respondents selected, is to train people how to use broadband to generate and increase personal wealth. If policymakers and government agencies want to drive adoption, they should set up partnerships with appropriate corporations, nonprofits and others to train people how to develop IT skills and get certifications in those skills. Set up training programs that teach people digital and multimedia skills they can use along with the

Internet to get freelance projects. There is a laundry list of work and entrepreneurial skills that are marketable to employers with professional jobs.

The policy question on regulation is a good hot button to push because nothing heats up a room full of lobbyists as much or as fast the question of should we have more or less regulation. The net of respondents' take on this question is that the world will not end with consumer-protection regulations. For a sizeable 22% of respondents, they clearly see strong consumer protections as a win for broadband adoption, and another 25% see local economies benefitting though large incumbents may experience some discomfort. Some would say that incumbents would win in the long term with some consumer-friendly rules and regulations.

## VII. Recommendations for Action

If we take the view that broadband should be cultivated as an economic development asset, it will require a significant amount of planning by several key local stakeholders, including obviously economic development professionals. Here is a planning checklist to help initiate the process.

This should not be considered a one-dimensional exercise in job creation. Jobs are at the core of the short- and long-term benefits you produce, but maximizing broadband as an economic engine is an on-going venture that contributes to the economic well being of the community as a whole. Individuals, businesses and institutions are both participants and beneficiaries of this venture.

1. Make needs assessments a staple activity that never ends. You need a process (formal meetings, informal monthly gatherings of stakeholders, mailed surveys, etc.) that gathers feedback about a) what their business or economic needs are, b) how can broadband help them meet their needs, and 3) what realistic economic outcomes will result from meeting those needs.

2. You need to educate elected officials, community leaders and key stakeholders about what broadband technology can and cannot do. It doesn't have to be an engineering course, but a non-techie's basic breakdown of main features and capabilities of wireless, wired and other technologies.

3. Part two of the education process is to teach community stakeholder groups (business community, retired seniors, medical professionals, government workers, etc.) what they can do with broadband and what the economic benefits are. Be sure to distinguish the difference between applications that run on the network, and what the respective stakeholders can [do with the highspeed communication infrastructure](#) itself.

4. Begin communicating and collaborating with communities that are building or already using broadband networks they've built alone or through partnerships. There are hundreds of communities to choose from, so you should be able to find several that are similar to your community. Visit with some of them in person.

5. Create stakeholder Partnerships for Economic Success. As survey data revealed, many of these efforts to leverage broadband as an asset and produce economic outcomes require support programs and resources. You will only be able to acquire some of these through effective partnerships with public, private and nonprofit organizations.

6. Begin creating an ecosystem that enables you to build an industry around your broadband network. As described in the Introduction of this report, Mitchell, SD

built quite a community self-sustaining technology industry for itself using broadband. Danville, VA built a strong medical services industry in a similar fashion. [E-mail me](#) for write ups I have done on both communities' efforts

7. Create a system for promoting the creation of home-based businesses and tracking their progress. These particular entrepreneurial ventures can be a stealth economic force with a noticeable impact if cultivated properly.

8. If you do not create a system for measuring the economic outcomes from your broadband efforts, you will not achieve full success, or you probably won't recognize it when it happens. If it's not too much trouble, share the findings. These are still fairly uncharted waters and communities need to help each other get a leg up.

9. Create a strategy for marketing the broadband services. Even after all of your community's needs assessments and partnership building, efforts, if sufficient numbers of businesses, organizations and individuals do not subscribe to the network, it will not be able to financially sustain itself.

10. Market the fact you have broadband. Even though your community is not the same as Chattanooga or Kansas City and your network may not deliver gigabit service, you should still market the heck out of the capabilities and economic benefits of being in your community once your network is in place. [Chattanooga pretty much has established the bar](#) for making the most of its broadband capabilities.

There is a lot more to do to cultivate broadband as an asset, and I am happy to speak with you about those options and possibilities. But these recommendations are a good push in the right direction.

## Conclusion

This report is only a snapshot of what is happening as economic development professionals increase the drive to derive significant economic value from broadband technology. The concept of broadband as an asset to boost local economies is starting to catch on beyond the communities that have pioneered the ownership and use of broadband in this way.

Consider these national surveys with IEDC as a first pass at getting valuable data so broadband project teams and local stakeholders can make informed decisions. Much has to be done locally to test the assumptions that are drawn from the national data, and to collect data locally to hone in on what local broadband strategies and tactics should be implemented.

### Survey author

For over 25 years Craig Settles' workshops, consulting services and books have helped organizations worldwide use technology to cut costs, improve business operations and increase revenue. Mr. Settles is a [prominent thought leader](#) on effective broadband strategies. He currently hosts [Gigabit Nation](#), a weekly Internet radio talk show, and is [Co-Director of Communities United for Broadband](#). [Follow him](#) on Twitter.

Craig Settles offers consulting services and workshops that help communities leverage broadband as an asset to drive economic outcomes such as those described in this report. On-site workshops educate community stakeholders. Education and consulting packages enables communities to create their own plans. Other services assist communities with marketing, building partnerships and creating industry ecosystems within their communities. [E-mail today](#) for more information.

### Survey partner

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