



## **City of Santa Cruz Market Analysis Project: Survey Results**

**Prepared for City of Santa Cruz  
November 2015**

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# 1. Survey Results

## Overview

The results presented in this report are based on analysis of information provided by 290 valid sample respondents from an estimated 20,675 households in Santa Cruz. Results are representative of the set of City households, with a confidence interval of  $\pm 5.7$  percent at the aggregate level.

Unless otherwise indicated, the percentages reported are based on the “valid” responses from those who provided a definite answer and do not reflect individuals who said “don’t know” or otherwise did not supply an answer because the question did not apply to them. Key statistically-significant results ( $p \leq 0.05$ ) are noted where appropriate.

## Survey Data Collection Process

As part of a broader effort to evaluate and improve high-speed communications services in the City of Santa Cruz, the City sponsored a door-to-door survey of its residents in the fall of 2015. Based upon the list of households provided by the City to the survey partner organization, Civinomics<sup>1</sup> conducted interviews of self-reported City residents at their homes. Residents were asked to answer questions in terms of the entire household and not themselves as individuals. Further explanation of Civinomics’ methodology is included in Appendix A.

The survey captured information about residents’ current communications services, satisfaction with those services, desire for improved services, willingness to pay for faster Internet speeds, and opinions regarding the role of the City in the broadband communications marketplace.

## Survey Response and Analysis

The City acquired the services of Columbia Telecommunications Corporation (CTC)<sup>2</sup> to help assess communications services in the City. CTC first assisted the City in writing survey questions. CTC and its partner market research firm, Clearspring Research<sup>3</sup> (together, the “Consultant”) analyzed the survey data provided by Civinomics and reported the results. CTC and Clearspring have substantial experience analyzing similar surveys for local and regional government entities nationwide.

Assuming 20,675 unique households in the City, this response rate provides statistically valid results at the 95 percent probability level, with a confidence interval of  $\pm 5.7$  percent at the aggregate level. That is, for questions with valid responses from all survey respondents, one

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<sup>1</sup> [www.civinomics.com](http://www.civinomics.com)

<sup>2</sup> [www.ctcnet.us](http://www.ctcnet.us)

<sup>3</sup> [www.clearspringresearch.com](http://www.clearspringresearch.com)



would be 95 percent confident that the survey responses lie within  $\pm 5.7$  percent of the responses for the entire population in the study area.

The survey responses were entered into SPSS<sup>4</sup> software and the entries were coded and labeled. SPSS databases were formatted, cleaned, and verified prior to the data analysis. The survey data was evaluated using techniques in SPSS including frequency tables, cross-tabulations, and means functions.

The following sections summarize the survey findings, including statistically significant differences between subgroups of response categories.

## **2. Home Internet Connection and Communications Services**

Respondents were asked about their home Internet service types and providers, use of the Internet for various activities, and satisfaction and importance of features related to Internet service. This information provides valuable insight into residents' need for various Internet and related communications services.

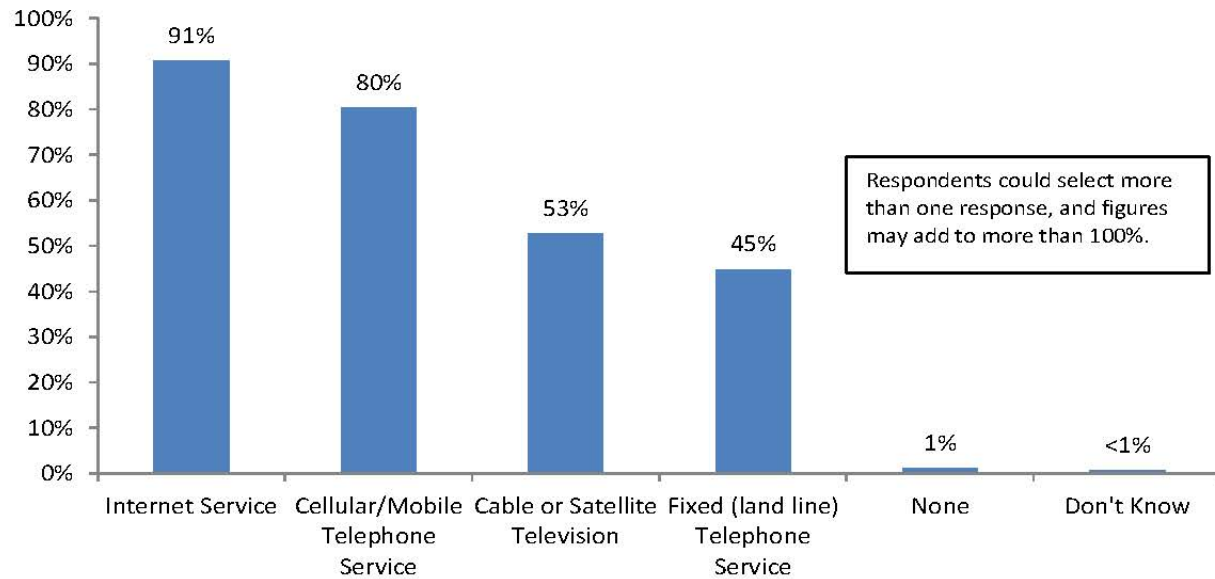
### **Communications Services**

Respondents provided information about the communication services currently purchased for their household. As illustrated in Figure 1, 91 percent of respondents purchase Internet service, and 80 percent purchase cellular/mobile telephone service. Over one-half of respondents have cable or satellite television (53 percent reported in Question 1; 56 percent reported later in the survey) while only 45 percent have fixed (land line) telephone service.

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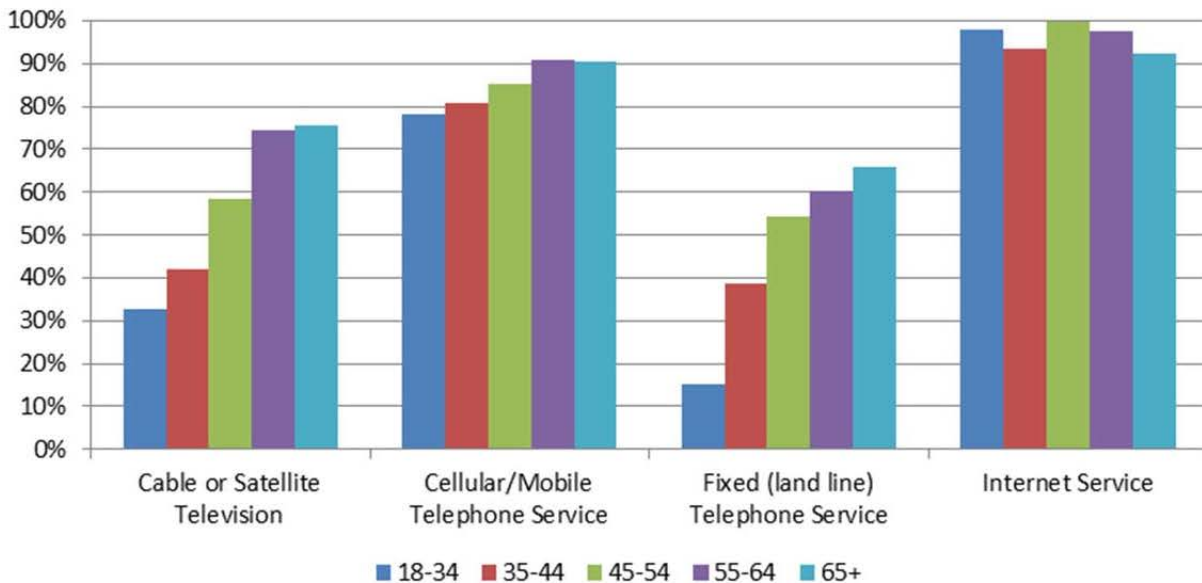
<sup>4</sup> Statistical Package for the Social Sciences ( <http://www-01.ibm.com/software/analytics/spss/>)

**Figure 1 – Communications Services Purchased**



There is little variation between the age of the respondent and purchase of Internet service, and only a modest correlation between age and mobile telephone service. However, older respondents are more likely to purchase fixed (land line) telephone service or cable/satellite television service, as illustrated in Figure 2.

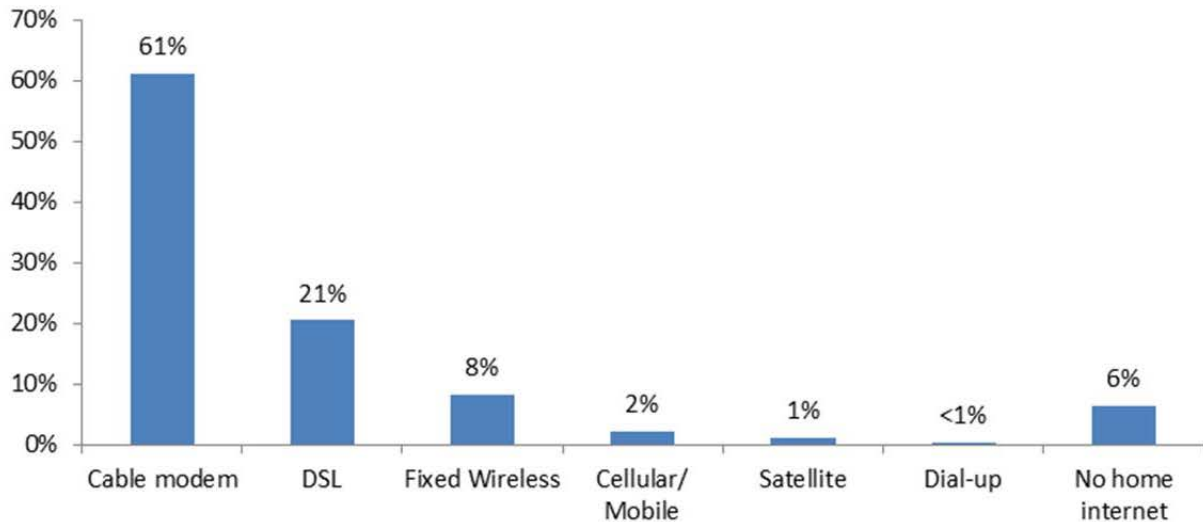
**Figure 2 – Services Purchased by Age of Respondent**



## Internet Services Purchased

Respondents were asked about their purchase of Internet services for their home, as well as the cost and speed of services purchased, as shown in Figure 3.

