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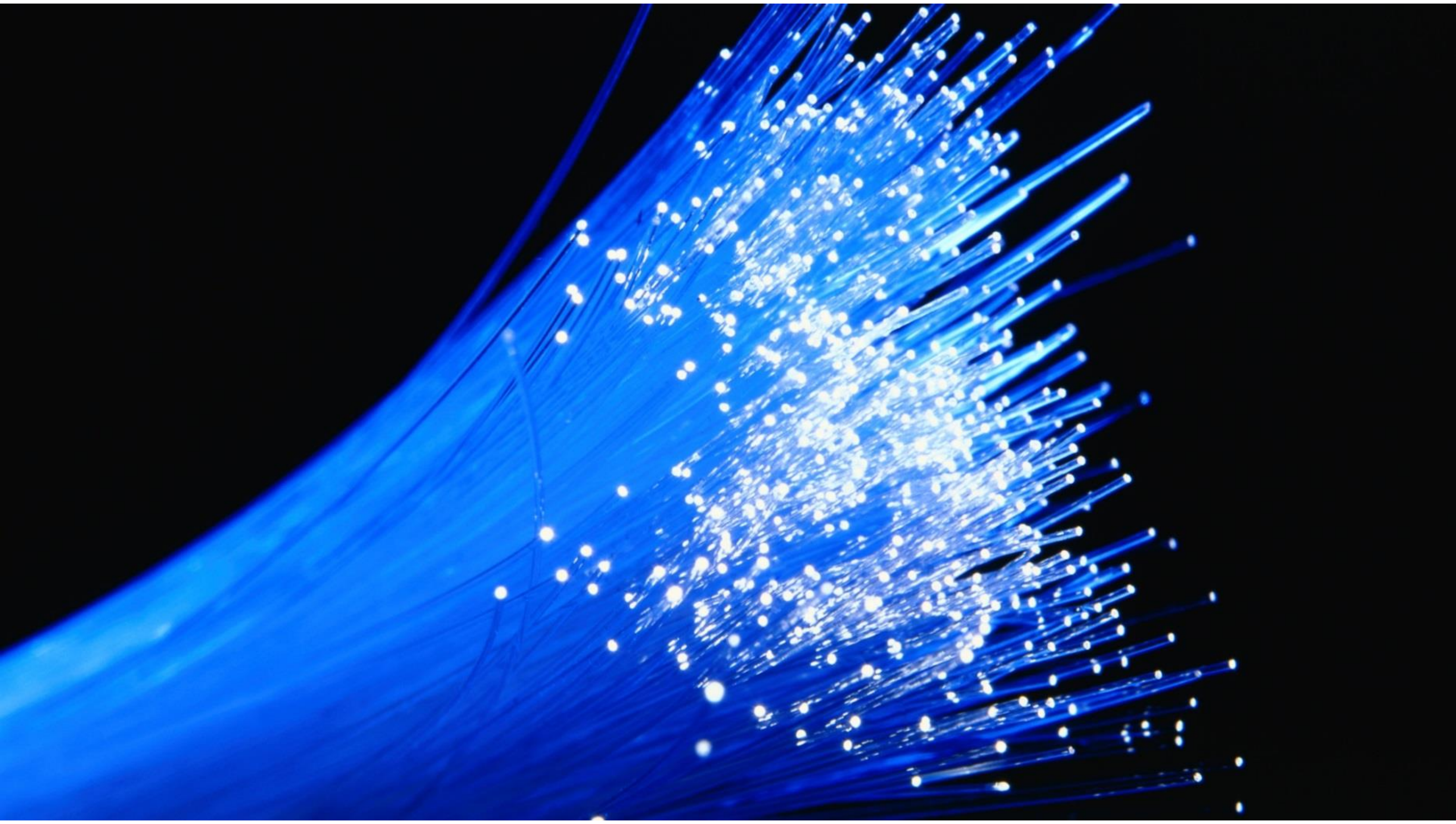

Residential Internet Survey Report

Prepared for the Town of Milton, Massachusetts
February 2022

Columbia Telecommunications Corporation

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Executive summary

The Town of Milton is now served primarily by two cable broadband providers (Comcast and RCN), plus Verizon FiOS fiber optic service in very limited areas. As part of its efforts to evaluate the adequacy of these existing internet services, the Town conducted a mail survey in late 2021 sent to a random sample of 2,667 households. The survey gathered basic data such as about the types of services to which residents subscribe, monthly prices paid, and levels of satisfaction.

In particular, the survey was designed to capture insights about Milton residents' interest in helping bring a new high-speed fiber optic service to town—one capable of delivering upload speeds as fast as download speeds, something existing cable services cannot provide. The survey asked questions about residents' willingness to switch to a new fiber provider, the price points at which they might be most willing to do so, and their views on what roles they feel the Town should play in bringing about such service.

As discussed later in the report, the survey data have a high degree of statistical reliability, meaning the results closely represent the views of Town residents as a whole. With that said, answers provided on a survey are not the same as decisions to acquire broadband services or switch providers. Such decisions would be made under then-prevailing broadband market and service conditions.

This report documents the survey process, discusses methodologies, and presents results.

Key findings

Key findings are summarized here by theme. These and other findings are presented in greater detail in the body of the report.

- **A large majority of residents feel the Town needs another provider.** Some 71 percent of residents agreed the Town needs an additional internet service provider, while 22 percent were unsure and seven percent said it does not. These percentages do not vary significantly by key demographics, except that single-member households do not agree as strongly.

- **A somewhat smaller majority would be interested in actually acquiring services from a new provider.** Some 63 percent of respondents said they would be interested in acquiring services from a new internet service provider in Milton, while another 32 percent were not sure. Only five percent of respondents said they would not be interested.

- **Interest in new symmetrical 1 Gigabit services is high but drops off at monthly price points higher than $60.** Respondents' willingness to purchase symmetrical 1 Gbps internet service (that is, the same speed download and upload) is strong through the $60 per month price point but drops off at higher prices. Willingness to purchase symmetrical 100 Mbps internet service is high at $40 per month but drops at higher price points. The report provides detailed discussion of interest levels at various price points and analysis of these levels based on demographics and other factors.

- **Support is moderately strong for the Town helping start a new service but drops off if such an effort would require a Town subsidy.** Nearly six in 10 respondents agreed (27 percent) or strongly agreed (32 percent) the Town should help start a new internet service (potentially with a private partner) if this entails no subsidy or funding from the Town. Another 27 percent of respondents were neutral, while only a small segment disagreed with this option. But fewer than one-half of respondents agreed (21 percent) or strongly agreed (24 percent) the Town should help start a new service if this requires subsidies from the Town.

- **Most households have multiple members online during peak usage times.** During peak usage times, 84 percent of households have more than one member online, and 48 percent of households have at least three members online, suggesting a need for high-speed services and symmetrical service – high upload speeds in additional to high download speeds to facilitate multiple outbound video streams.

- **Most respondents do have internet access, including both mobile and home internet service.** Almost all (99 percent) respondents said they have a mobile or home internet connection. Specifically, 82 percent have a home internet service subscription, and 79 percent have cellular/mobile telephone service with internet (smartphone). A handful of respondents did not specify type.

- **Comcast dominates the local market.** Sixty-five percent of respondents have Comcast internet service, 23 percent have RCN, and about 2 percent have Verizon wired service. Further detail on companies used by respondents, and satisfaction levels with these services, is provided in the body of the report.

- **Residents' expectations from existing providers are not being met.** A gap exists between the importance people place on various service features (such as price, speed, reliability, and customer service) and satisfaction they report on these attributes from both Comcast and RCN.

- **Comcast and RCN are performing equally as well for connection speed and reliability**. However, RCN customers are more satisfied with price of service and customer service compared with Comcast customers.

- **Low-income residents may be underutilizing existing broadband subsidy programs.** No Comcast customers said they were enrolled in Comcast's Internet Essentials program for low-income households. While it is true that Milton residents tend to be higher-income, it is possible that low-income Milton residents are missing an opportunity to get 50Mbps service for $10 monthly. Thirty-seven percent of Comcast customers were unaware of the subsidy program.

- **Almost all respondents have access to personal computing devices (desktop, laptop, and tablet) in the home.** Just one percent of respondents have no device in the household. Sixty-five percent of households have five or more devices, suggesting strong demand for services that would provide high upload speeds.

Survey process

The Town acquired the services of CTC Technology & Energy to conduct the survey of residents in November and December 2021. The Town approved the final questionnaire. CTC and its partner market research firm, Clearspring Research, coordinated and managed the survey project, including development of the questionnaire, sample selection, mailing and data entry coordination, survey data analysis, and reporting of results. A copy of the survey instrument is included in Appendix A.

Survey mailing and response

A total of 2,667 survey packets were mailed first-class in November 2021 to a random selection of residential households with a goal of receiving at least 400 valid responses. Recipients were provided with a postage-paid business reply mail envelope in which to return the completed questionnaire by December 10, 2021. Responses were accepted after the reply-by date, through January 10, 2022.

Returns exceeded the goal. A total of 465 useable questionnaires were received by the date of analysis, providing a gross response rate of 17.4 percent. The margin of error for aggregate results at the 95 percent confidence level for 465 responses is ±4.4 percent. That is, for questions with valid responses from all survey respondents, one would be 95 percent confident (19 times in 20) that the survey responses lie within ±4.4 percent of the target population as a whole.

Data analysis

The survey responses were entered into SPSS[1] software and the entries were coded and labeled. SPSS databases were formatted, cleaned, and verified prior to the data analysis. The survey data

[1] Statistical Package for the Social Sciences (http://www-01.ibm.com/software/analytics/spss/)

was evaluated using techniques in SPSS including frequency tables, cross-tabulations, and means functions. Statistically significant differences between subgroups of response categories are highlighted and discussed where relevant.

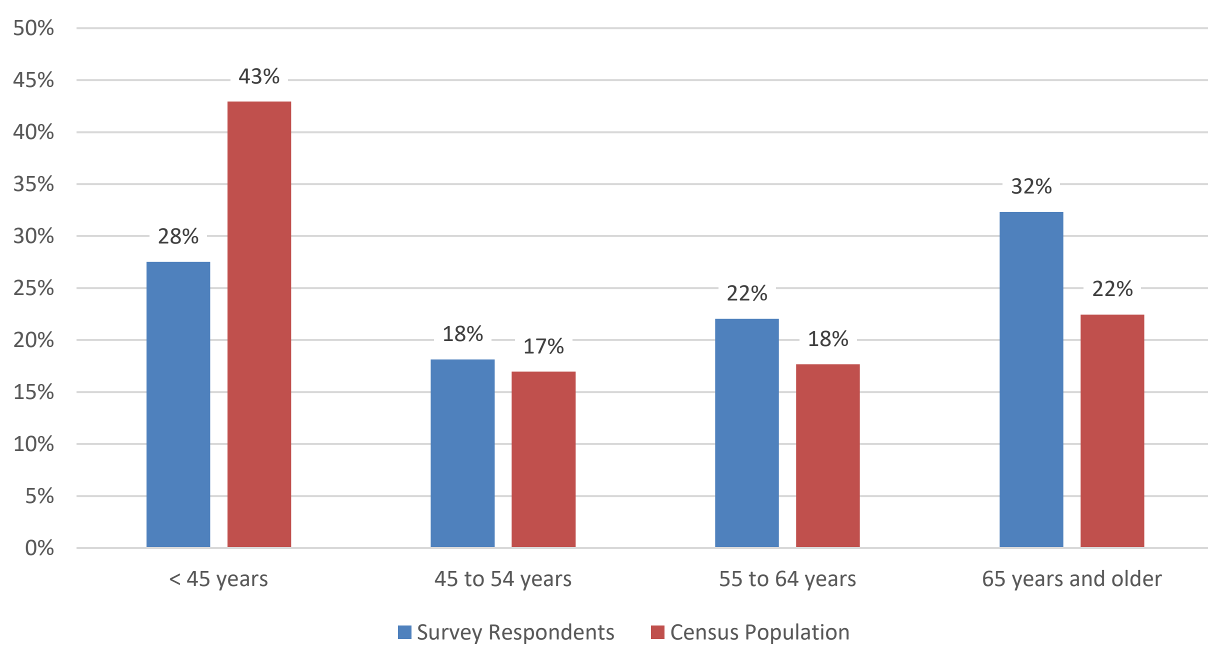
The survey responses were weighted based on the age of the respondent. Since older persons are more likely to respond to surveys than younger persons, the age-weighting corrects for the potential bias based on the age of the respondent. In this manner, the results more closely reflect the opinions of the Town's adult population within the survey region.

Table 1 and Figure 1 summarize the sample and population distributions by age.

Table 1: Age of Respondents and Population

Age	Population %	Sample %	Weight
18-44 years	42.9%	27.5%	1.56
45-54 years	17.0%	18.1%	0.94
55-64 years	17.7%	22.1%	0.80
65+ years	22.5%	32.3%	0.69
Total	100.0%	100.0%	

Figure 1: Age of Respondents and Adult Population



The following sections summarize the survey findings.

Survey Results

The results presented in this report are based on analysis of information provided by 465 respondents from an estimated 8,875 residences in the Town of Milton. Results are representative of the set of households with a confidence interval of ±4.4 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.

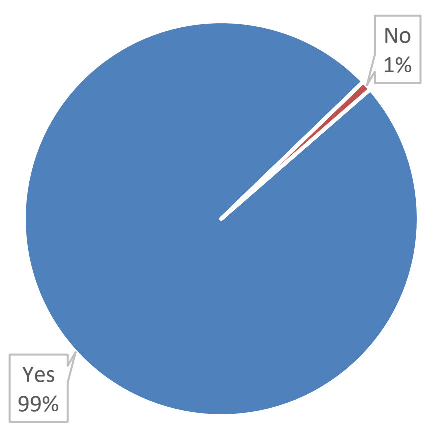
Home Internet Connection and Use

Respondents were asked about communications services, internet connection types and providers, 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.

Internet usage

Almost all (99 percent) respondents have internet service, either a mobile connection or home internet (see Figure 2). Usage does not vary significantly across demographic groups.

Figure 2: Subscribe to Mobile or Home Internet Service

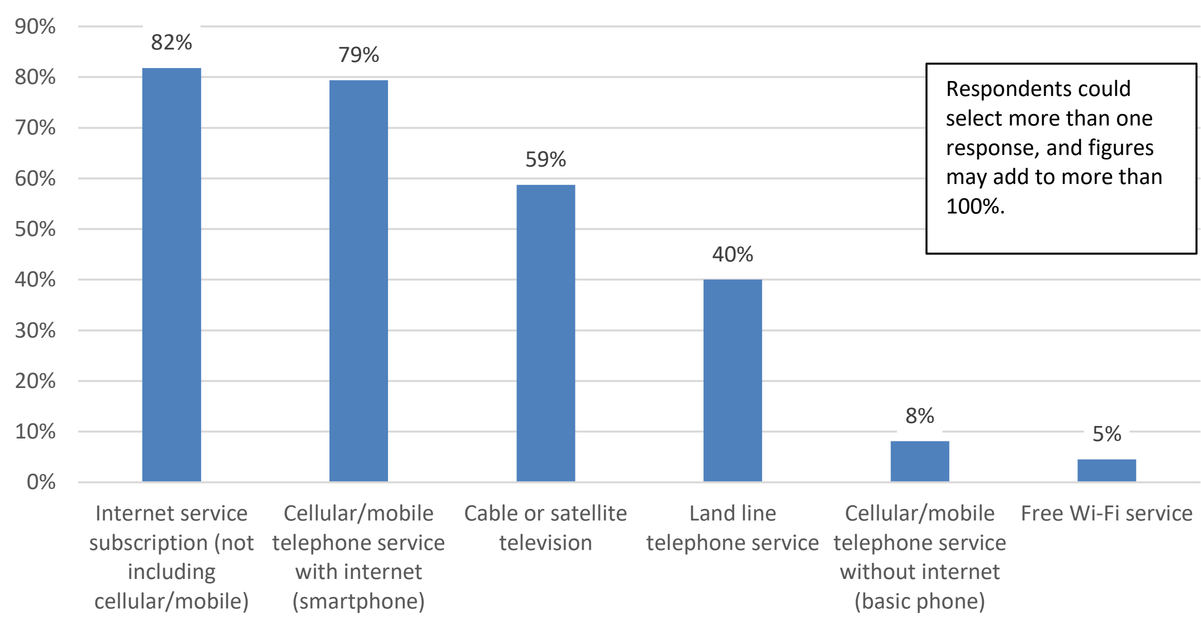


Follow-up questions were asked of those without internet service, but there are too few cases to analyze reliably. Only five respondents said they have no internet service, two of whom do not plan to subscribe in the next 12 months and one who plans to subscribe to home broadband internet service. Three respondents strongly agreed that an internet connection is too expensive. Two respondents strongly agreed that they are able to use the internet by other means and do not need a subscription at home.

Communications services

Respondents provided information about the communications services currently purchased for their household. As illustrated in Figure 3, most households have internet access, including 82 percent with internet service in the home and 79 percent with cellular/mobile telephone service with internet. Additionally, 59 percent of households have cable or satellite television, and four in 10 have landline telephone service. Just eight percent of households have cellular/mobile telephone service without internet, and 5 percent have free Wi-Fi service.

Figure 3: Communication Services Purchased



Respondents ages 65+ were less likely than younger respondents to report having internet service in the home or cellular/mobile telephone with internet, as shown in Figure 4. Those under age 45 years are less likely than older respondents to have a landline telephone.

Use of internet service is also correlated with household income. Lower-income households (less than $100,000 annual income) are less likely than households with a higher income to have internet access at home or via smartphone, as illustrated in Figure 5. Sixty-nine percent of households earning under $100,000 per year have internet service in the home, and 65 percent have a smartphone. Keep in mind that respondents in lower-income households are disproportionately older; one-half are ages 65+.

Figure 4: Services Purchased by Respondent Age

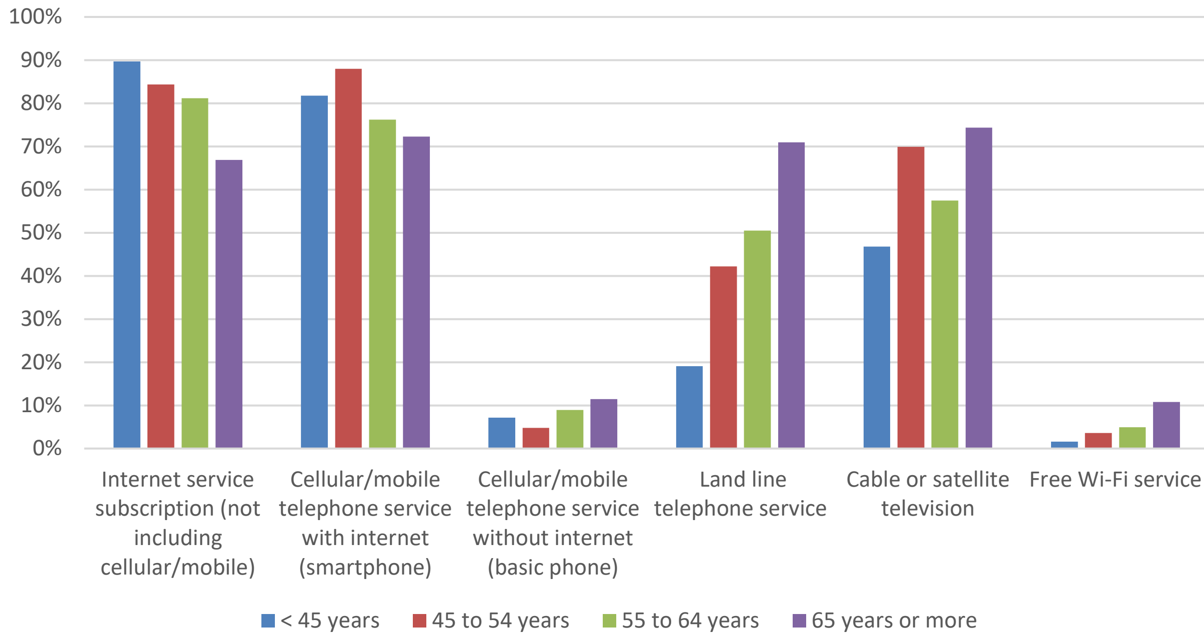
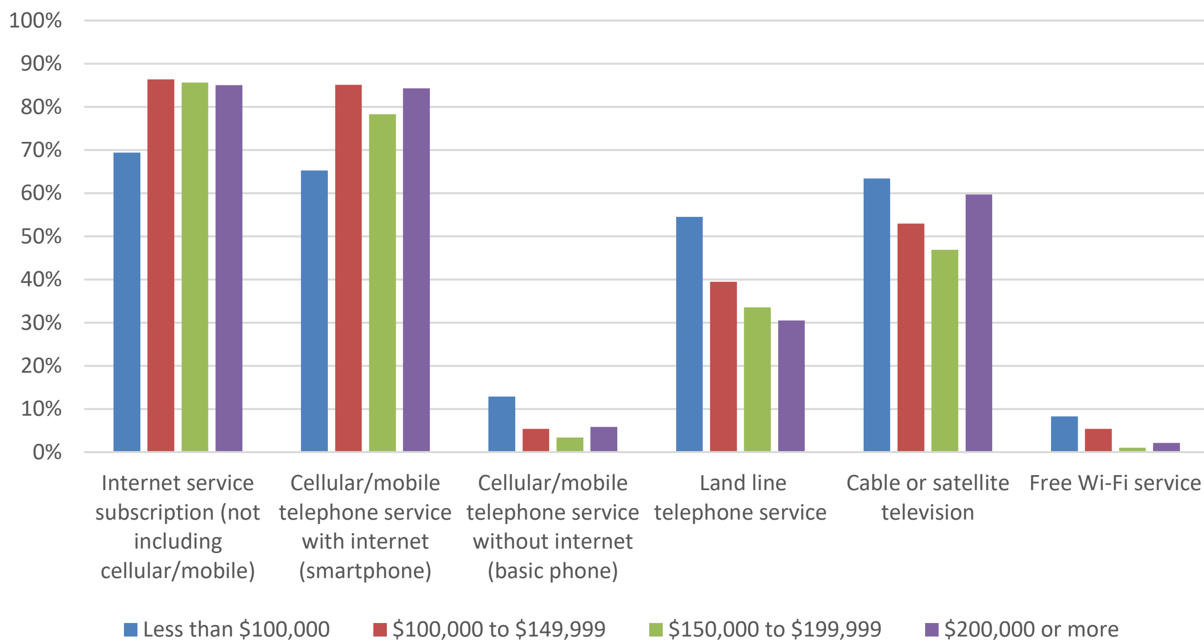


Figure 5: Services Purchased by Household Income



Importance of communication services

Respondents were asked to indicate the importance of various communication services to their household, using a scale where 1=Not at all important and 5=Extremely important. The mean importance of various service aspects is illustrated in Figure 6, while detailed responses are illustrated in Figure 7.

Figure 6: Importance of Communication Services (Mean Ratings)

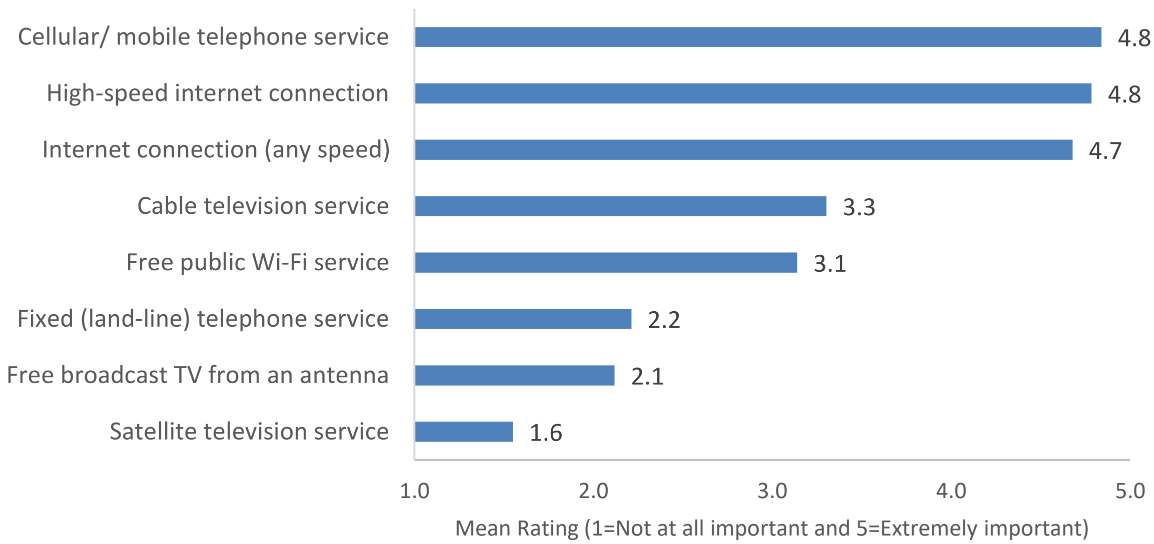
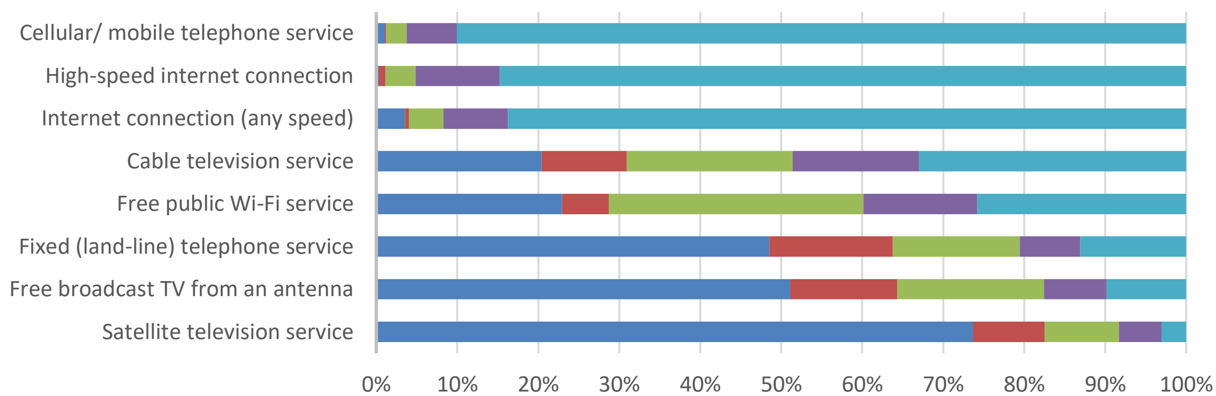


Figure 7: Importance of Communication Services

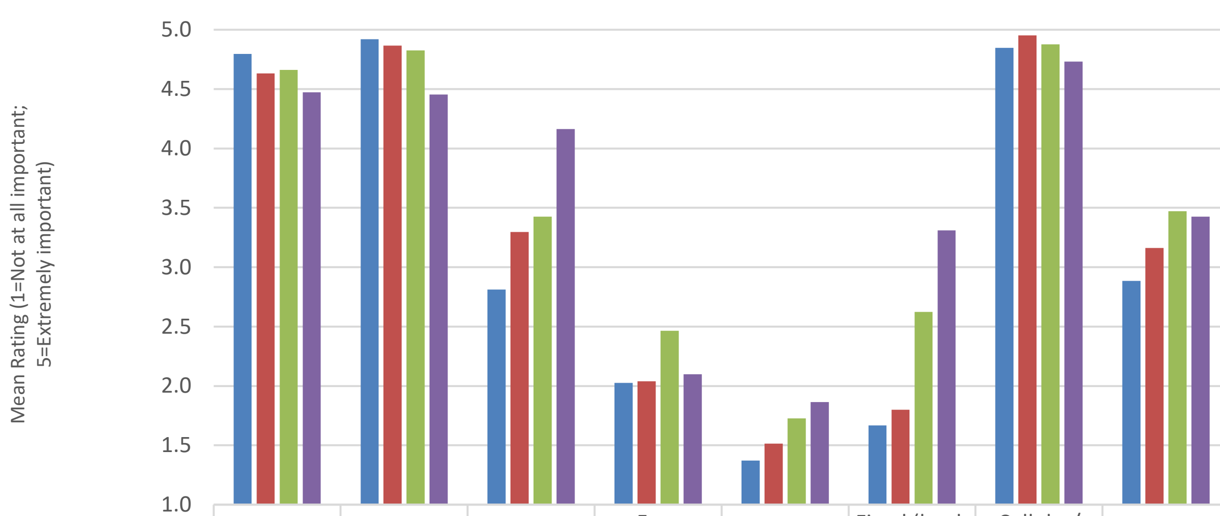


	Satellite television service	Free broadcast TV from an antenna	Fixed (land-line) telephone service	Free public Wi-Fi service	Cable television service	Internet connection (any speed)	High-speed internet connection	Cellular/ mobile telephone service
1 - Not at all important	74%	51%	49%	23%	20%	4%	0%	1%
2 - Slightly important	9%	13%	15%	6%	10%	0%	1%	0%
3 - Moderately important	9%	18%	16%	31%	20%	4%	4%	3%
4 - Very important	5%	8%	7%	14%	16%	8%	10%	6%
5 - Extremely important	3%	10%	13%	26%	33%	84%	85%	90%

Cellular/mobile telephone and internet services are extremely important to respondents, while television service, free public Wi-Fi service, and fixed (landline) telephone service are significantly less important. Specifically, 90 percent said cellular/mobile phone service is extremely important, 85 percent said high-speed internet is extremely important, and 80 percent said an internet connection of any speed is extremely important.