**Figure 3 – Primary Home Internet Service**

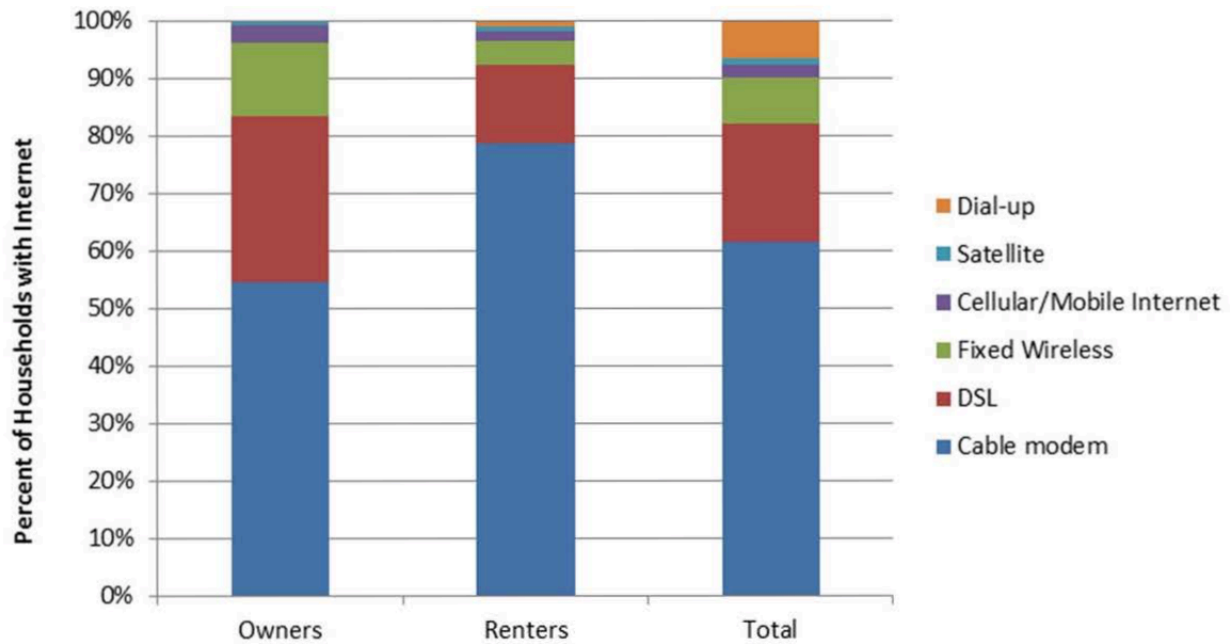


The majority of homes (94 percent) have home Internet service, including 61 percent with a cable modem connection and 24 percent with a digital subscriber line (DSL). Smaller shares of homes have satellite, fiber-optic, dial-up, or another type of Internet connection (See Figure 3).

As Figure 4 illustrates, homeowners are more likely than renters to have DSL or a fixed wireless connection, although cable modem is the primary Internet connection type for both groups.

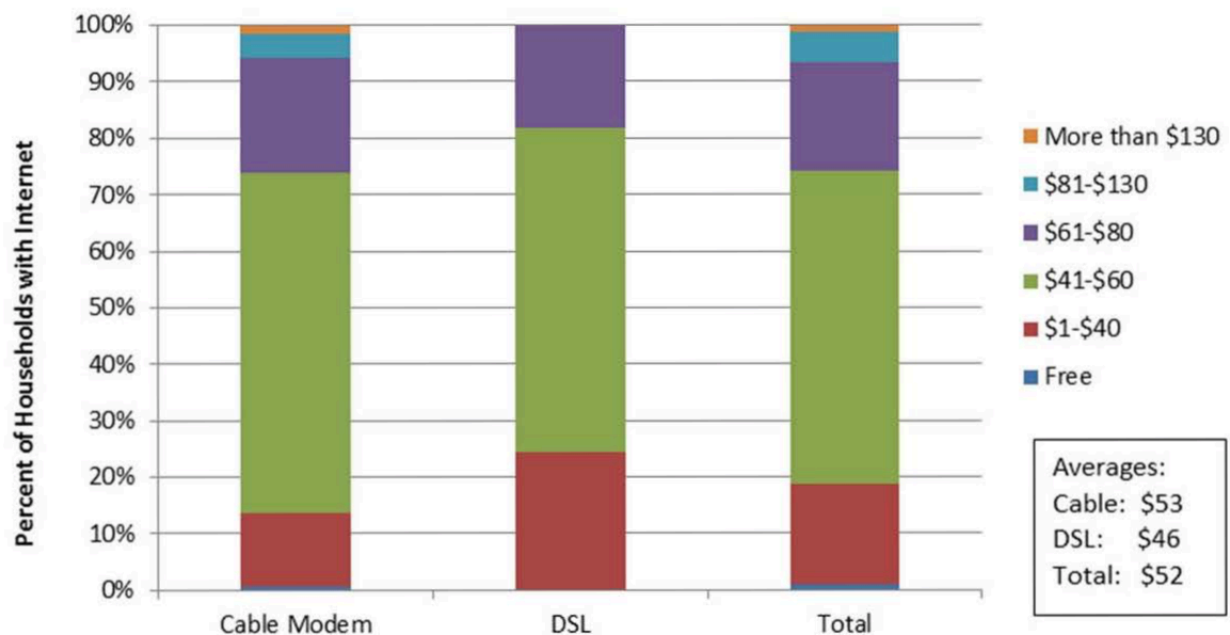


Figure 4 – Primary Home Internet Service by Home Ownership Status



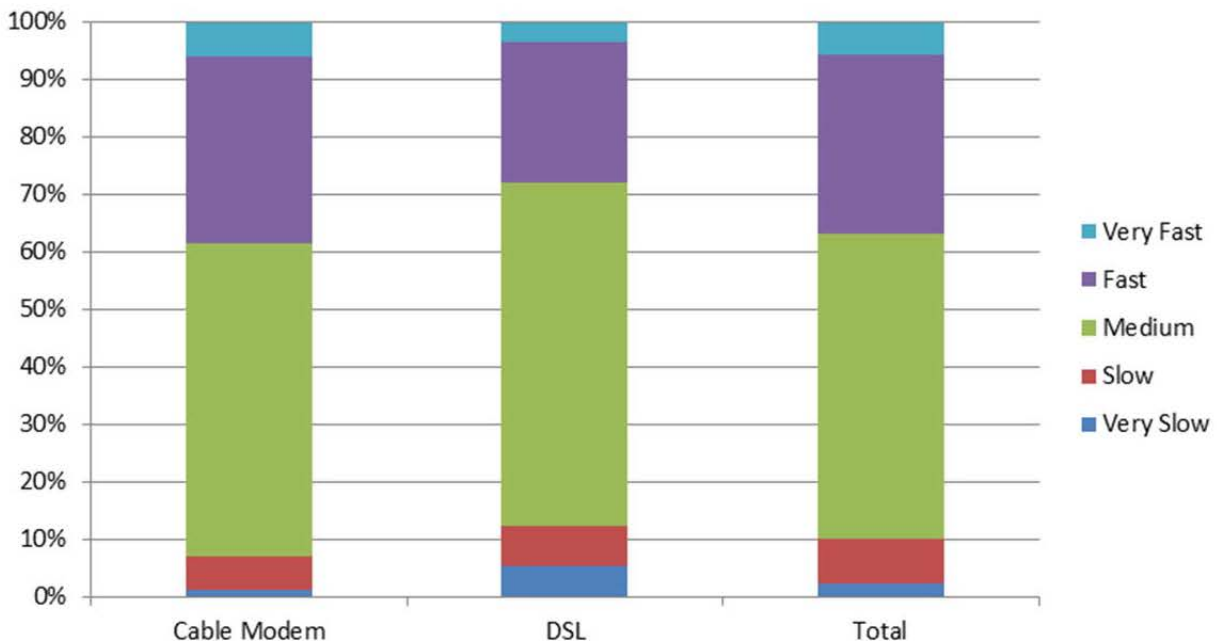
Santa Cruz households pay approximately \$53 per month for Internet service, on average. Cable Internet service is somewhat more expensive than DSL service, on average, as illustrated in Figure 5. The most common monthly price for Internet service is between \$41 and \$60, the price paid by more than one-half of respondents.

Figure 5 – Estimated Average Price for Internet Service



Most Internet subscribers described their Internet speed as “medium” or “fast”, while only 10 percent said it was “slow” or “very slow”. Cable Internet subscribers tended to rate their connection speed as somewhat faster than DSL, as illustrated in Figure 6.

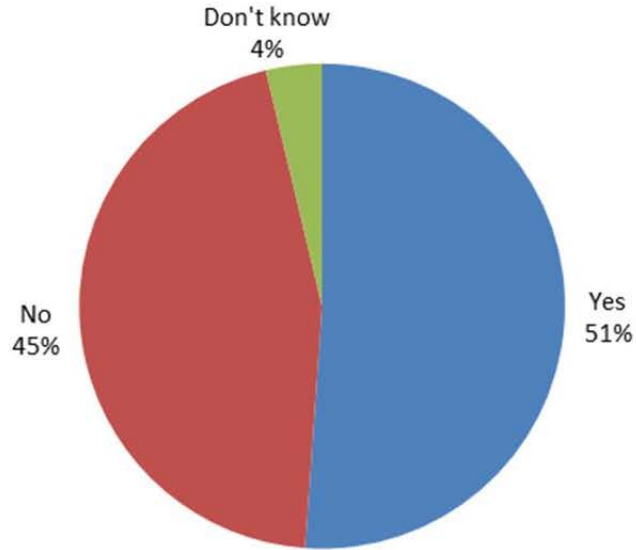
**Figure 6 – Internet Speed (Respondent Opinion)**



## Service bundling

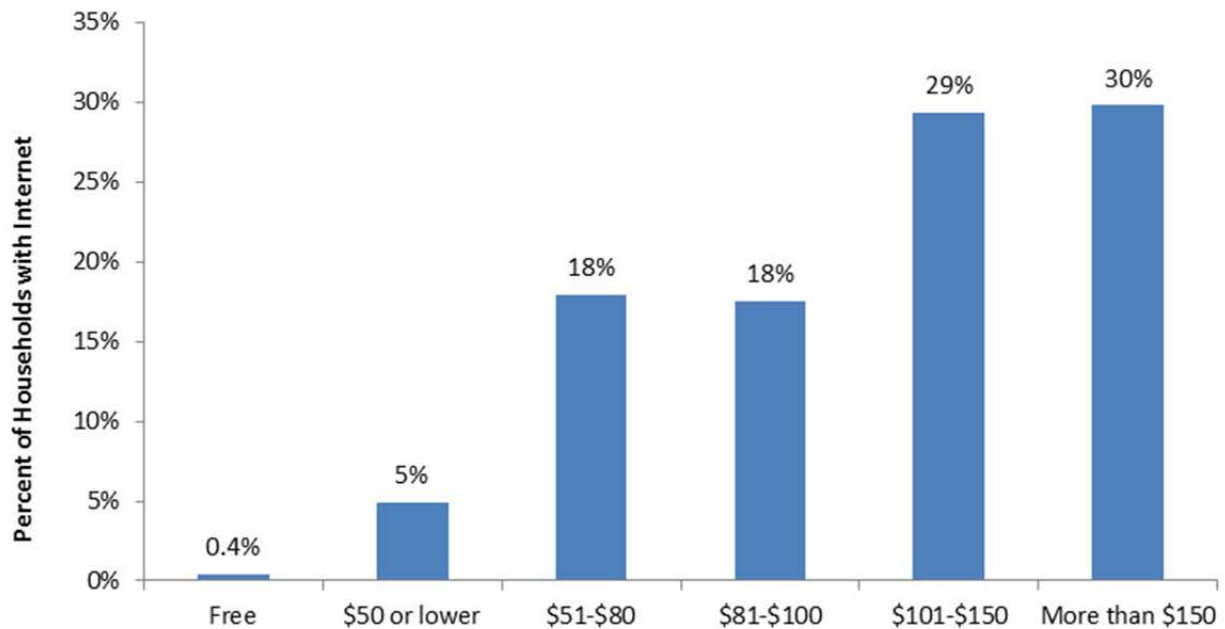
Over one-half of respondents purchase some communications services as part of a “bundle”.