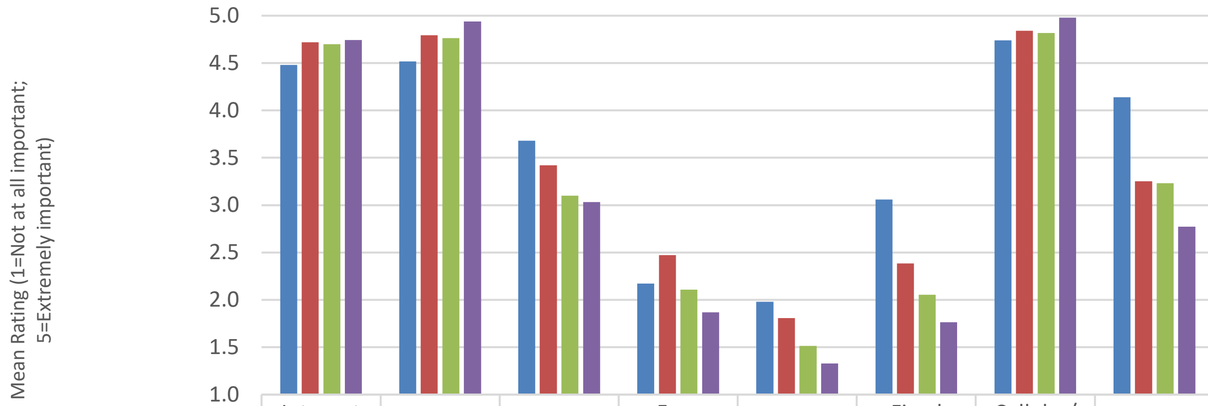
Figure 8 and Figure 9 illustrate the importance of communication services by the age of the respondent and by household income. The importance of cable television and landline telephone services is significantly higher for respondents ages 65+ and those earning under $100,000 per year (who are more likely to be seniors) compared with their counterparts, while the importance of internet services is somewhat lower.

Figure 8: Importance of Communication Services by Respondent Age



	Internet connection (any speed)	High-speed internet connection	Cable television service	Free broadcast TV from an antenna	Satellite television service	Fixed (land-line) telephone service	Cellular/ mobile telephone service	Free public Wi-Fi service
< 45 years	4.8	4.9	2.8	2.0	1.4	1.7	4.8	2.9
45 to 54 years	4.6	4.9	3.3	2.0	1.5	1.8	5.0	3.2
55 to 64 years	4.7	4.8	3.4	2.5	1.7	2.6	4.9	3.5
65 years or more	4.5	4.5	4.2	2.1	1.9	3.3	4.7	3.4

Figure 9: Importance of Communication Services by Household Income

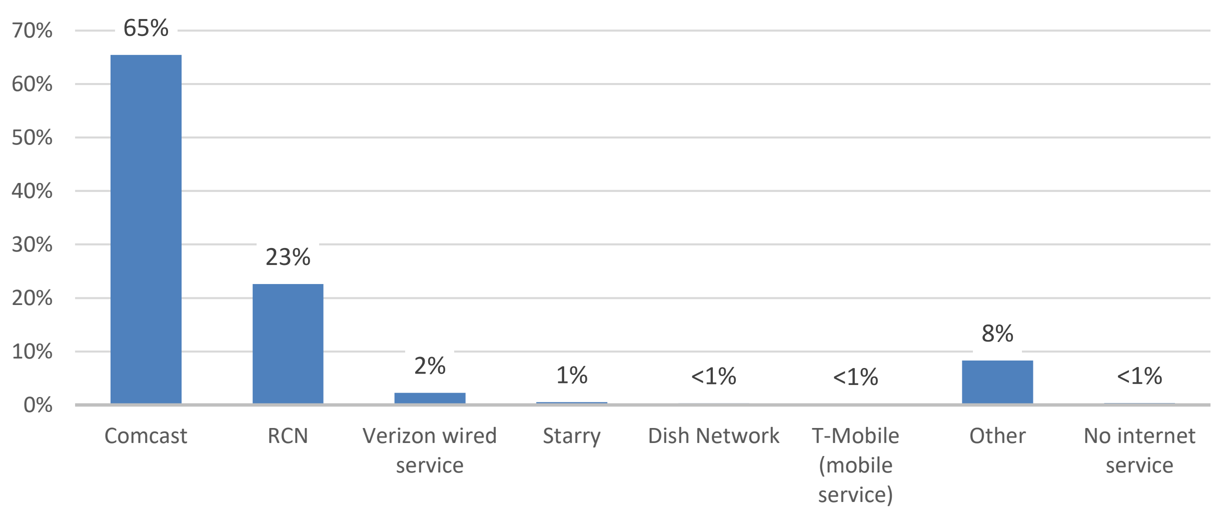


	Internet connection (any speed)	High-speed internet connection	Cable television service	Free broadcast TV from an antenna	Satellite television service	Fixed (land-line) telephone service	Cellular/ mobile telephone service	Free public Wi-Fi service
Less than $100,000	4.5	4.5	3.7	2.2	2.0	3.1	4.7	4.1
$100,000 to $149,999	4.7	4.8	3.4	2.5	1.8	2.4	4.8	3.3
$150,000 to $199,999	4.7	4.8	3.1	2.1	1.5	2.1	4.8	3.2
$200,000 or more	4.7	4.9	3.0	1.9	1.3	1.8	5.0	2.8

Internet service purchased

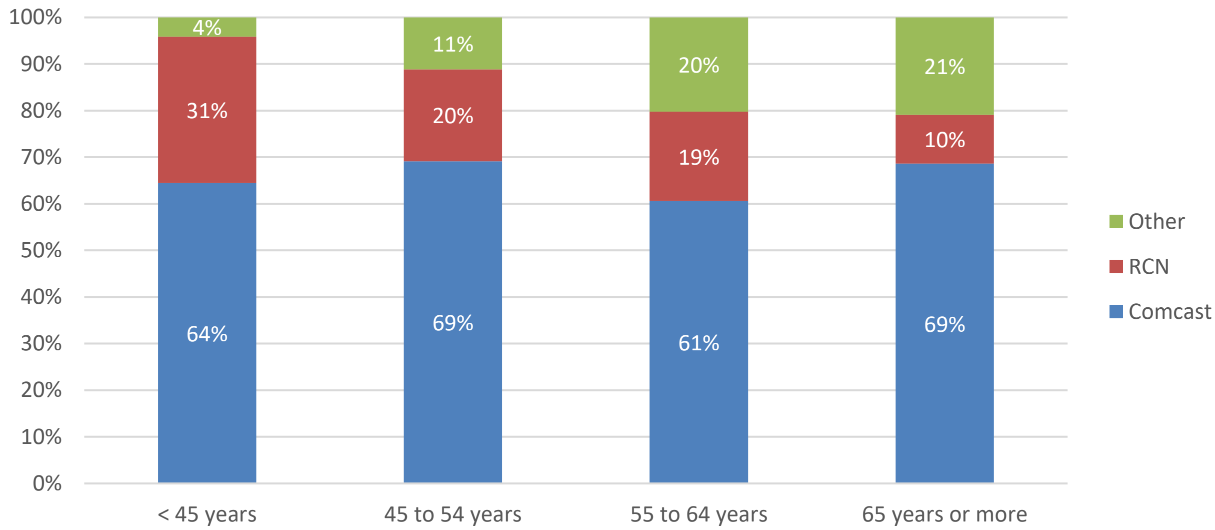
Almost all respondents reported having home internet service, consistent with 99 percent reporting internet access in Question 1. Comcast (65 percent) is the leading internet provider used, followed by RCN (23 percent), as shown in Figure 10. Very few respondents have another service; most of those with “other” service selected both Comcast and a mobile service.

Figure 10: Primary Internet Service



Comcast is the leading ISP used across all age cohorts. Respondents under age 45 are more likely than older respondents to subscribe to RCN (see Figure 11).

Figure 11: Primary Internet Service by Respondent Age



Internet service aspects

Home internet subscribers were asked to evaluate their satisfaction with various internet service aspects. This was compared with importance ratings given for these same aspects. The importance and satisfaction levels among internet users are compared in the following sections.

Importance

Respondents rated connection reliability as the most important home internet service aspect, with nine in 10 saying it is extremely important, as shown in Table 2. Eighty-three percent of subscribers said connection speed is extremely important. Fewer respondents said price of service (58 percent) and overall customer service (41 percent) is extremely important. The ability to bundle with TV and phone service is less important compared with other service aspects.

Table 2: Importance of Internet Service Aspects

Service Aspect	Mean	Percentages
Speed of Connection	4.8	5% 12% 83%
Reliability of Connection	4.9	7% 91%
Price of Services	4.4	12% 26% 58%
Overall Customer Service	4.1	20% 35% 41%
Ability to Bundle with TV and Phone	2.9	30% 13% 20% 14% 22%

1 - Not at all important; 2 - Slightly important; 3 - Moderately important; 4 - Very important; 5 - Extremely important

Satisfaction

Overall, respondents are moderately to very satisfied with their internet service, as shown in Table 3. About seven in 10 respondents are very or extremely satisfied with connection speed, and six in 10 are very or extremely satisfied with reliability. Subscribers are less satisfied with cost compared with other service aspects, which is typical in satisfaction surveys.

Table 3: Satisfaction with Internet Service Aspects

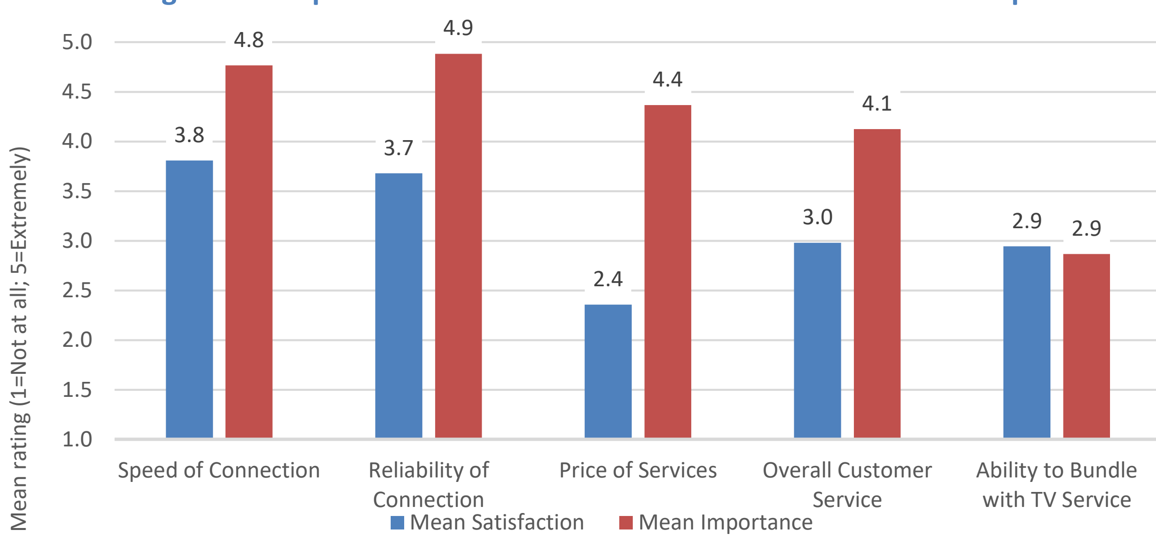
Service Aspect	Mean	Percentages
Speed of Connection	3.8	7% 23% 48% 21%
Reliability of Connection	3.7	8% 28% 41% 20%
Price of Services	2.4	26% 33% 28% 8% 6%
Overall Customer Service	3.0	12% 16% 43% 21% 8%
Ability to Bundle with TV and Phone	2.9	14% 18% 39% 19% 10%

1 - Very dissatisfied | 2 - Slightly satisfied | 3 - Moderately satisfied | 4 - Very satisfied | 5 - Extremely satisfied

Performance

Comparing respondents' stated importance and satisfaction with service aspects allows an evaluation of how well internet service providers are meeting the needs of customers (see Figure 12). Aspects that have higher stated importance than satisfaction can be considered areas in need of improvement. Aspects that have higher satisfaction than importance are areas where the market is meeting or exceeding customers' needs. However, it should be cautioned that the extremely high level of importance placed on some aspects (such as reliability) may make it nearly impossible to attain satisfaction levels equal to importance levels.

Figure 12: Importance of and Satisfaction with Internet Service Aspects



The difference between importance and satisfaction of home internet aspects is also presented in the "gap" analysis table (see Table 4). The largest gap between importance and performance is for price of services, followed by reliability of connection and overall customer service. The ability to bundle is meeting expectations, given the low importance placed on this service aspect.

Table 4: Internet Service Aspect "Gap" Analysis

	Mean Satisfaction	Mean Importance	Gap < = >	Customer Expectations
Price of Services	2.4	4.4	-2.0	Not Met
Reliability of Connection	3.7	4.9	-1.2	Not Met
Overall Customer Service	3.0	4.1	-1.1	Not Met
Speed of Connection	3.8	4.8	-1.0	Not Met
Ability to Bundle with TV Service	2.9	2.9	0.1	Met

Few differences in importance across connection types were found; however, RCN customers did place somewhat more importance on price of service compared with Comcast customers (see Figure 13). RCN subscribers have a higher level of satisfaction with price of service and overall customer service, as shown in Figure 14, which indicates that cable modem providers are better meeting customer needs

Figure 13: Importance of Internet Service Aspects by Primary Home Internet Service

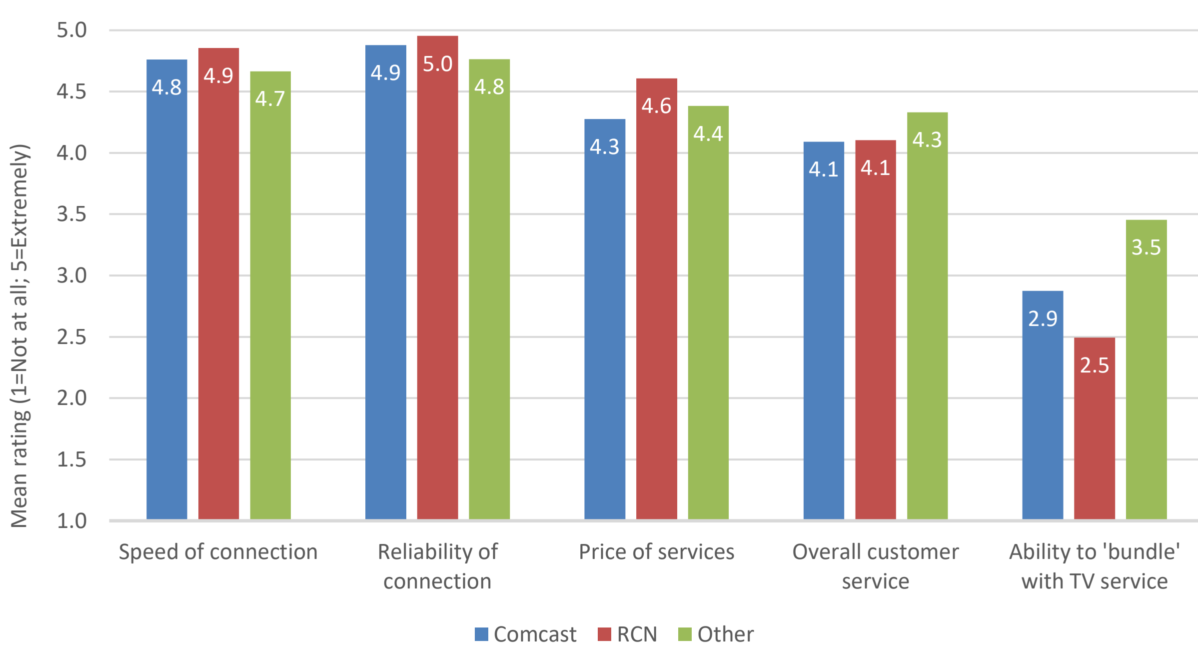
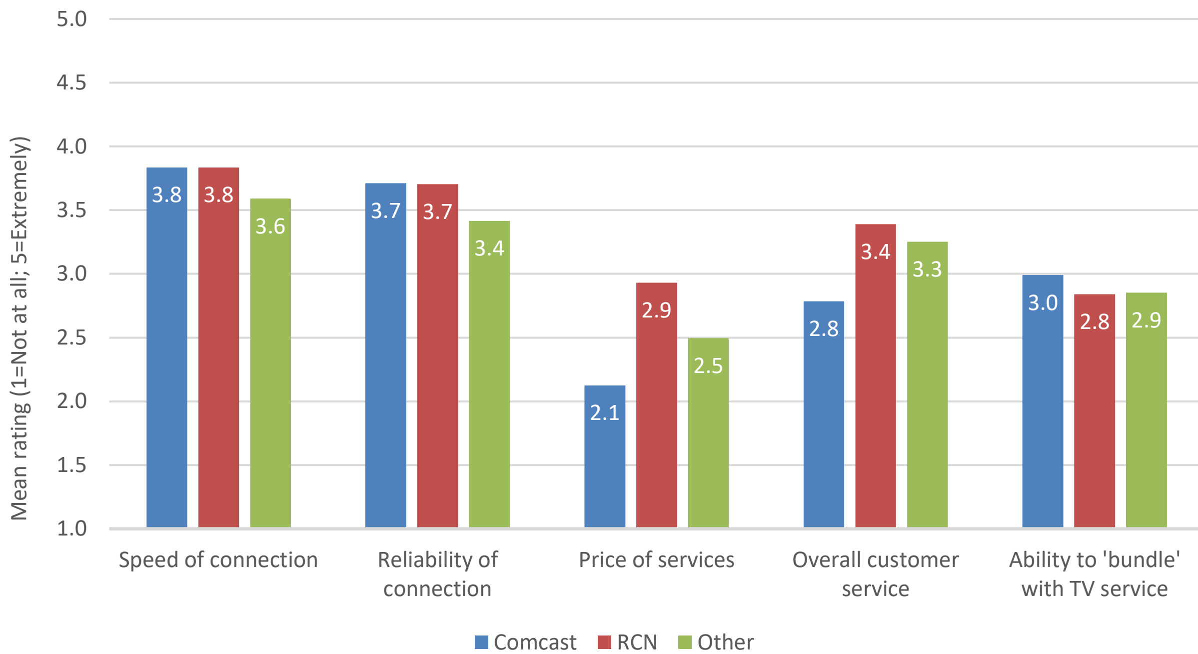


Figure 14: Satisfaction with Internet Service Aspects by Primary Home Internet Service



As illustrated in Table 5, RCN is better meeting customer expectations compared with Comcast for cost and customer service. The leading provider types are performing equally as well for connection speed and reliability.

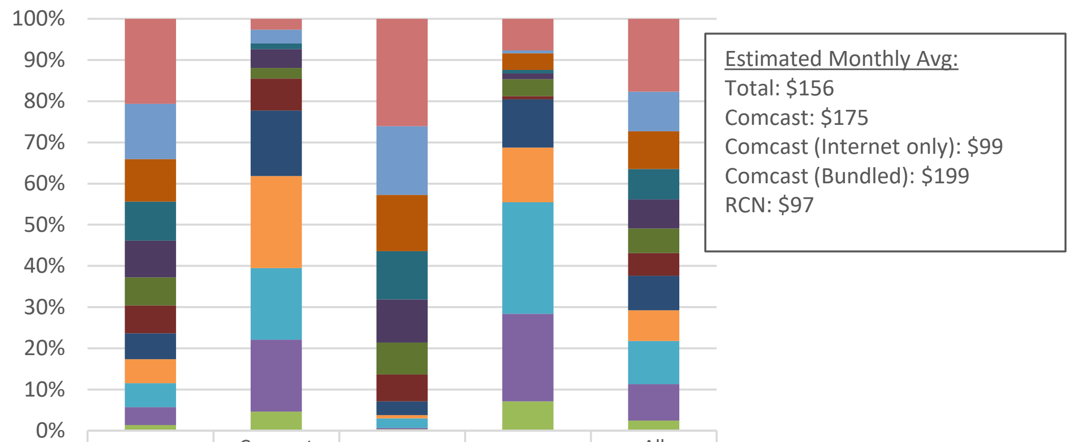
Table 5: Gap Index Score by Primary Home Internet Service

	Satisfaction / Importance Gap Index*				
	Connection Speed	**Connection Reliability**	**Price of Service**	**Customer Service**	**Ability to Bundle**
Comcast	81%	76%	50%	68%	104%
RCN	79%	75%	64%	83%	114%
Other	77%	72%	57%	75%	83%
ISP Average	***80%***	***75%***	***54%***	***72%***	***103%***
***Percent of expectations met = Satisfaction / Importance**					

Internet service cost and programs for low-income subscribers

Respondents were asked to give the cost of their primary internet service, as shown in Figure 15. The estimated monthly average cost for internet service is $156 overall, with more than one-third of customers paying over $200 per month for service regardless of whether the service is internet-only or a bundle. Comcast customers pay an estimated average of $175 per month. One-fourth of Comcast customers have internet-only service and pay an estimated average of $99 per month. Three-fourths of Comcast customers have bundled service and pay an estimated average of $199 per month for their service.

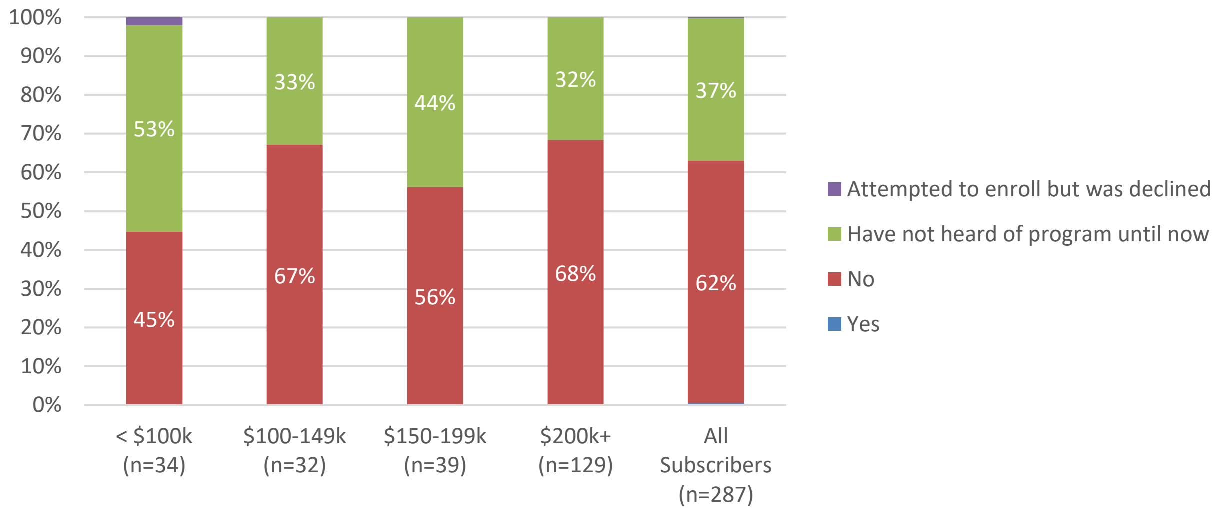
Figure 15: Monthly Price for Internet Service by Provider



	Comcast (Total)	Comcast (Internet only)	Comcast (Bundled)	RCN	All Internet Providers
More than $240	21%	3%	26%	8%	18%
$221 to $240	13%	3%	17%	1%	10%
$201 to $220	10%	0%	14%	4%	9%
$181 to $200	9%	1%	12%	1%	7%
$161 to $180	9%	5%	10%	1%	7%
$141 to $160	7%	3%	8%	4%	6%
$121 to $140	7%	8%	6%	1%	5%
$101 to $120	6%	16%	3%	12%	8%
$81 to $100	6%	22%	1%	13%	7%
$61 to $80	6%	17%	2%	27%	10%
$41 to $60	4%	17%	0%	21%	9%
$21 to $40	1%	5%	0%	7%	2%
$11 to $20	0%	0%	0%	0%	0%
$0 to $10	0%	0%	0%	0%	0%

As illustrated in Figure 16, no Comcast customers are enrolled in the ISP's Internet Essentials program for low-income households. Thirty-seven percent of Comcast subscribers said they had not heard of the program.

Figure 16: Enrolled in Comcast Internet Essentials Program by Household Income



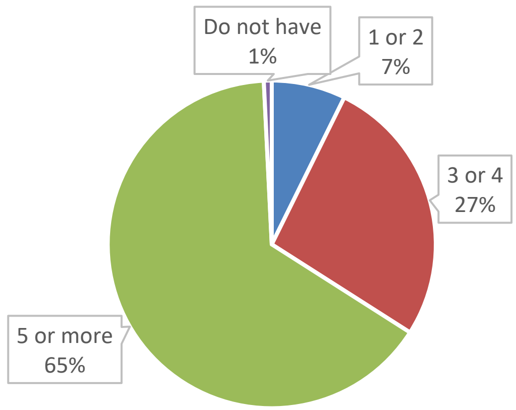
Devices and online usage

Respondents were asked about the personal computing devices they use, as well as use of the internet during peak times. This information provides valuable insight into demand for internet service.