**Figure 7 – Communications Service Bundling**



Nearly one-third bundles cost more than \$150 per month, and nearly 60 percent cost over \$100 per month, as illustrated in Figure 8. The vast majority of communications services contracts are month-to-month (88 percent; not graphed).

**Figure 8 – Monthly Cost for Bundled Communications Services**



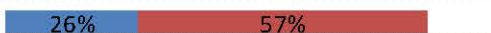







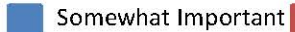




### 3. Internet Service Aspects



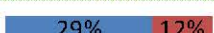







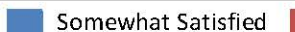
Respondents were asked to rate their levels of importance and satisfaction with various Internet service aspects. Respondents ranked connection reliability as the most important aspect, followed by the connection speed and price, as shown in Table 1.

**Table 1 – Importance of Internet Service Aspects**

Service Aspect	Mean	Top-Two Box Percentages
Speed of Connection	4.5	
Reliability of Connection	4.8	
Price of Services	4.4	
Provider Based Locally	3.3	
Technical Support Service	4.0	
Overall Customer Service	4.2	
Ability to Bundle with Cable TV	2.4	
Quality of Streaming Video or Audio	4.3	
Ability to Upload and Share Content	3.7	
Video Conferencing	2.9	
		0% 20% 40% 60% 80% 100%

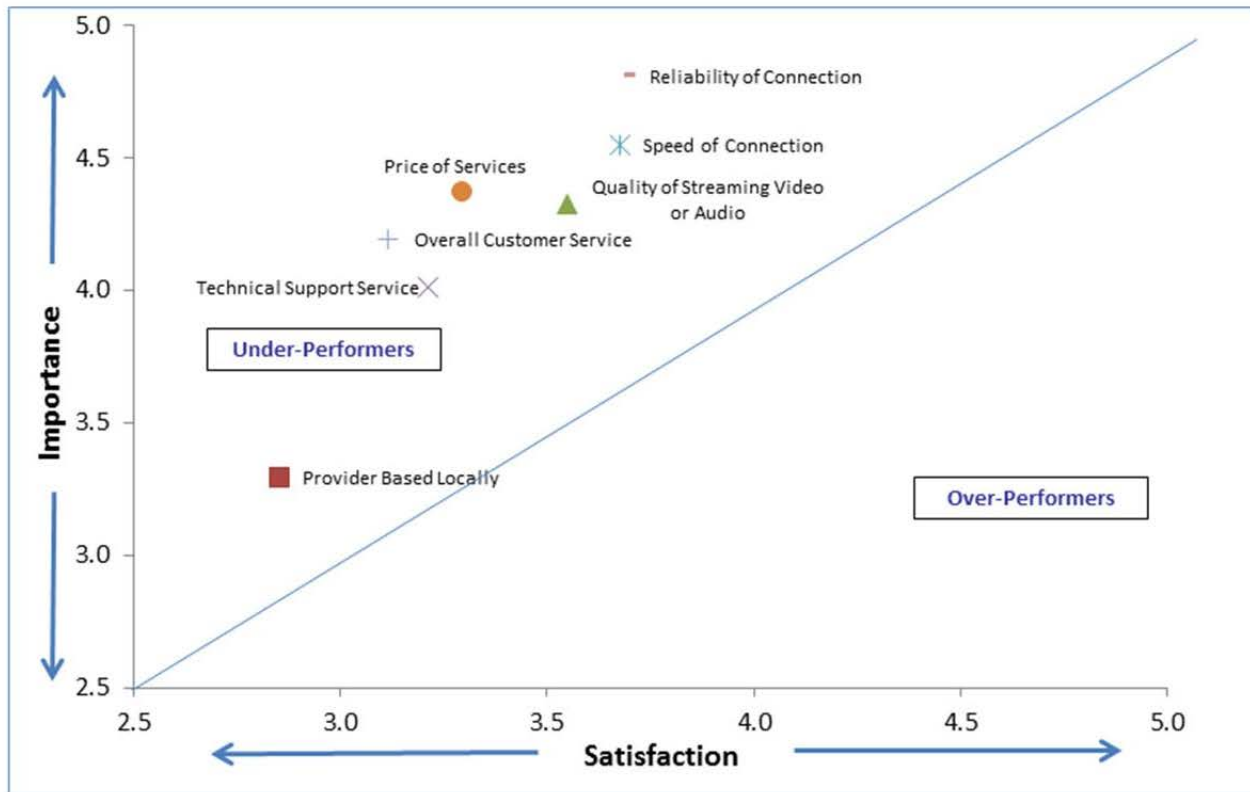
Respondents also ranked the speed and reliability of their connection as the aspects with which they are most satisfied, as shown in Table 2. The lowest satisfaction aspect was that the provider was not based locally.

**Table 2 – Satisfaction with Service Aspects**

Service Aspect	Mean	Top-Two Box Percentages
Speed of Connection	3.7	
Reliability of Connection	3.7	
Price of Services	3.3	
Provider Based Locally	2.9	
Technical Support Service	3.2	
Overall Customer Service	3.1	
Ability to Bundle with Cable TV	3.4	
Quality of Streaming Video or Audio	3.5	
Ability to Upload and Share Content	3.6	
Video Conferencing	3.2	
		0% 20% 40% 60% 80% 100%

A comparison of the importance placed upon Internet service aspects and satisfaction levels provides insight into aspects that are meeting consumers' needs and aspects where satisfaction falls short of importance levels. This "gap" analysis, illustrated in Figure 9 and presented in Table 3, indicates that the reliability, price, and overall customer service are the largest "underperforming" aspects (that is, they are farthest from the equilibrium line). Note that reliability has one of the highest satisfaction rankings, but the importance of reliability is extremely high.

**Figure 9 – Internet Service Aspect "Gap" Analysis**



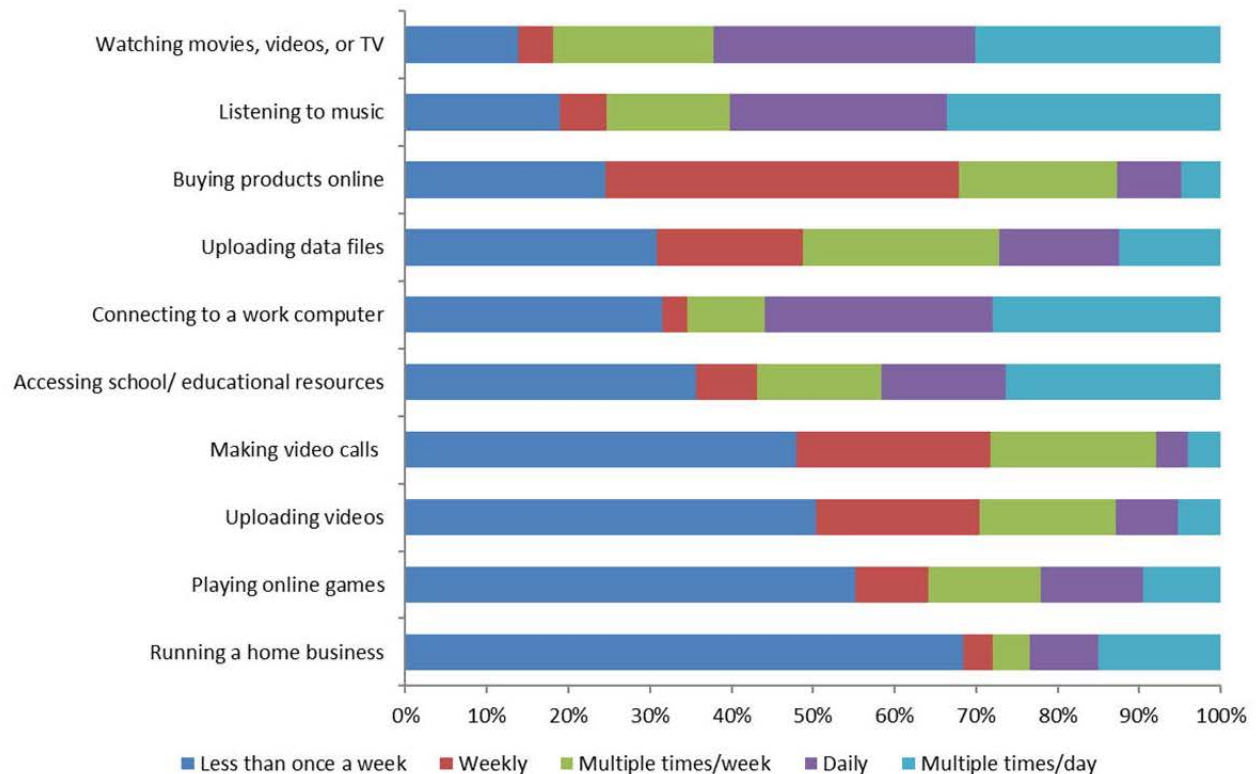
**Table 3 – Internet Service Aspect "Gap" Analysis**

	Mean Satisfaction	Mean Importance	GAP < = >	Customer Expectations
Ability to Bundle with Cable TV	3.4	2.4	1.0	Exceeded
Video Conferencing	3.2	2.9	0.3	Exceeded
Ability to Upload and Share Content	3.6	3.7	-0.1	Met
Provider Based Locally	2.9	3.3	-0.4	Not Met
Quality of Streaming Video or Audio	3.5	4.3	-0.8	Not Met
Technical Support Service	3.2	4.0	-0.8	Not Met
Speed of Connection	3.7	4.5	-0.9	Not Met
Price of Services	3.3	4.4	-1.1	Not Met
Overall Customer Service	3.1	4.2	-1.1	Not Met
Reliability of Connection	3.7	4.8	-1.1	Not Met

## Internet Uses and Importance

Respondents were asked about their use of the Internet for various activities. More than one-half of respondents with Internet service indicated that they use their Internet to connect to a work computer, watch video, or listen to music at least daily. Making video calls, uploading videos, and buying products online ranked as the least frequent uses of the Internet. Use of the Internet for various activities is illustrated in Figure 10.