Number of personal computing devices in the home

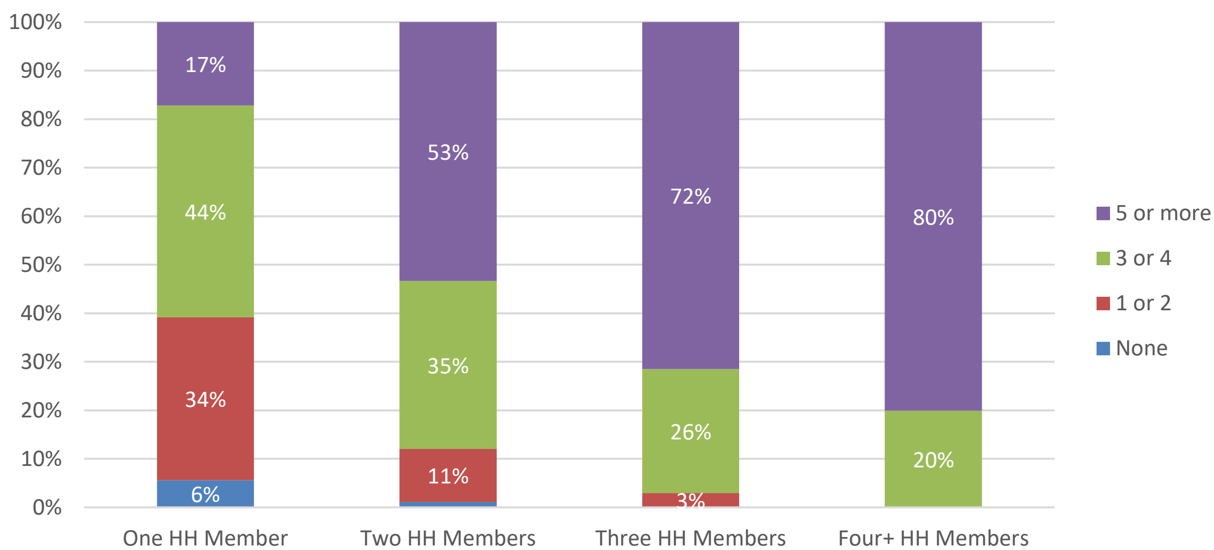
Respondents were asked to indicate the number of personal computing devices they have in the home. As shown in Figure 17, 65 percent of households have five or more devices, and another 27 percent have three or four devices in the home.

Figure 17: Number of Personal Computing Devices in Home



The number of personal computing devices in the home is strongly associated with household size. Seventeen percent of one-member households have five or more devices, compared with 80 percent of those with four or more household members (see Figure 18).

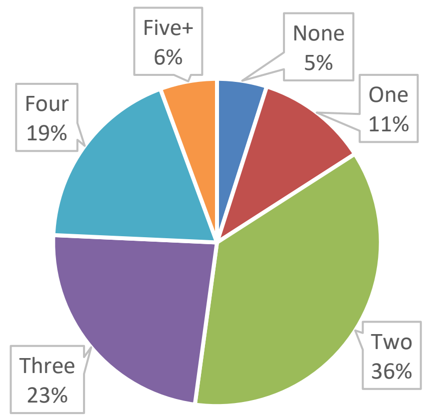
Figure 18: Number of Personal Computing Devices in Home by Household Size



Number of household members online during peak usage times

Most households with internet service (84 percent) have multiple members online during peak usage times, including 48 percent of households with at least three members online (see Figure 19).

Figure 19: Number of Households Members Online During Peak Usage Times



As would be expected, larger households have more members online during peak usage times. Fifty-three percent of households with four or more members have four or more members online at the same time (see Figure 20).

Figure 20: Number of Households Members Online During Peak Usage by Household Size

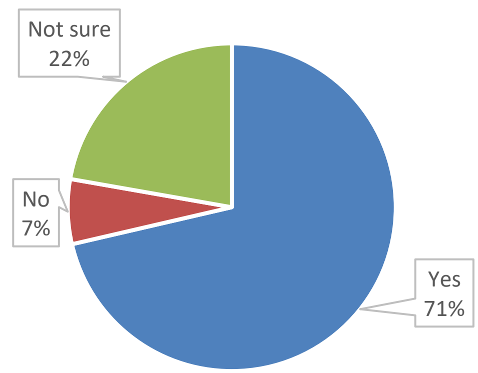
Additional internet service provider

Respondents were asked to assess the need for an additional internet service provider in Milton, interest in acquiring services from the new provider, and willingness to purchase from a new provider at various price points. Additionally, respondents were asked their opinions about the Town's role in providing or promoting broadband communications services within the area.

Need for additional ISP in Milton

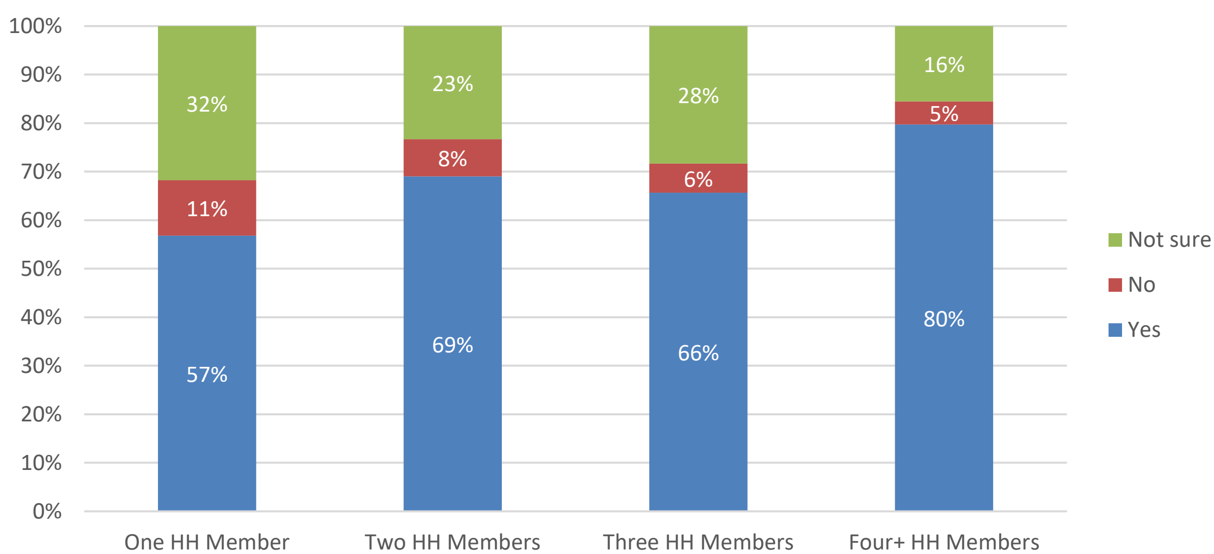
As shown in Figure 21, 71 percent of respondents agreed the Town of Milton needs an additional internet service provider, while 22 percent were unsure and seven percent said it does not. This does not vary significantly by key demographics, except for household size.

Figure 21: Town of Milton Needs an Additional Internet Service Provider



Eight in 10 households with four or more members (which have greater demand for connection during peak usage times) agreed the Town needs an additional internet service provider (see Figure 22).

Figure 22: Town of Milton Needs an Additional Internet Service Provider by Household Size



Interested in acquiring services from new ISP in Milton

Sixty-three percent of respondents said they would be interested in acquiring services from a new internet service provider in Milton, while another 32 percent were not sure (see Figure 23). Only five percent of respondents said they would not be interested in acquiring service.

Figure 23: Interested in Acquiring Internet Service from New Provider in Milton

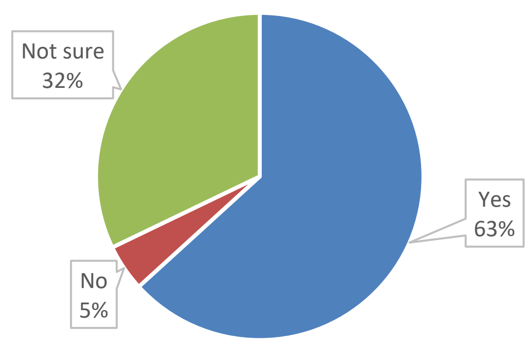


Table 6 highlights interest in acquiring services from a new internet provider by various demographic and other variables of interest. Key differences include those younger than age 65 being more likely than older respondents to have interest in acquiring services. Additionally, those who are racial/ethnical minorities (non-White/European American, non-Hispanic), men, those in larger households, and those with children are more likely than their counterparts to be interested in acquiring services from a new internet provider in Milton.

Table 6: Interest in Acquiring New Internet Service by Key Demographics

	Yes	No	Not sure	*Weighted Count*
Total	63%	5%	32%	*460*
Age of Respondent				
< 45 years	71%	2%	26%	*197*
45 to 54 years	61%	0%	39%	*78*
55 to 64 years	66%	3%	31%	*80*
65 years or more	48%	13%	39%	*101*
Household Income				
Less than $100,000	62%	4%	35%	*61*
$100,000 to $149,999	66%	6%	27%	*57*
$150,000 to $199,999	67%	2%	31%	*67*
$200,000 or more	69%	3%	28%	*192*
Education				
Less than four-year college degree	48%	8%	44%	36
Four-year college degree	63%	3%	33%	*141*
Graduate, professional, or doctorate degree	65%	5%	30%	*279*
Race/Ethnicity				
White/European-American, non-Hispanic	59%	6%	35%	*311*
Other/more than one	72%	1%	27%	*130*
Gender				
Woman	59%	6%	36%	*240*
Man	70%	3%	27%	*204*
Number of Household Members				
One	49%	17%	35%	*38*
Two	59%	7%	34%	*123*
Three	61%	4%	36%	*104*
Four or more	71%	1%	28%	*184*
Presence of Children in Household				
No Children in HH	58%	8%	35%	*220*
Children in HH	69%	1%	29%	*228*
Number of Years at Residence				
Less than 5 years	61%	5%	33%	*139*
5 or more years	64%	4%	32%	*317*

Willingness to purchase 100 Mbps internet service

Respondents were asked if they would be willing to purchase 100 Mbps internet service for various price levels from a new Milton internet service provider. The mean willingness to purchase across this array of questions is illustrated Figure 24 while detailed responses are illustrated in Figure 25.

Respondents' willingness to purchase 100 Mbps internet service is high at $40 per month (4.5 mean), but it drops considerably as the price increases. The mean rating falls to 4.0 at a price point of $60 per month, 3.2 at a price point of $80 per month, 2.5 at a price point of $100 per month, and 2.0 at a price point of $100 per month (slightly willing). From another perspective, 79 percent of respondents are extremely willing to purchase 100 Mbps internet for $40 per month, dropping to nine percent percent at $120 per month.

Figure 24: Willingness to Purchase 100 Mbps Internet at Various Price Levels (Mean Ratings)

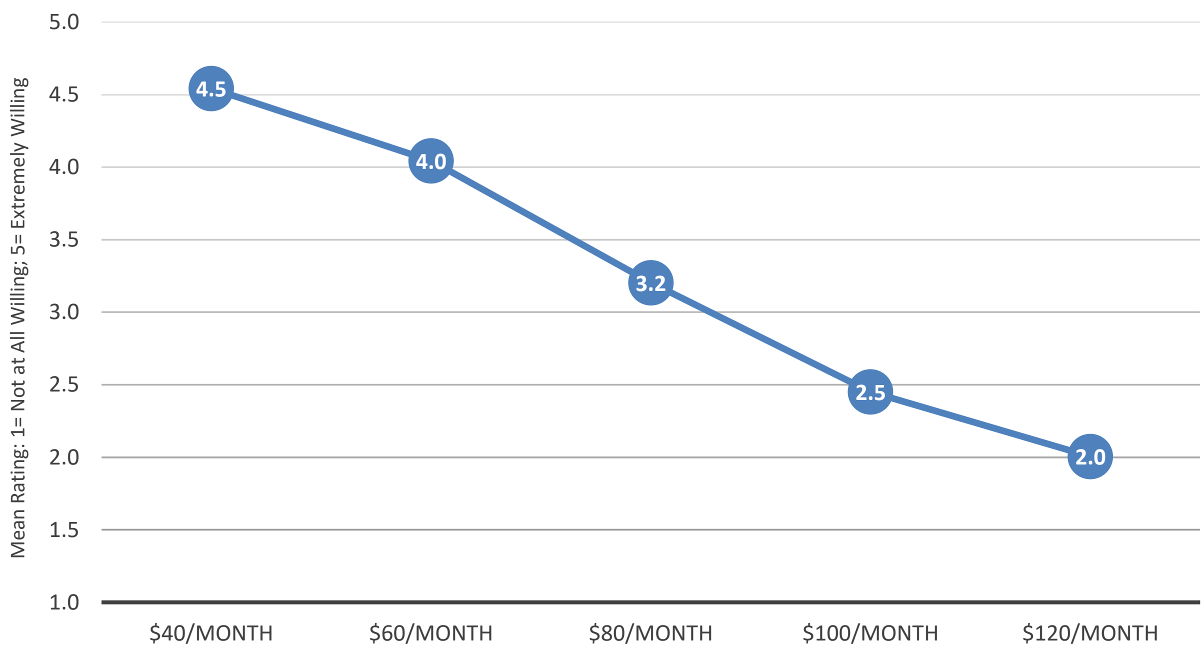
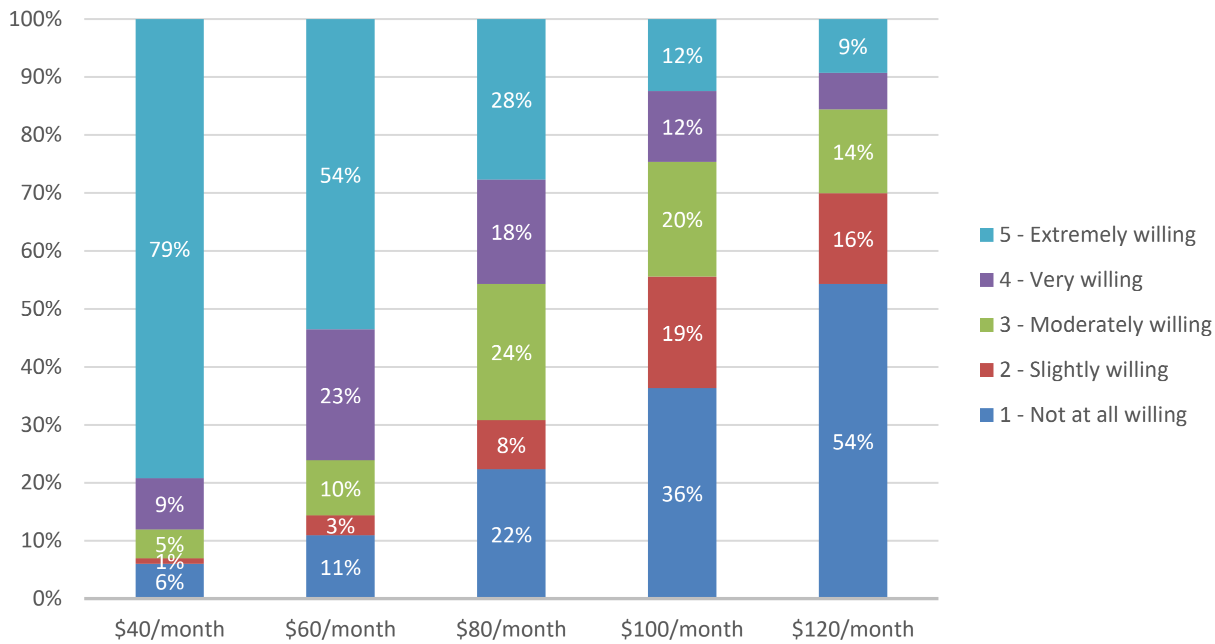
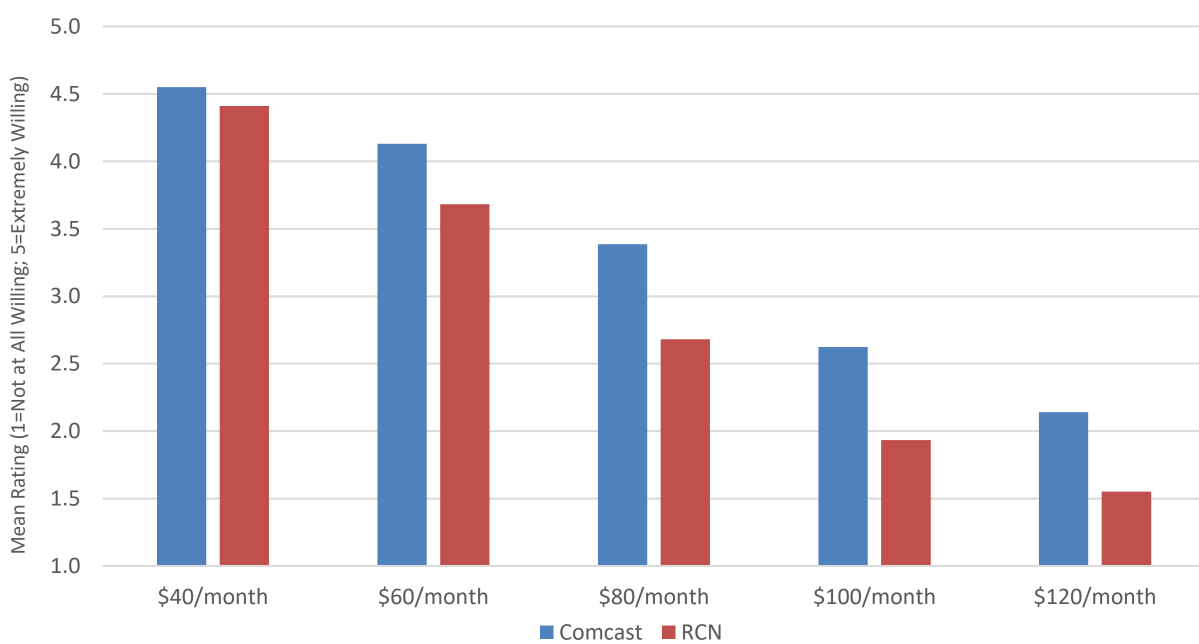