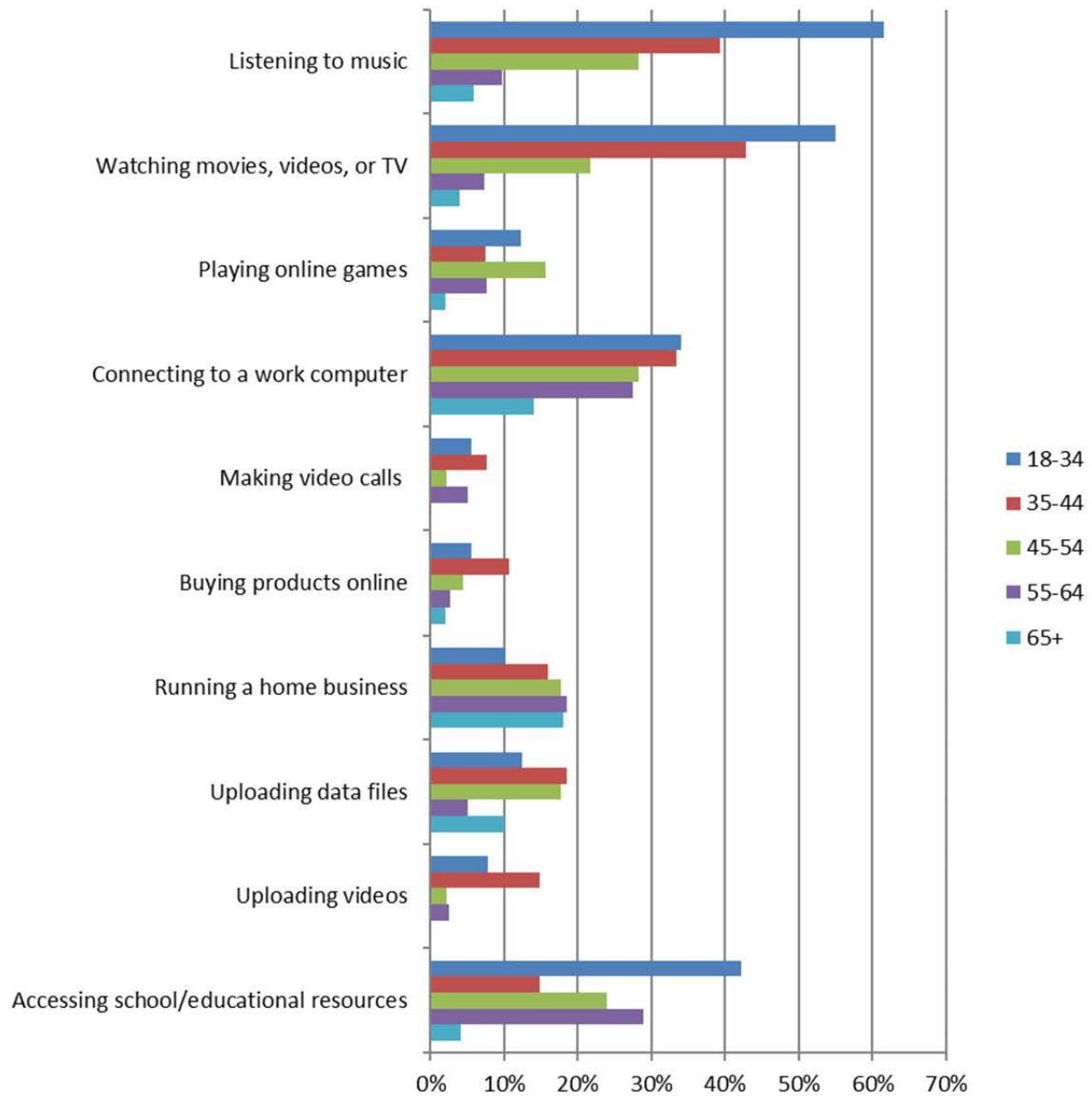
Figure 10 – Uses of Internet



The use of Internet for some activities varies by age, as illustrated in Figure 11. Younger respondents are much more likely to use the Internet for many applications, especially listening to music, watching videos or movies, and accessing educational resources. Running a home business is the only activity that appears to increase slightly with the age of the respondent.

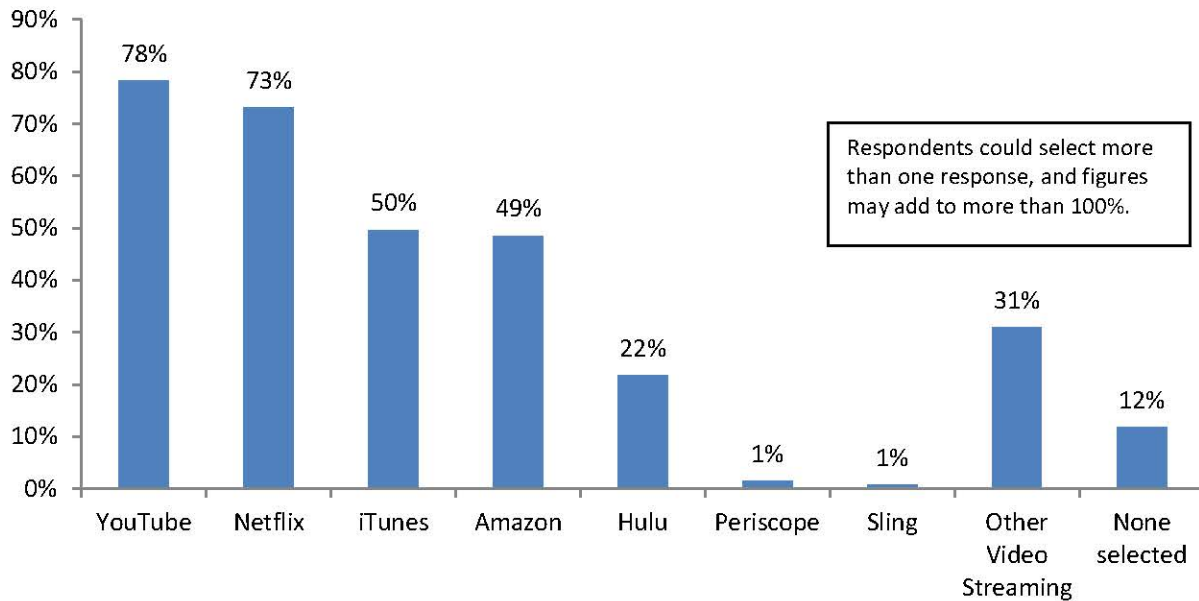


Figure 11 – Uses of Internet by Age of Respondent



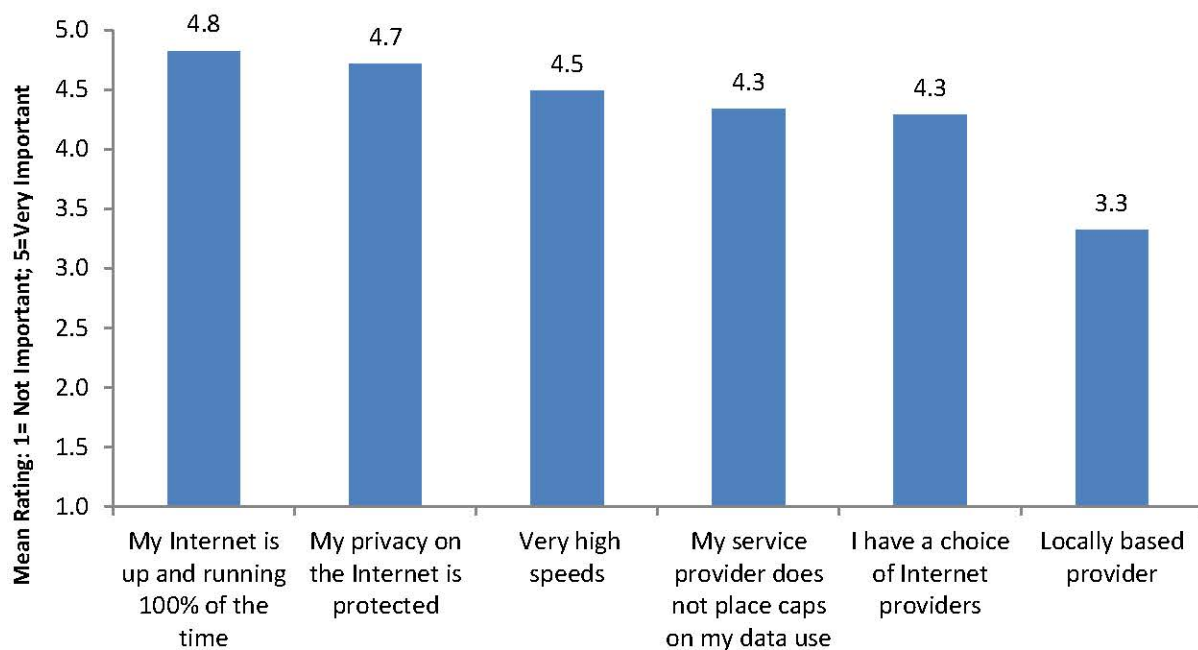
The majority of respondents with Internet service use their connection for some form of video or audio streaming service. Approximately three-fourths report using YouTube and/or Netflix, and approximately one-half use iTunes or Amazon, as illustrated in Figure 12.

Figure 12 – Streaming Services Accessed via Internet



Respondents' most important aspects when choosing an Internet service provider are ranked in Figure 13. Connection reliability and privacy protection are the most important aspects, while the availability of service from a local provider ranks as the least important of the aspects provided.

Figure 13 – Important Aspects when Choosing an Internet Provider



## Willingness to Pay for Faster Internet

Respondents were asked if they would be willing to switch to very fast Internet service (1 Gbps) for various price levels. The mean willingness to switch across this array of questions is illustrated in Figure 14, while detailed responses are illustrated in Figure 15.

Figure 14 – Mean Willingness to Switch to 1 Gbps Internet at Various Price Levels

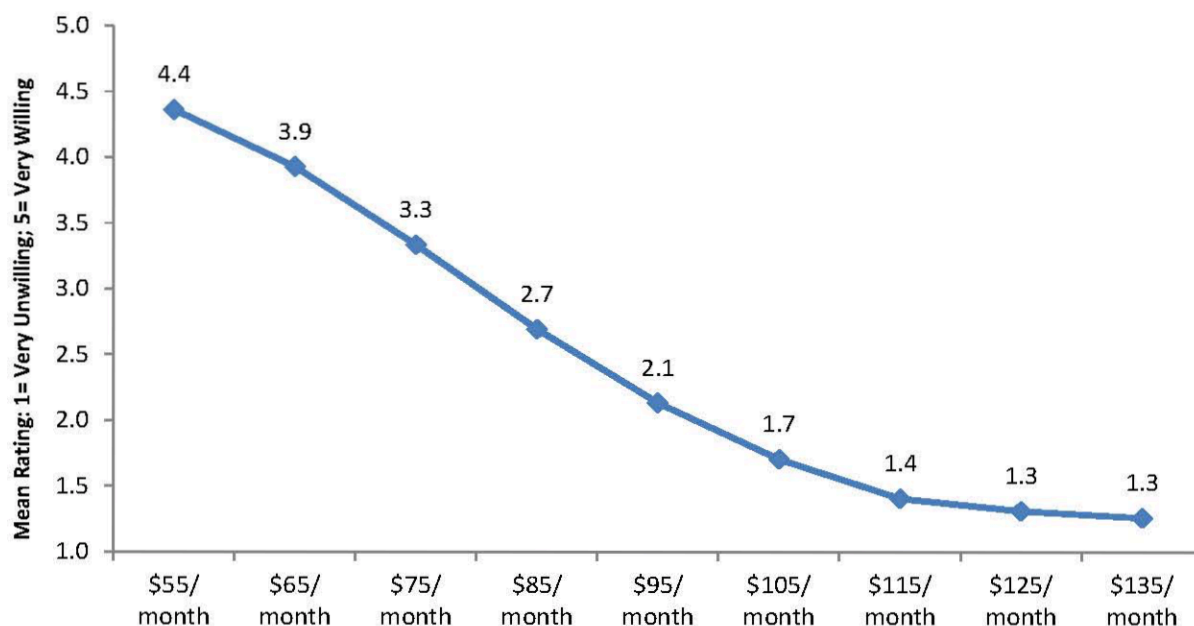
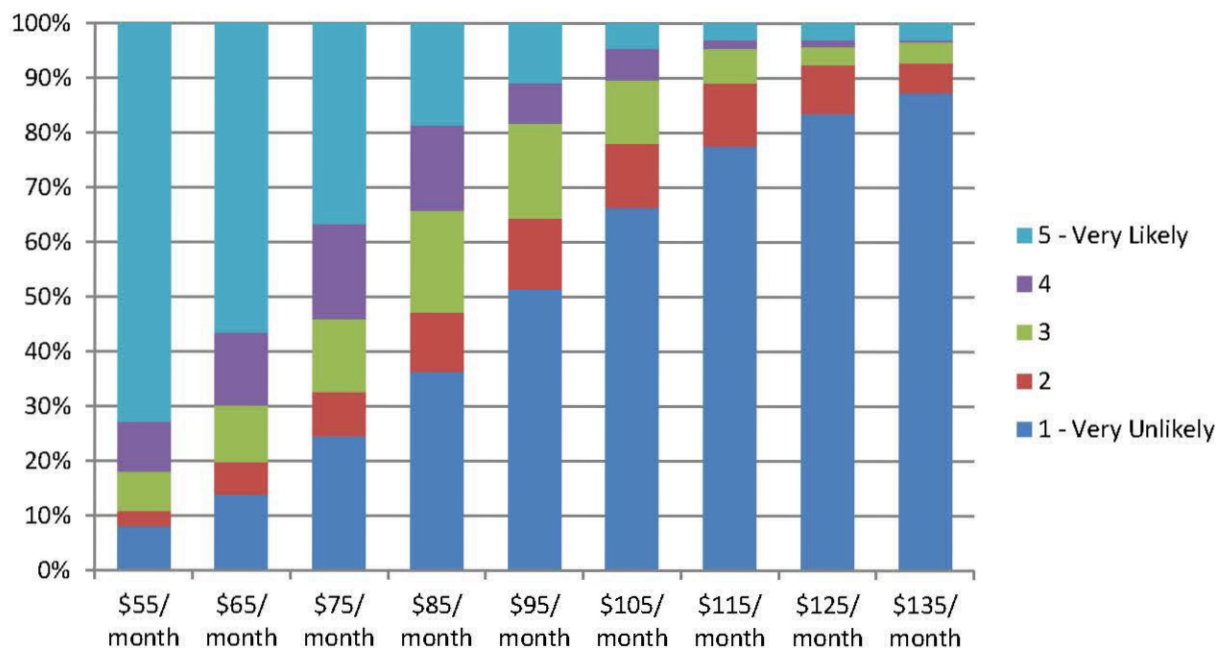


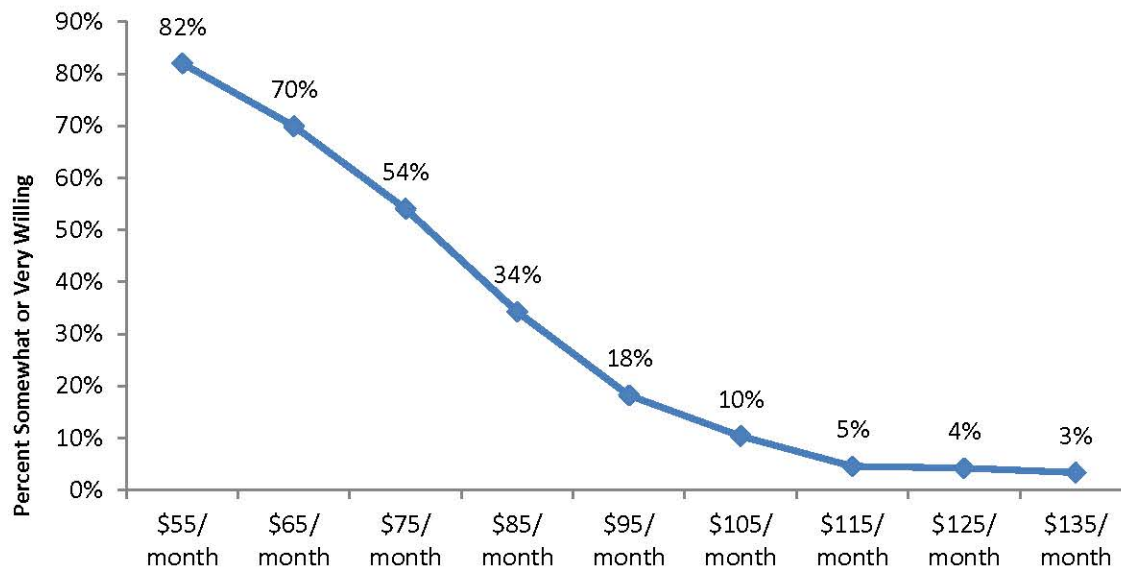
Figure 15 – Willingness to Switch to 1 Gbps Internet for Various Monthly Price Levels





As is evident in Figure 14 and in Figure 15, respondents' willingness to switch to very fast Internet service (defined at 1 Gbps service in the survey) is very high at \$55 per month, but drops considerably as the price increases. At a price of approximately \$80 per month, the mean rating is about 3.0 (neither willing nor unwilling). From another perspective, 82 percent are somewhat or very willing to switch to 1 Gbps Internet for \$55 per month, dropping to 54 percent at \$75 per month and 18 percent at \$95 per month. This is shown in Figure 16 below.

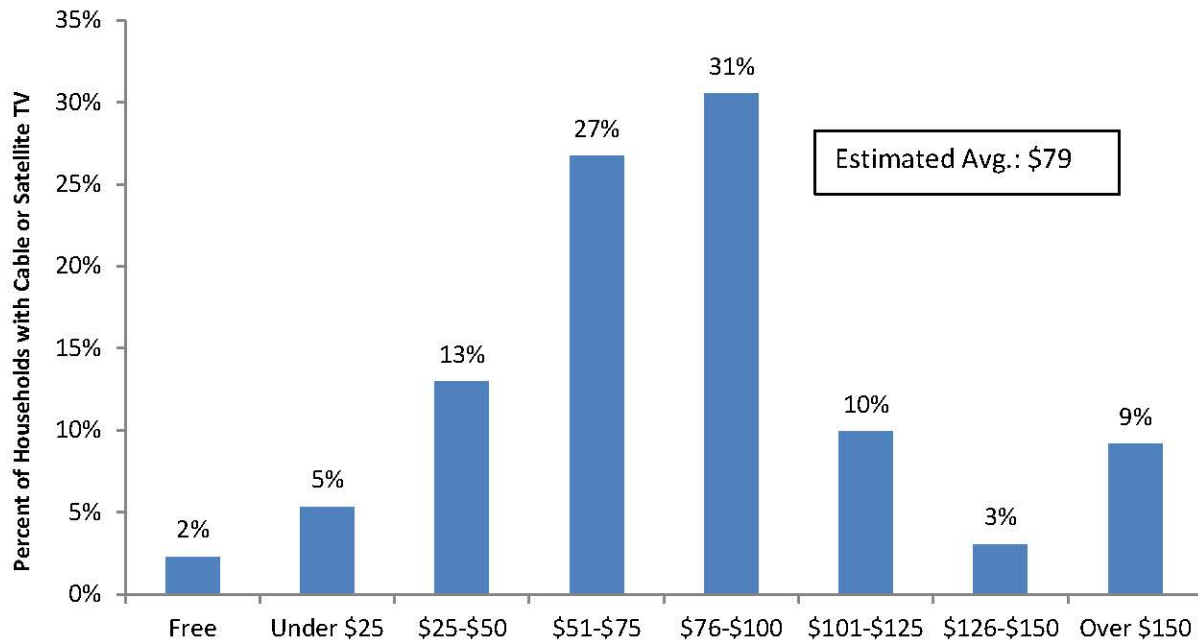
**Figure 16 –Willingness to Switch to 1 Gbps Internet at Various Price Levels**



## 4. Television Service

Approximately 56 percent of respondents purchase cable or television service at their home. The estimated average monthly price is \$79, with nearly one-fourth paying over \$100 per month, as illustrated in Figure 17.

**Figure 17 – Monthly Price of Cable or Satellite TV Service**



The most important television programming aspect is news programming, while the least important (on average) is children's programming, as illustrated in Figure 18. A detailed response summary of television programming importance is provided in Figure 19. Note that 40 percent of respondents indicated that news programming was "very important".

**Figure 18 – Ranking of Most Important Television Programming Aspects**

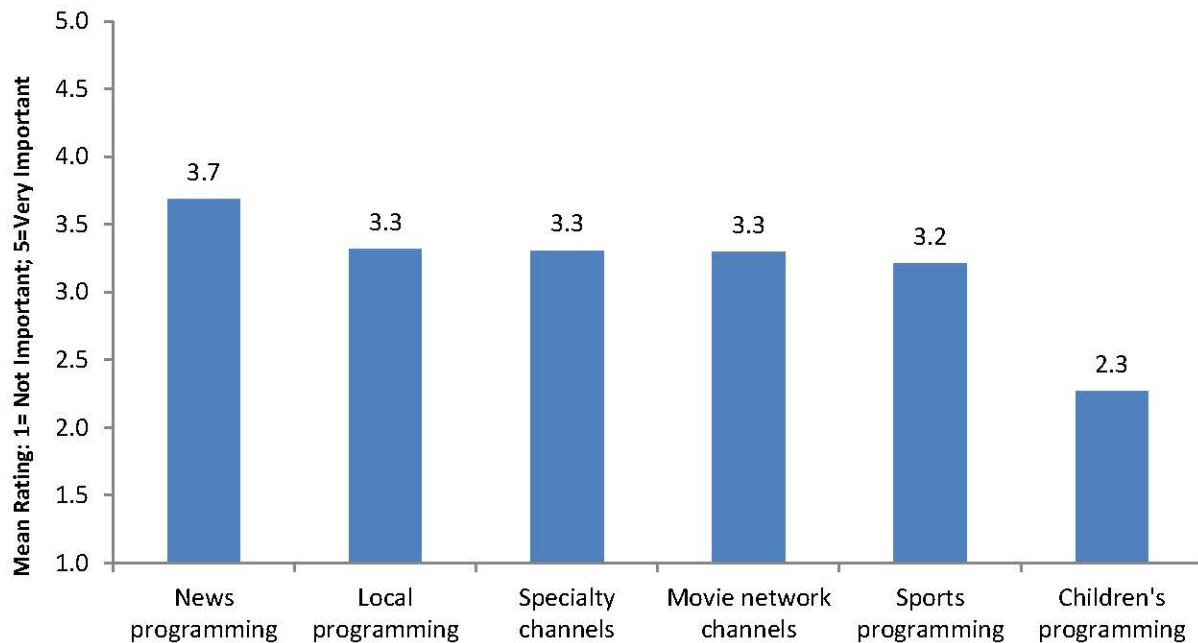
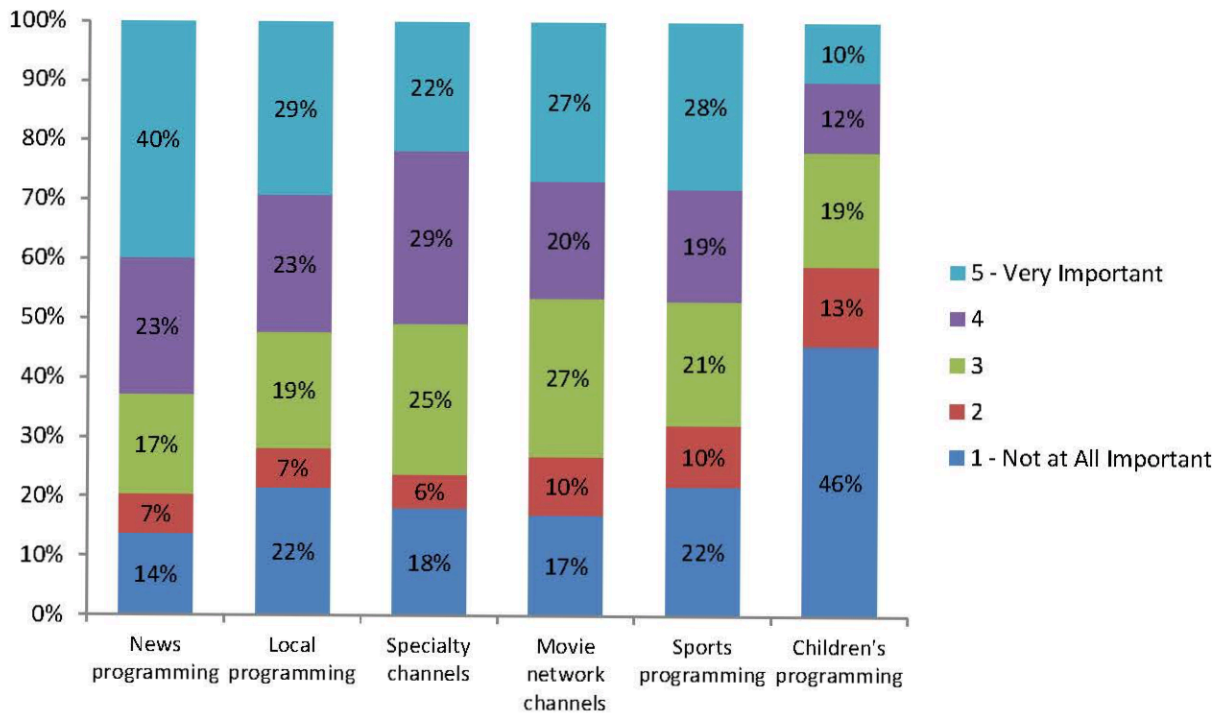