Figure 25: Willingness to Purchase 100 Mbps Internet at Various Price Levels



Comcast customers would be more willing than RCN customers to purchase 100 Mbps service from a new provider (see Figure 26).

Figure 26: Willingness to Purchase 100 Mbps Internet Service by Current Internet Provider



Women would be more willing than men to purchase 100 Mbps internet service from a new provider (see Figure 27).

Figure 27: Willingness to Purchase 100 Mbps Internet Service by Gender

Willingness to purchase 1 Gbps internet service

Respondents were asked if they would be willing to purchase 1 Gbps internet service for various price levels from a new Milton internet service provider. The mean willingness to purchase across this array of questions is illustrated in Figure 28, while detailed responses are illustrated in Figure 29.

Respondents' willingness to purchase 1 Gbps internet service is high at $40 per month (4.8 mean) and $60 per month (4.5 mean), but it drops considerably as the price increases to 2.4 at a price point of $120 per month (slightly to moderately willing). From another perspective, 92 percent of respondents are extremely willing to purchase 1 Gbps internet for $40 per month, dropping to 16 percent at $120 per month.

Figure 28: Willingness to Purchase 1 Gbps Internet at Various Price Levels (Mean Ratings)

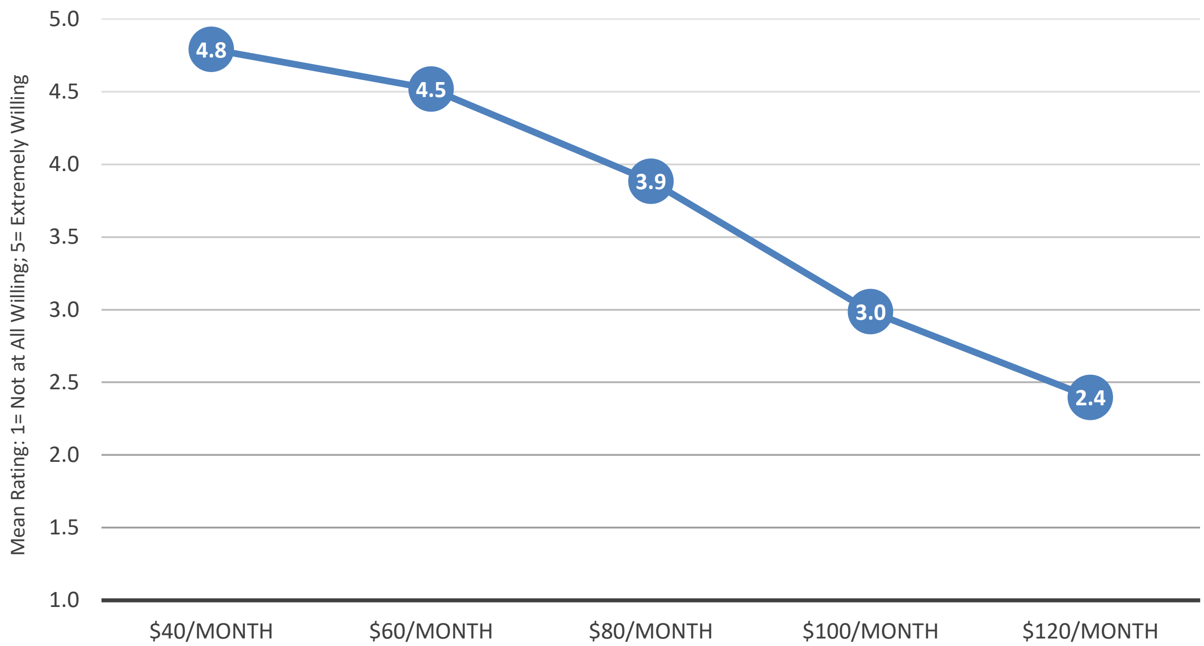
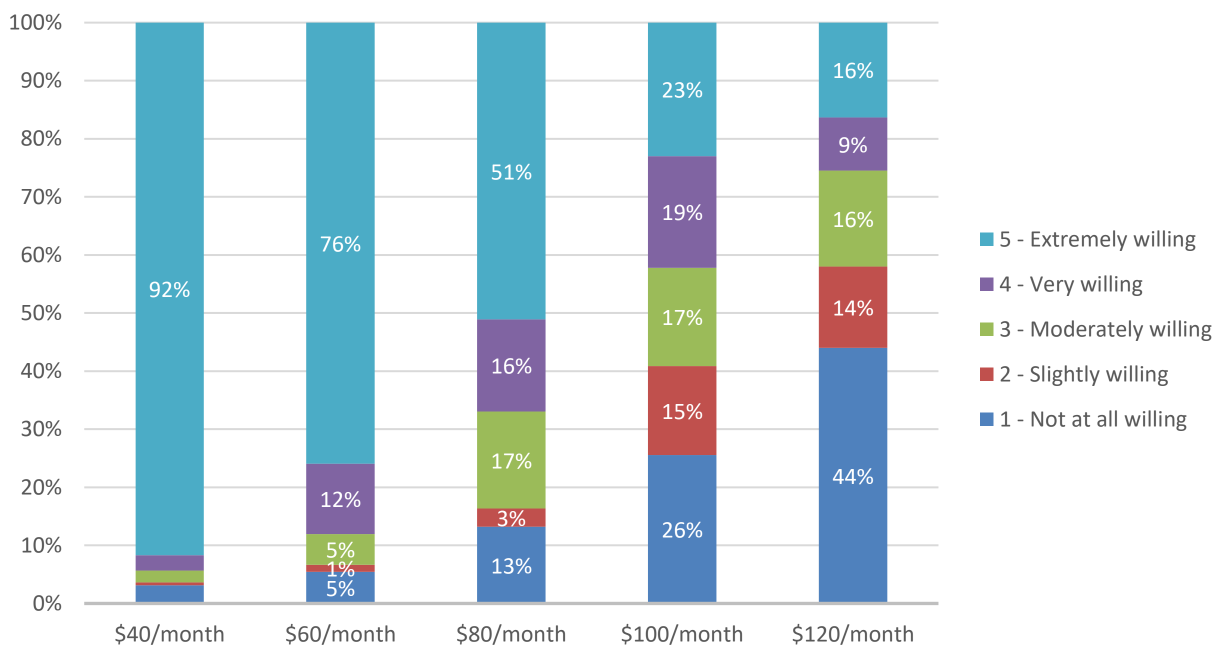
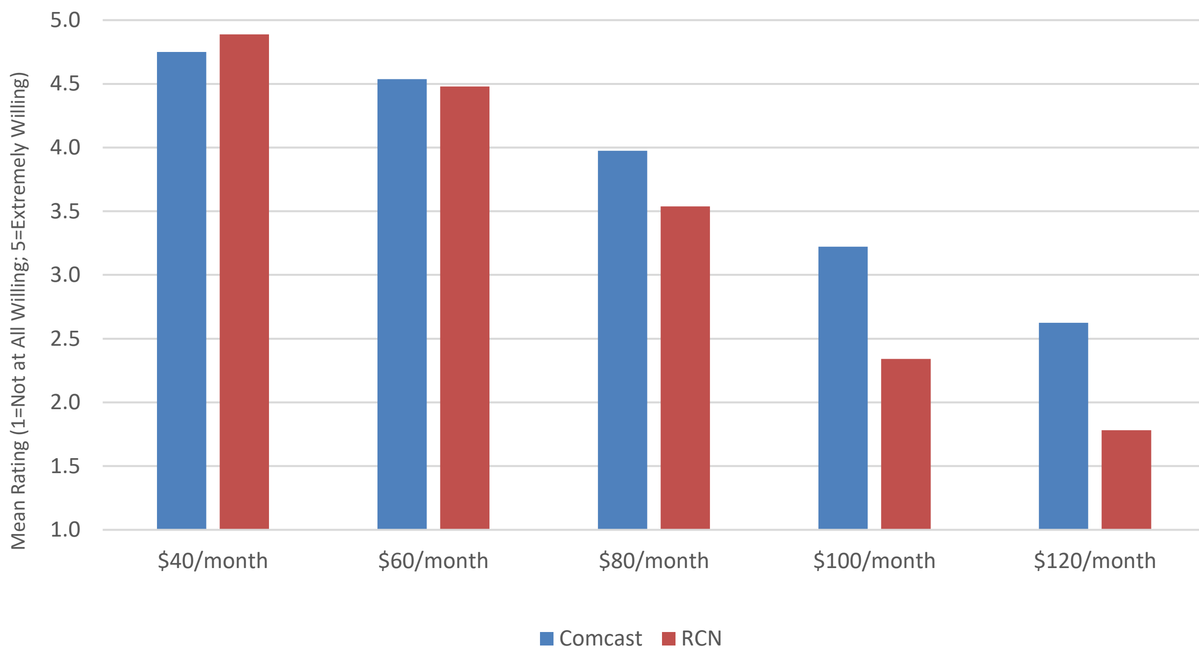


Figure 29: Willingness to Purchase 1 Gbps Internet at Various Price Levels



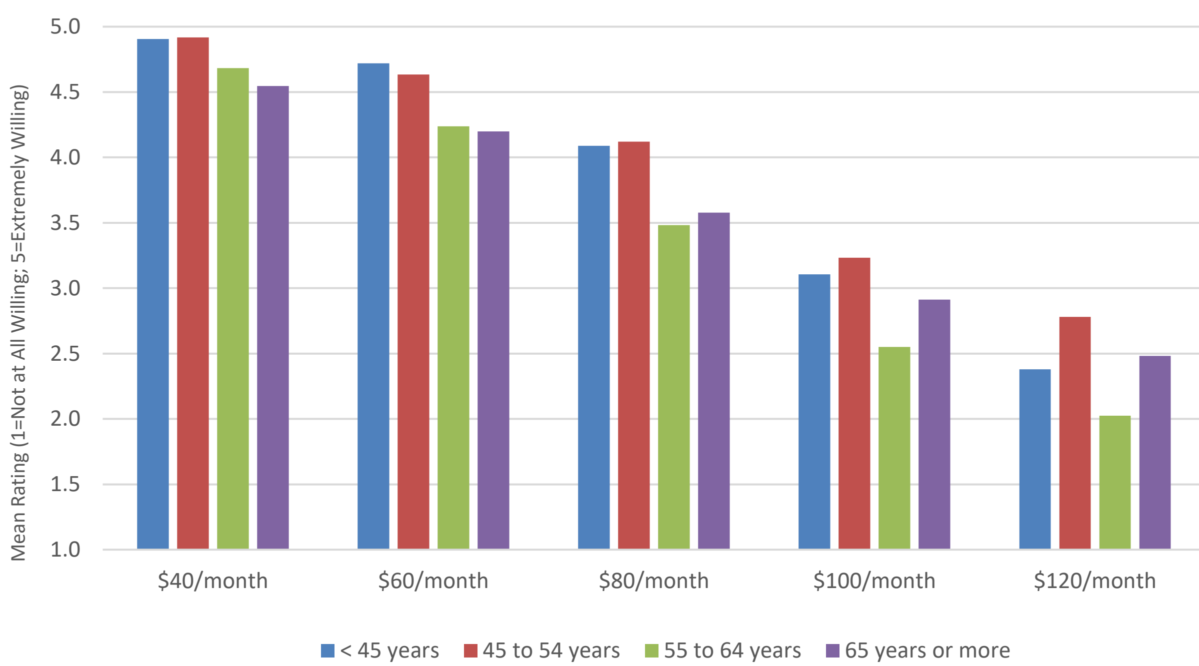
Comcast customers would be more willing than RCN customers to switch providers for 1 Gbps service (see Figure 30).