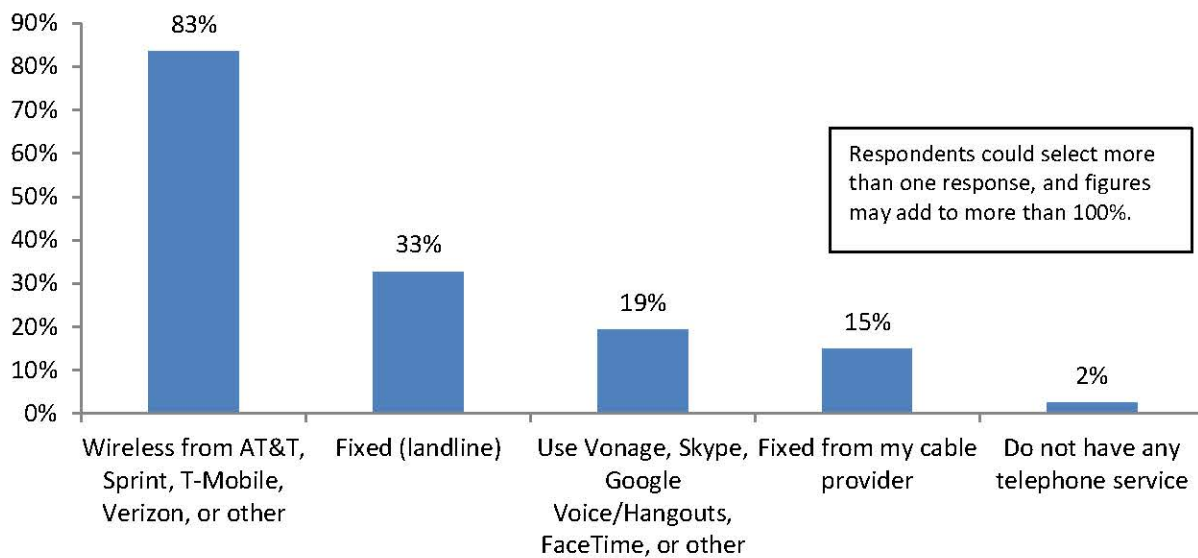
Figure 19 – Importance of Television Programming Aspects



## 5. Telephone Service

Respondents were asked about their telephone services, both at their home and cellular/mobile. As illustrated in Figure 20, 83 percent of respondents have a wireless telephone. Nearly one-half had a landline, including 33 percent from a traditional provider and 15 percent from their cable provider. In addition, 15 percent use some form of an Internet-based phone service.

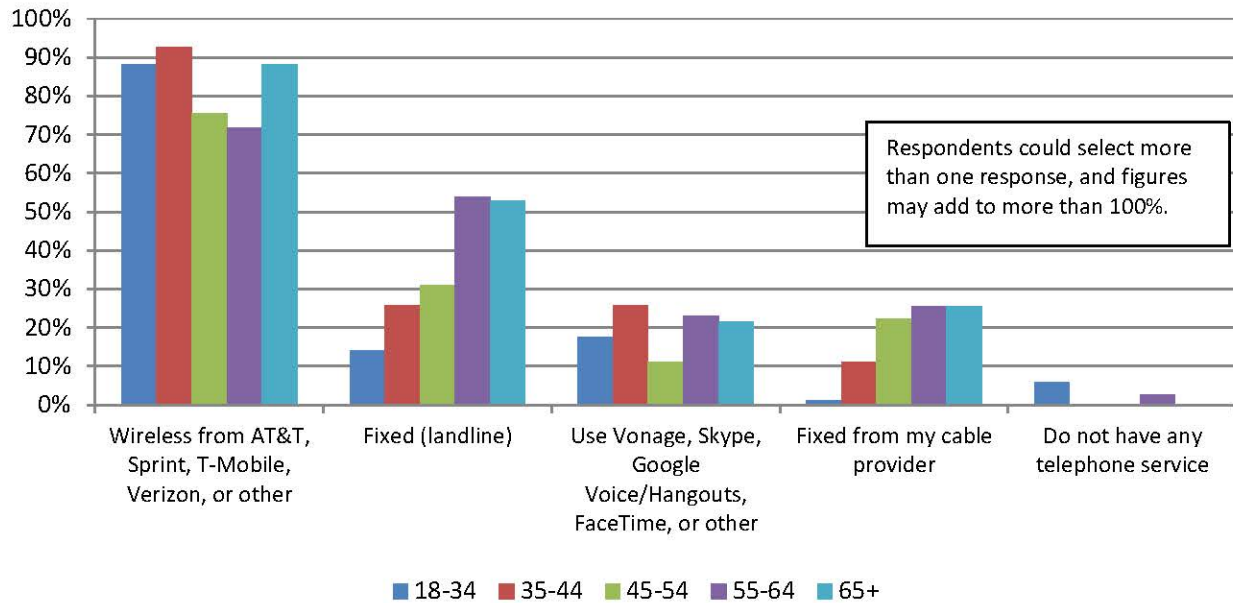
Figure 20 – Home Telephone Service(s)



The use of wireless and Internet-based telephone services did not vary greatly by age, but older respondents were much more likely to have landline telephone service, either from a traditional provider or their cable provider, as illustrated in Figure 21.



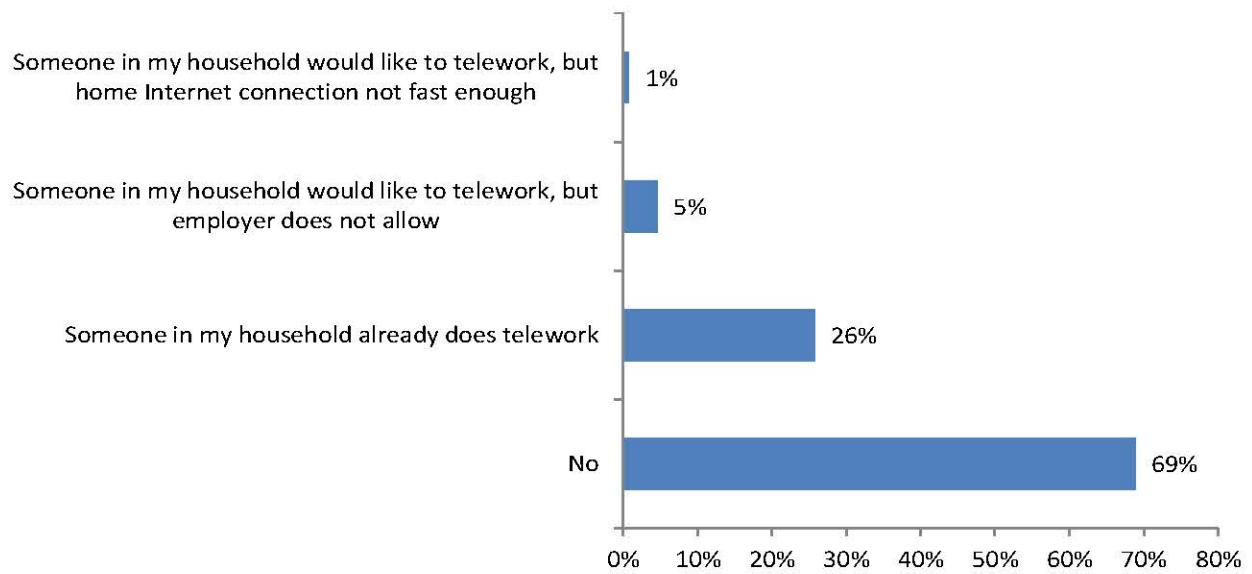
Figure 21 – Telephone Services by Age of Respondent



## 6. Telework and Home Businesses

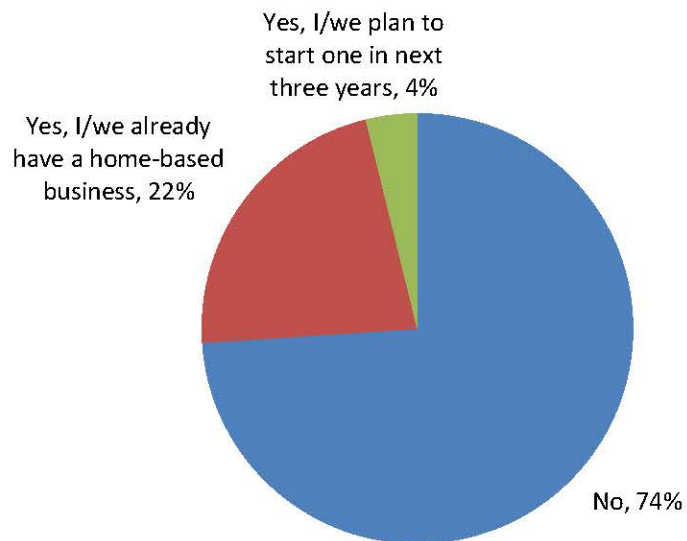
Nearly one-third of households expressed some interest in telecommuting, including 26 percent that already telework and an additional six percent that would like to telework. Only one percent of respondents indicated that they would like to telework but their Internet connection was not fast enough, as shown in Figure 22.

Figure 22 - Telework



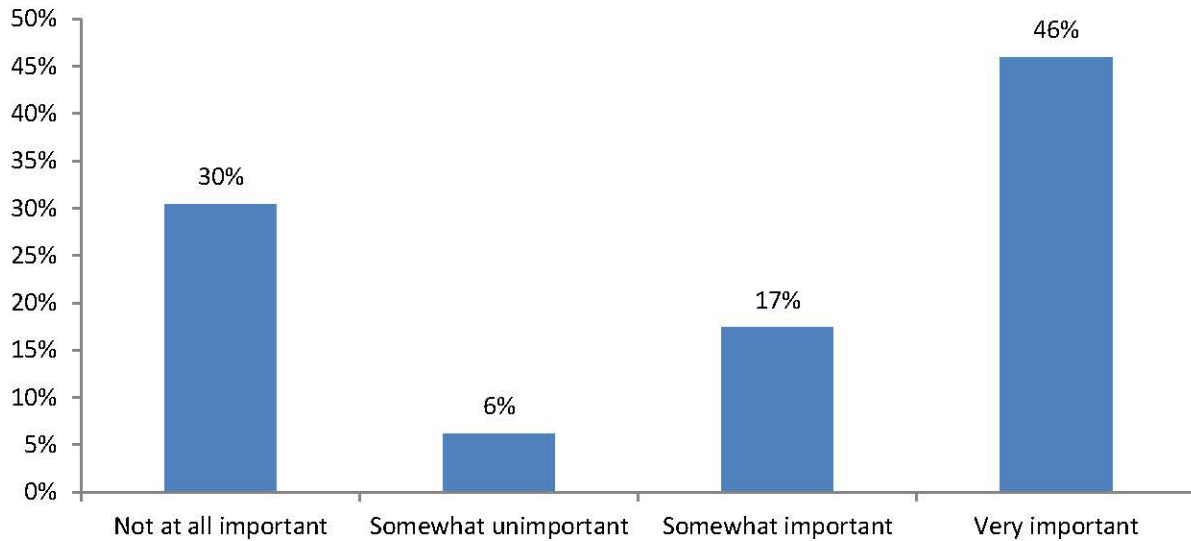
Over one-fourth of respondents either have their own home-based business or intend to start one within the next three years, as shown in Figure 23.

Figure 23 – Home-Based Business



Nearly one-half of respondents with a home-based business state that high-speed Internet is “very important” to their business, as illustrated in Figure 24.

**Figure 24 – Importance of High-Speed Internet for Home Business**

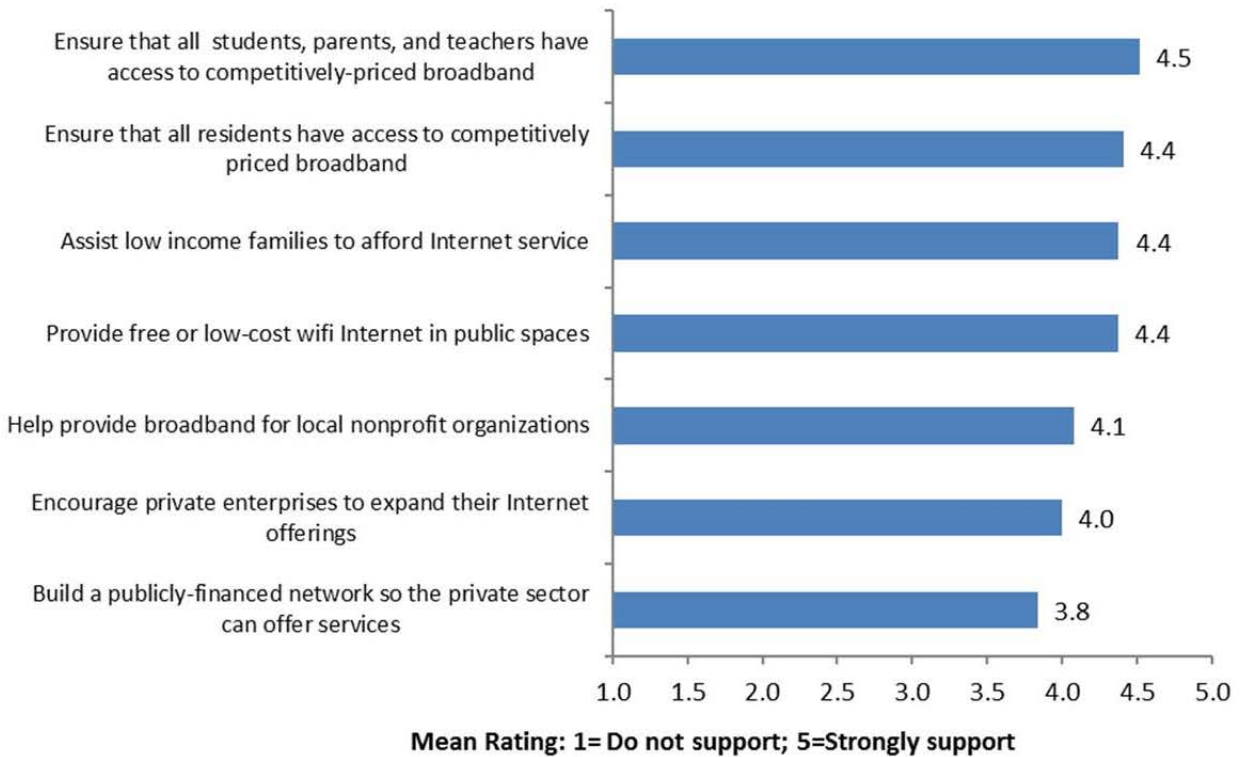


## 7. Respondent Opinions

Respondents were asked their opinion about the role that the City government should play in the broadband communications market, and the goals that the City should support.

The most strongly supported goal expressed by respondents was for the City to ensure that all students, parents, and teachers had access to broadband Internet. All roles for the City provided to respondents were supported strongly, as illustrated in Figure 25.

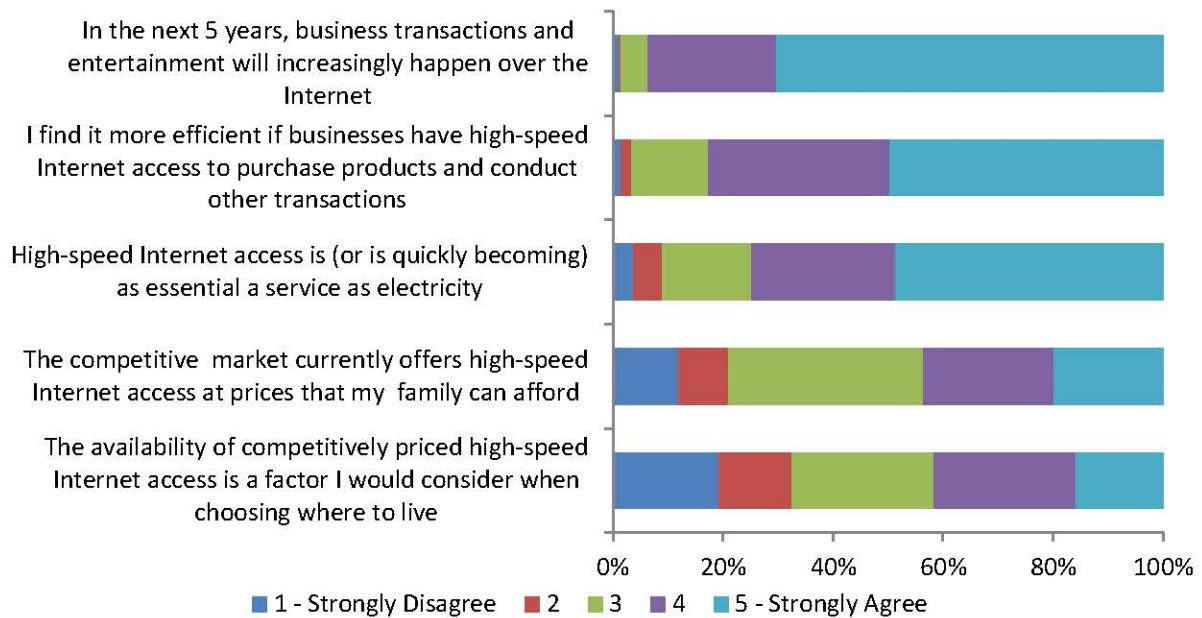
**Figure 25 – Support for City’s Role in Broadband Access by Goal**



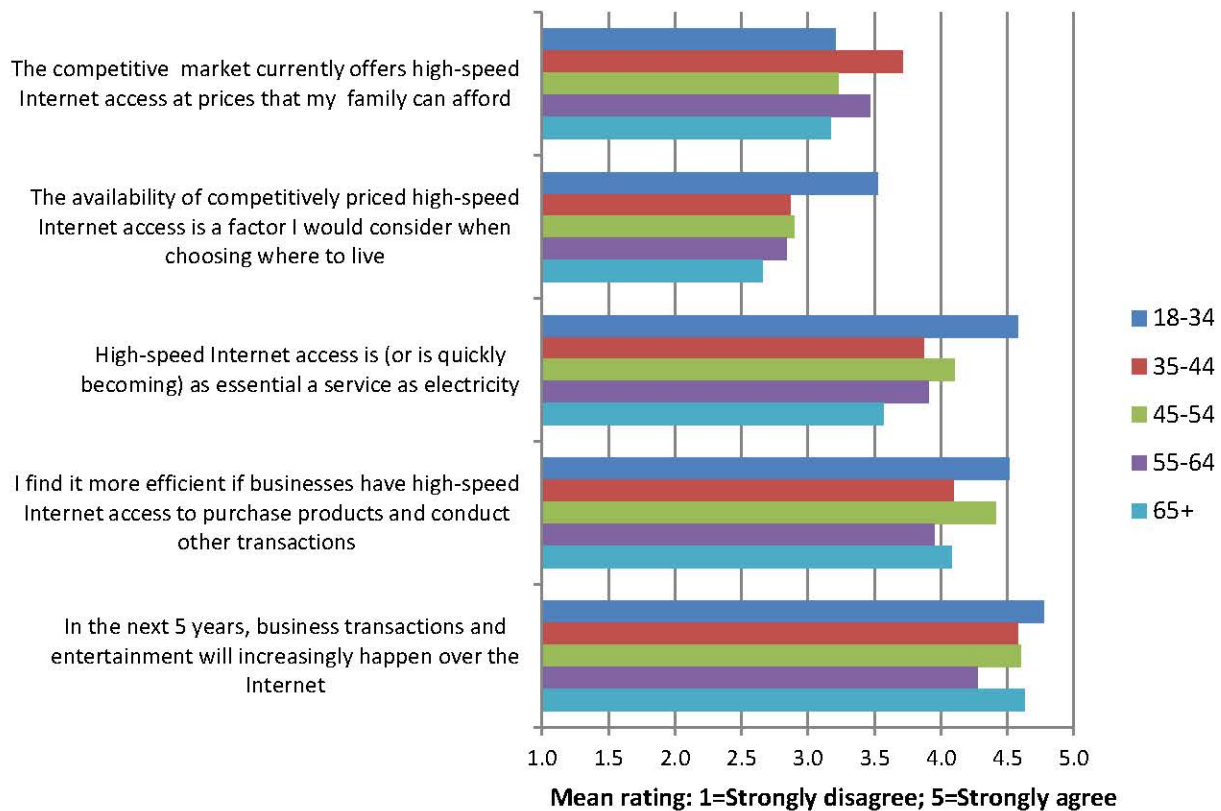
Respondents were also asked their opinion of the current and future broadband market. Most respondents agreed that business transactions and entertainment will increasingly occur over the Internet. Respondents also agreed that the Internet increases the efficiency of businesses and that it has become an essential service like electricity and water (see Figure 26).