Figure 30: Willingness to Purchase 1 Gbps Internet Service by Current Internet Provider



For most price points, older respondents are less willing than younger respondents to purchase 1 Gbps internet service from a new provider (see Figure 31).

Figure 31: Willingness to Purchase 1 Gbps Internet Service by Respondent Age

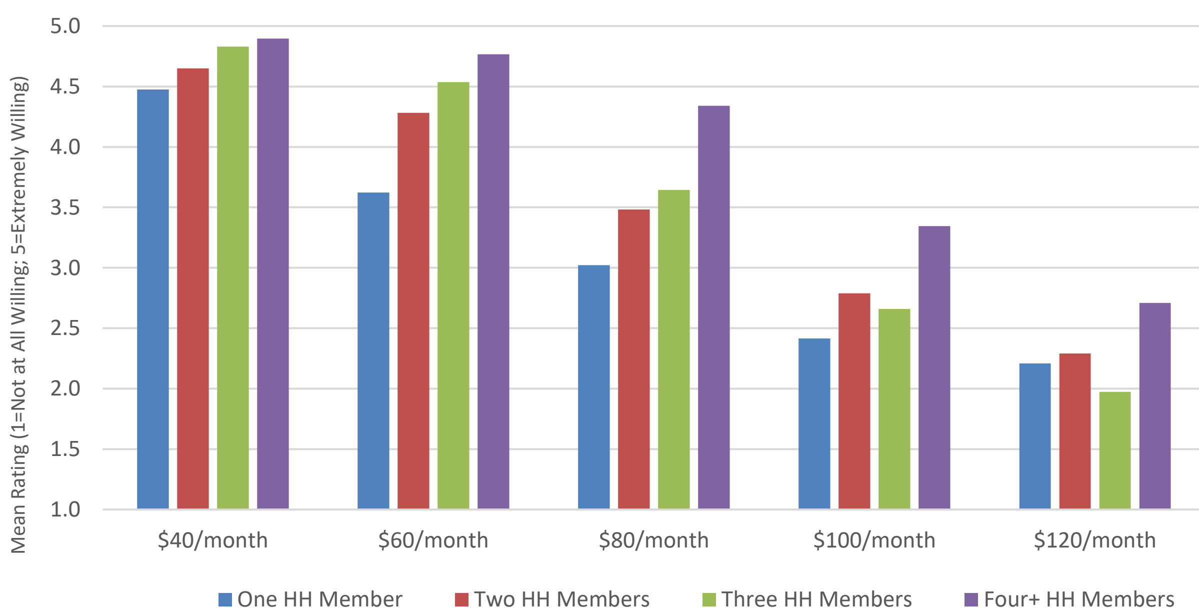


The willingness to purchase 1 Gbps internet service is correlated with household income (see Figure 32). Lower-income households are less likely to purchase new internet service.

Figure 32: Willingness to Purchase 1 Gbps Internet Service by Household Income

Additionally, the willingness to purchase 1 Gbps internet service is correlated with household size (see Figure 33). The likelihood of purchasing high-speed internet tends to increase as household size increases.

Figure 33: Willingness to Purchase 1 Gbps Internet Service by Household Size



Respondent opinions about role of Town of Milton

Respondents were asked their opinions about the Town's role in providing or promoting broadband communications services within the area. Figure 34 illustrates the mean ratings, while Figure 35 provides detailed responses to each portion of the question.

Figure 34: Opinions About the Role(s) for Town of Milton (Mean Ratings)

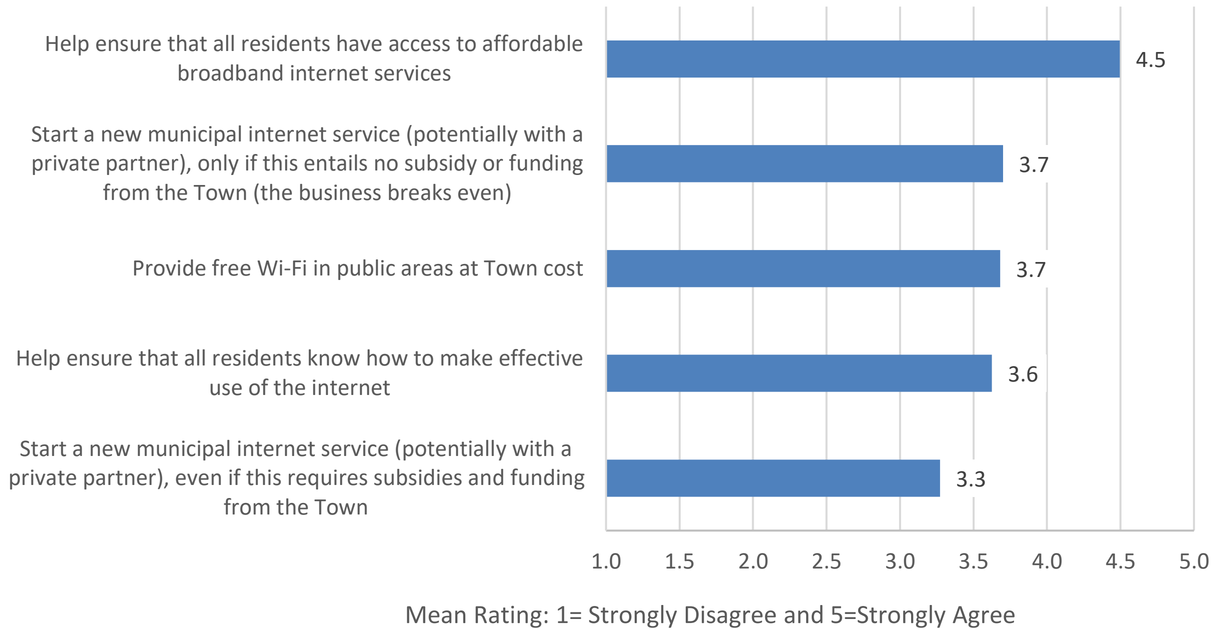
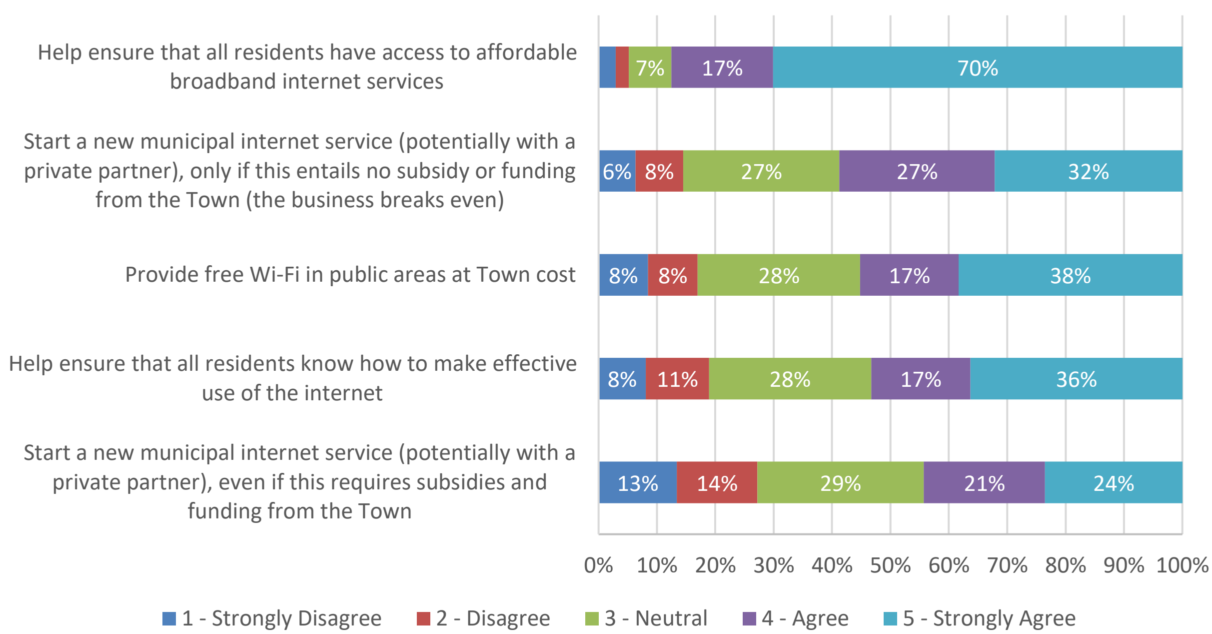


Figure 35: Opinions About the Role(s) for Town of Milton



Overall, there is strong support for ensuring all residents have access to competitively priced broadband services, with seven in 10 respondents strongly agreeing. Additionally, more than one-half of respondents strongly agreed (36 percent) or agreed (17 percent) the Town should help ensure that residents know how to make effective use of the internet.

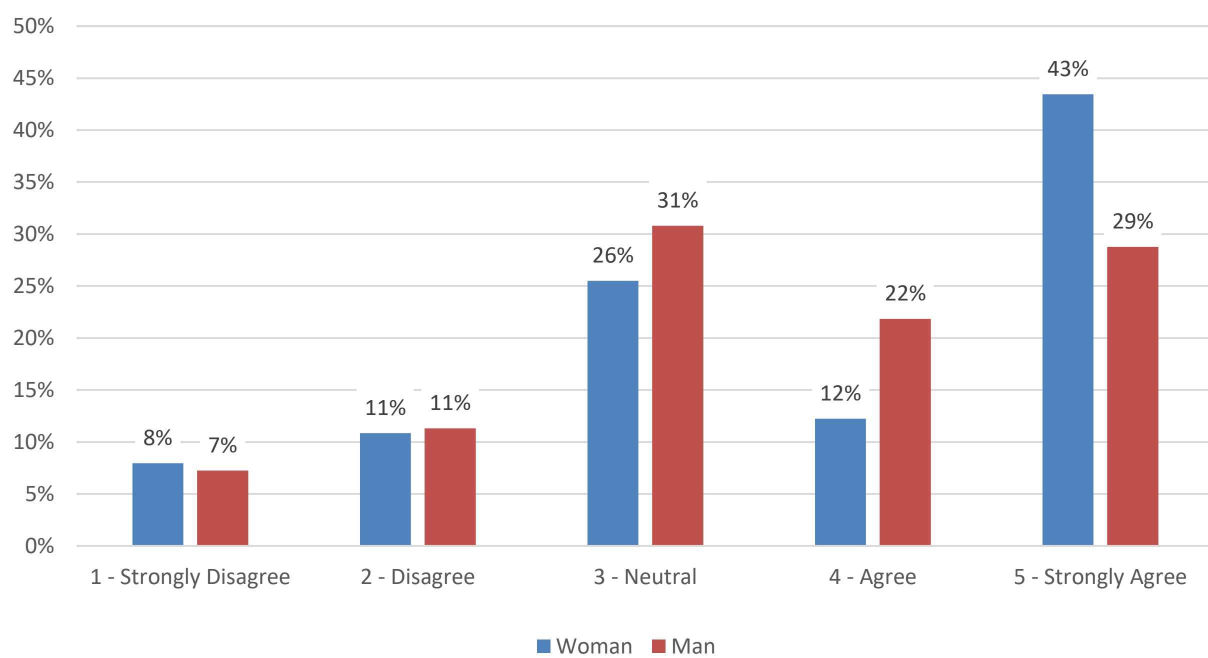
Opinions varied on if or how the Town should help provide access to internet services. Nearly six in 10 respondents agreed (27 percent) or strongly agreed (32 percent) the Town should start a new municipal internet service, only if this entails no subsidy or funding from the Town. Another 27 percent of respondents were neutral, while only a small segment disagreed with this option.

Fewer than one-half of respondents agreed (21 percent) or strongly agreed (24 percent) the Town should start a new municipal internet service, even if this requires subsidies and funding from the Town. Another 29 percent were neutral, while more than one-fourth disagreed (13 percent) or strongly disagreed (14 percent) that the Town should subsidize a new internet service.

Additionally, a majority of respondents agreed (17 percent) or strongly agreed (38 percent) the Town should provide free Wi-Fi in public areas at Town cost. Another 28 percent of respondents were neutral, while fewer than one-fifth disagreed or strongly disagreed.