The opinions of the broadband market varied somewhat by the age of the respondent. As illustrated in Figure 27, younger respondents were more likely to agree that high-speed Internet is an essential service, and that they would consider high-speed Internet access when deciding where to live.

**Figure 26 – Opinions of the Broadband Internet Market**



**Figure 27 – Opinions of the Broadband Market by Age**





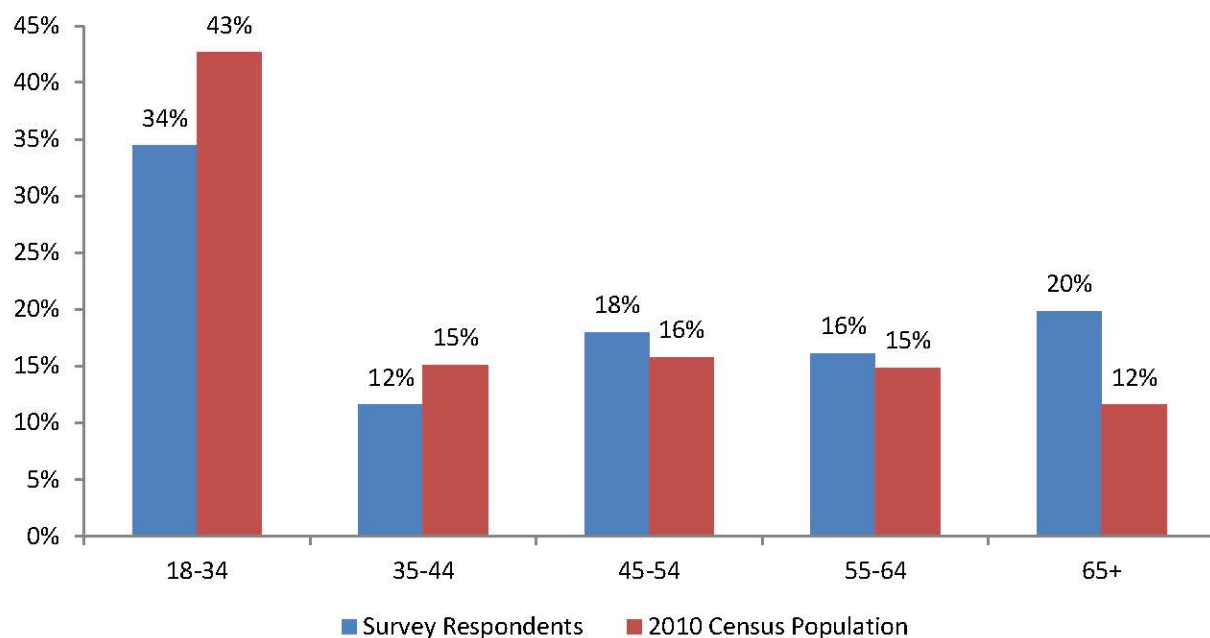
## 8. Respondent Information

Respondents provided various pieces of information about themselves and their residence. The results of those questions are summarized in this section. Several comparisons of respondent information and other survey questions were provided previously in this report.

- Fifty-three percent of respondents were male and 47 percent were female.
- Fifty-two percent of respondents owned their own home, while 48 percent were renters.

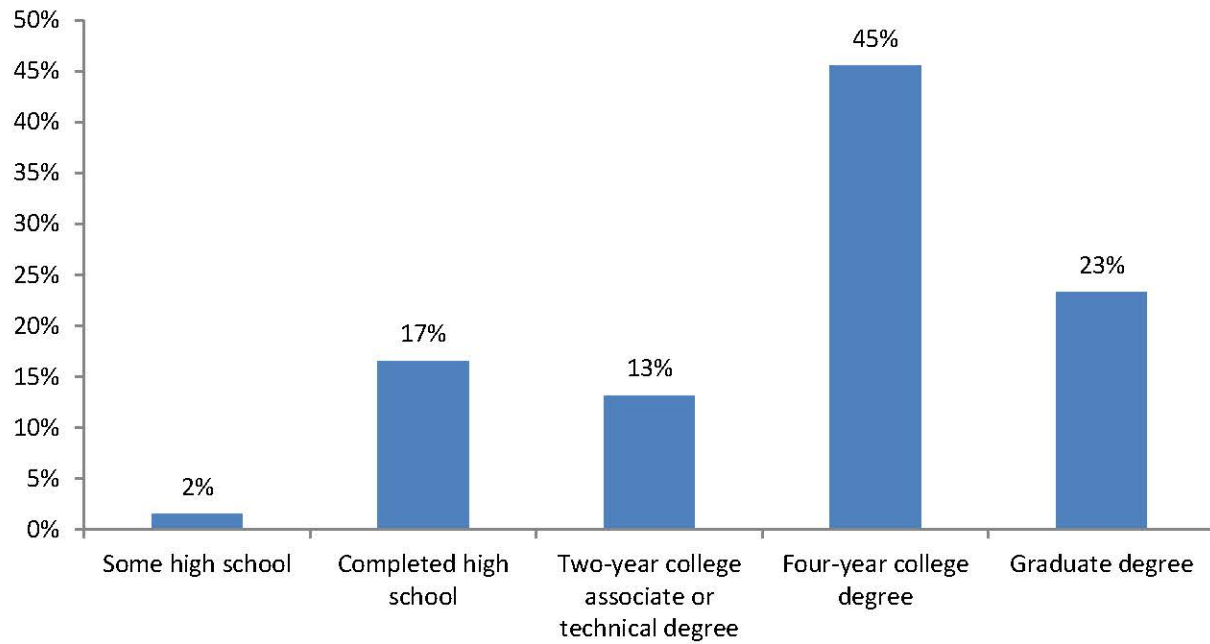
One-third of respondents were age 18 to 34, while lesser shares were from other age cohorts, as illustrated in Figure 28. Several comparisons of key survey responses by the age of the respondent were provided and discussed previously in this report. The breakdown of Santa Cruz population from the 2010 Census is also illustrated for comparative purposes. No attempt has been made to adjust or “weight” the survey responses by age of respondent in this analysis.

**Figure 28 – Age of Respondent and Census Age Cohorts**



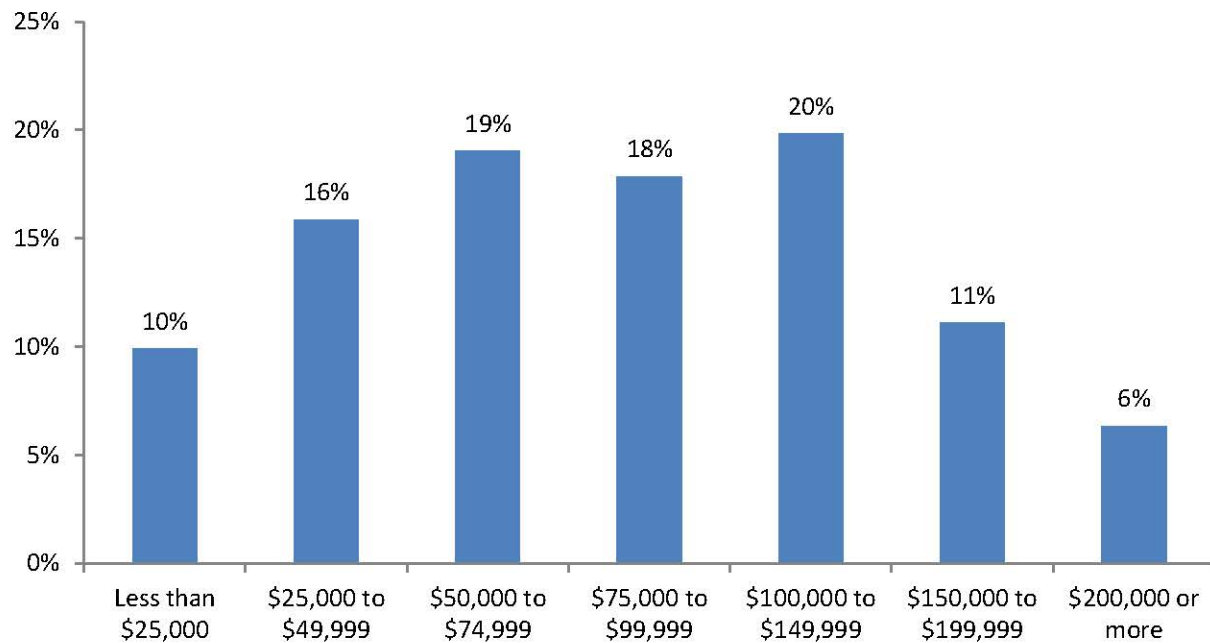
The highest level of education attained is summarized in Figure 29. Two-thirds of respondents had a four-year college degree or a graduate degree.

**Figure 29 – Education of Respondent**



Over one-third of respondents had household incomes in excess of \$100,000, as illustrated in Figure 30.

**Figure 30 – Household Income**





# ON METHODOLOGY

MEMORANDUM / 11.03.15

**Project Name:** Santa Cruz Municipal Fiber Customer Assessment Survey

**Client:** City of Santa Cruz Economic Development Department

**Prepared by:**

Robert Singleton, Founder & Director of Public Outreach, Civinomics

**Prepared for:**

J Guevara, Economic Development Manager, City of Santa Cruz

## OVERVIEW

Civinomics created the list of streets used for surveys based upon a random selection of streets from the list of households provided by the City. Civinomics uses “streets” as the unit of random selection because of the nature of performing door-to-door surveys. However, the streets are broken out by how they are zoned according to the City’s most recently updated zoning map, so that all types of households can be adequately represented in the total sampling pool.

Each street within the City limits was categorized based upon its land use zoning designation as taken from the zoning map maintained on the City’s website. All streets without any residential addresses were dropped from the list to avoid selection. Streets that have multiple residential designations are split and added to multiple lists. For instance, if part of Laurel Street is zoned single family, while another part is zoned multi-family, then Laurel is split into two potential selections, each representing the geographic area under a particular designation. Streets with 5 or fewer household units on them are simply added to the nearest adjacent street of the same zoning designation for practical purposes.

After the streets have been categorized, a proportional number of streets are selected at random from each zoned list, based upon the number of households within that zoning designation. So for instance, if 60 percent of the total households were in areas zoned for single-family homes, then 60 percent of the

streets would be drawn from that list. However, based upon the rate of surveying and completion percentage, Civinomics does perform additional selections as needed to ensure adequate and proportional representation of all types of households.

Based upon the list of households provided by the City, there are a total of 20,675 household units within the City. Civinomics conducted 290 total valid interviews of self-reported City residents, on site at their respective households. Residents were asked to answer questions in terms of their whole household and not just as individuals. The results of these interviews should yield a confidence interval of +/- 5.7% at a confidence level of 95%.