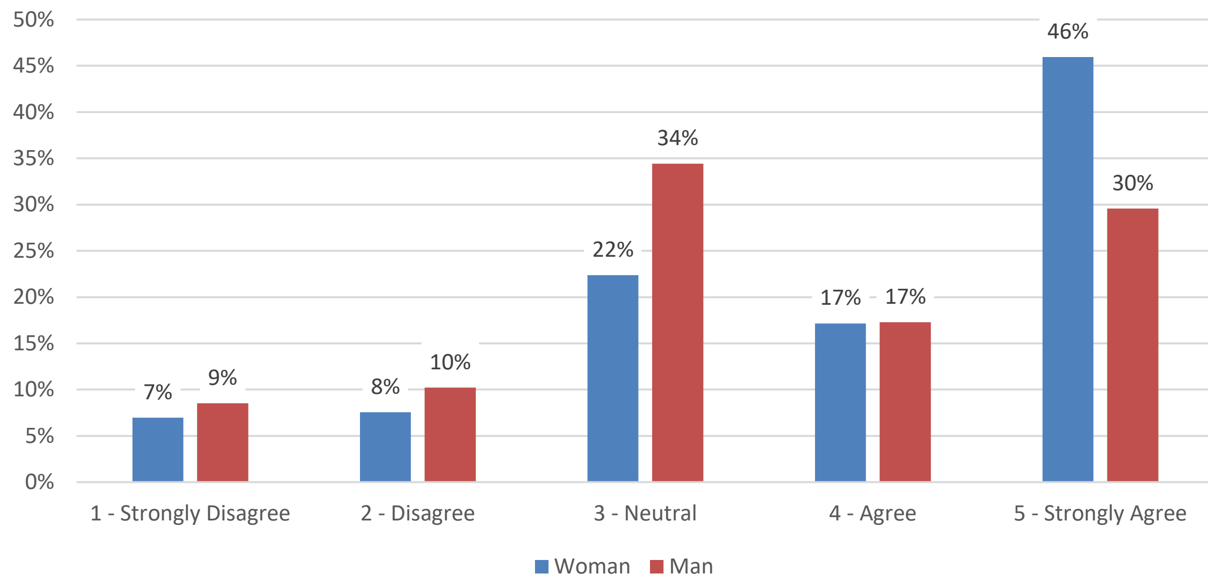
A few key statistically significant differences in opinion by demographics were found. For example, women were more likely than men to strongly agree the Town should help ensure that all residents know how to make effective use of the internet (43 percent vs. 29 percent), as highlighted in Figure 36.

Figure 36: Ensure Residents Know How to Make Effective Use of the Internet by Gender



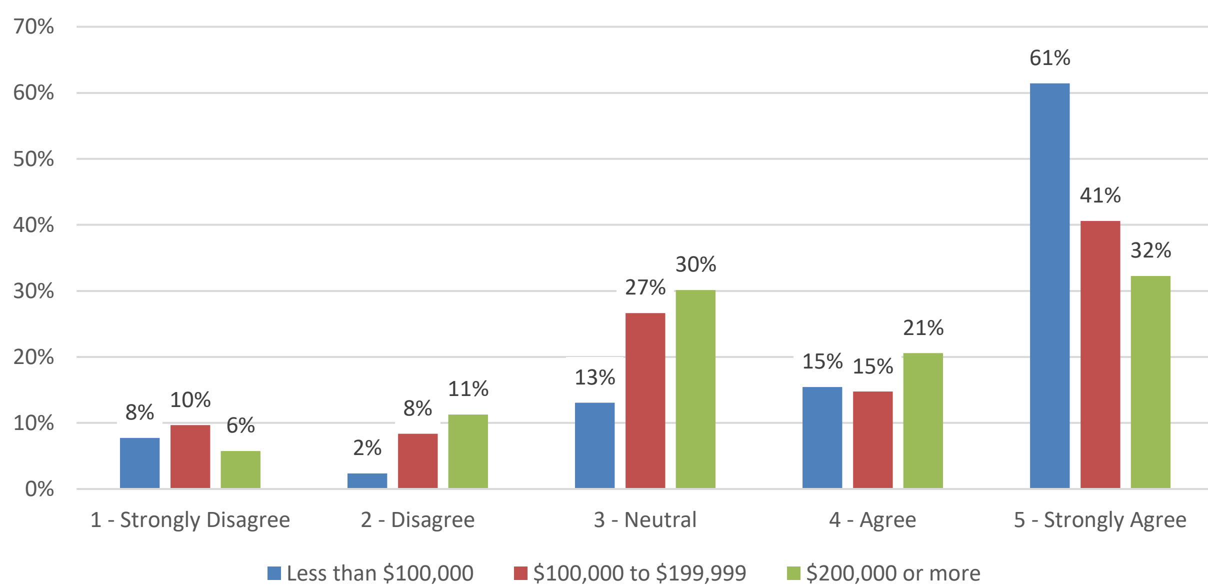
Similarly, 46 percent of women strongly agreed the Town should provide free Wi-Fi in public areas at Town cost, compared with 30 percent of men (see Figure 37).

Figure 37: Provide Free Wi-Fi in Public Areas at Town Cost by Gender



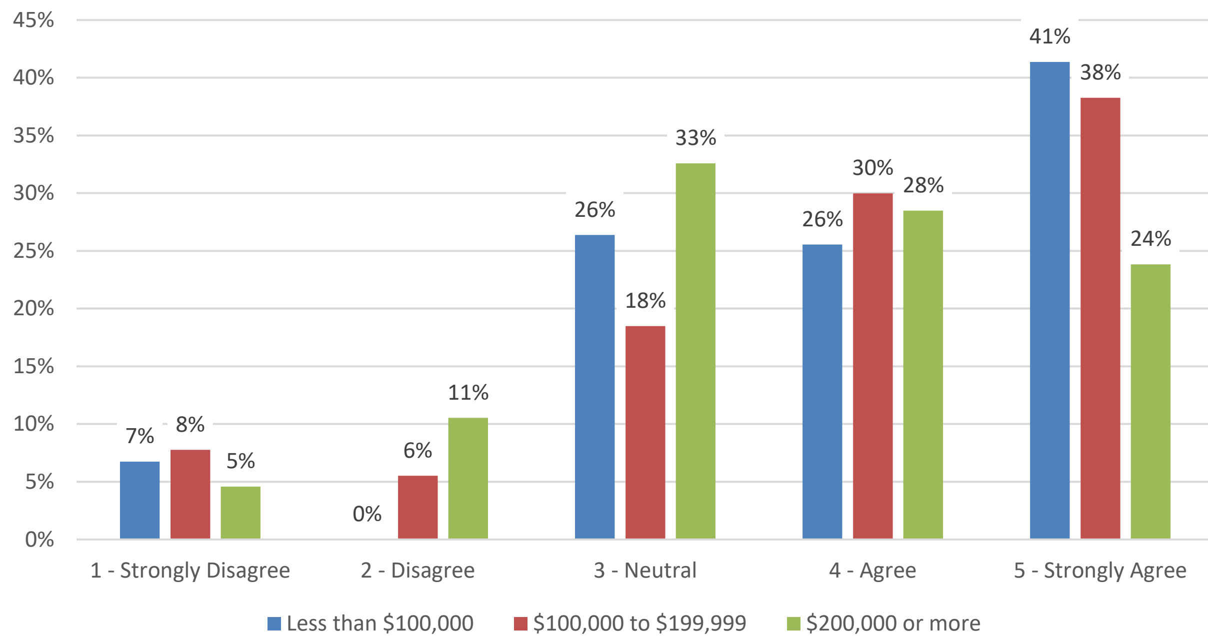
Six in 10 households earning under $100,00 per year strongly agreed the Town should provide free Wi-Fi in public areas at Town cost, compared with 32 percent of those earning $200,000 or more per year (see Figure 38).

Figure 38: Provide Free Wi-Fi in Public Areas at Town Cost by Household Income



Households earning $200,000 or more per year were less likely than those with a lower household income to strongly agree the Town should start a new municipal internet service if it entailed no subsidy or funding from the Town (see Figure 39).

Figure 39: Start New Municipal Internet Service If No Subsidy/Funding by Household Income



Respondent Information

Basic demographic information was gathered from survey respondents and is summarized in this section. Several comparisons of respondent demographic information and other survey questions were provided previously in this report.

As indicated previously in Figure 1 regarding age-weighting, disproportionate shares of survey respondents were in the older age cohorts relative to the Town's adult population as a whole. Approximately 32 percent of survey respondents are ages 65 and older, compared with 22 percent of the population. Conversely, only 28 percent of survey respondents are ages 18 to 44, compared with 43 percent of the population (see

Figure 40). The weighted survey results presented in this report are adjusted to account for these differences and to provide results that are more representative of the Town's population, as discussed previously. The following chart compares the survey age to the age distribution of adults in the population.

Figure 40: Age of Respondents and Town of Milton Adult Population

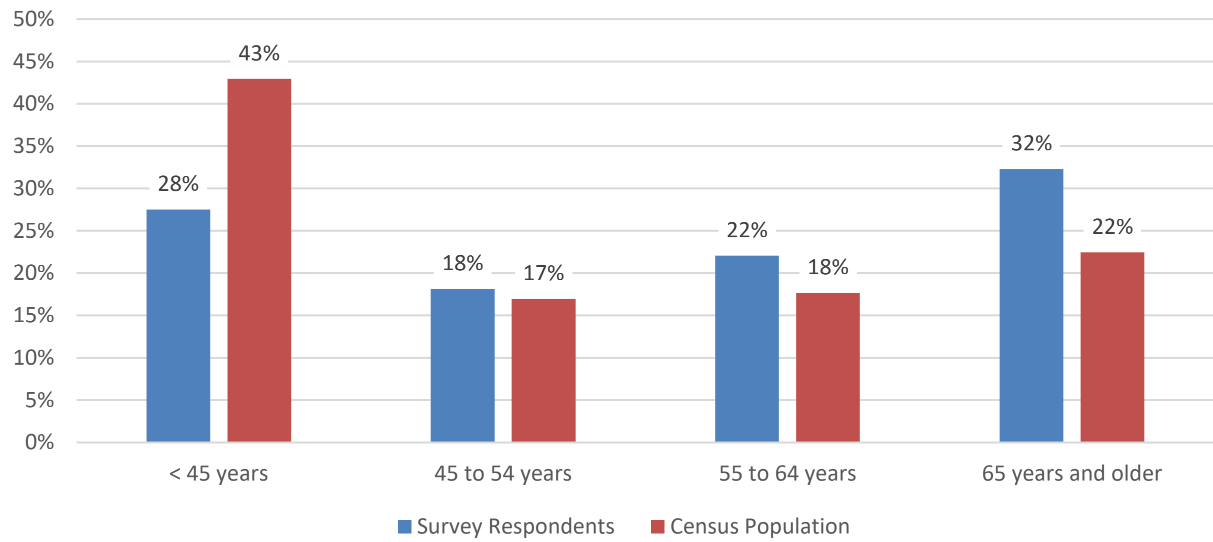


Table 7 highlights the demographic characteristics of survey respondents, broken out by respondent age. Respondents ages 18 to 54 years are more likely than older respondents to have children in the household. More than six in 10 respondents ages 18 to 54 years have four or more household members. One-fourth of those ages 65+ live alone. Respondents ages 65+ have a lower household income compared with younger respondents; 42 percent of those ages 65+ earn under $50,000 per year. In comparison, approximately two-thirds of those under age 55 have a household income of $200,000 or more.

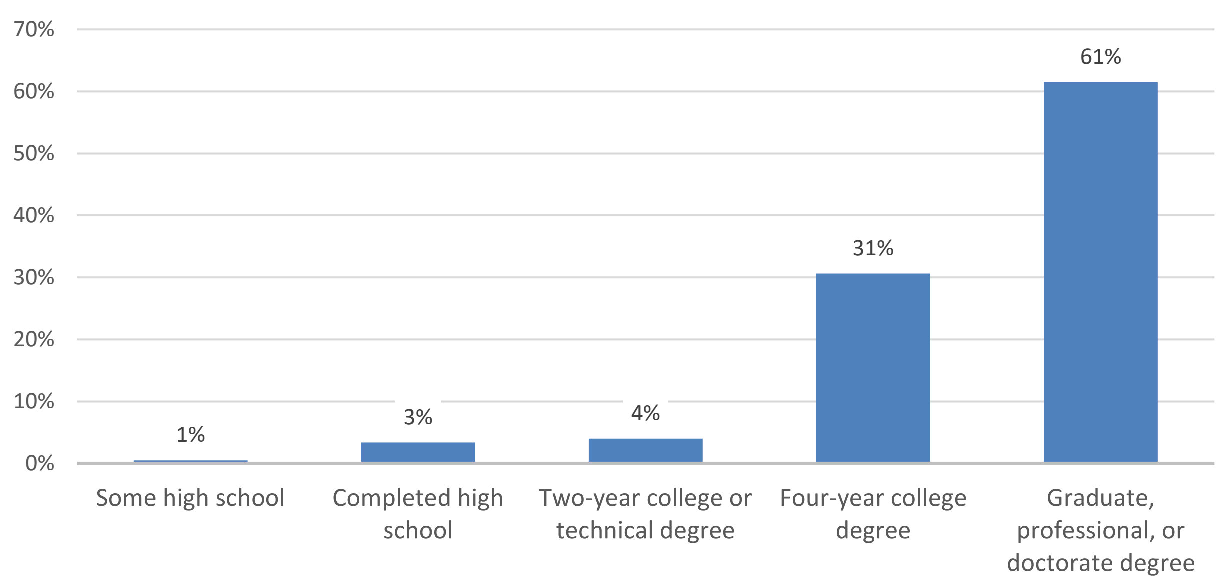
Table 7: Demographic Profile by Respondent Age

	Age Cohort	18-44	45-54	55-64	65+	Total
Approximate annual household income	Less than $100,000	6%	11%	21%	42%	17%
	$100,000 to $149,999	8%	14%	25%	24%	15%
	$150,000 to $199,999	21%	9%	22%	13%	18%
	$200,000 or more	64%	66%	32%	21%	51%
	Weighted Count	*167*	*71*	*65*	*73*	*379*
Highest level of education completed	Less than a four-year college degree	6%	6%	9%	11%	8%
	Four-year college degree	26%	41%	37%	25%	31%
	Graduate, professional, or doctorate degree	67%	52%	54%	64%	61%
	Weighted Count	*197*	*77*	*81*	*103*	*459*
Race/ethnicity	White/European-American, non-Hispanic	62%	71%	68%	89%	71%
	Other/more than one	38%	29%	32%	11%	29%
	Weighted Count	*190*	*77*	*75*	*99*	*445*

	Age Cohort	18-44	45-54	55-64	65+	Total
Gender/gender identity	Woman	52%	49%	61%	54%	53%
	Man	47%	51%	39%	44%	46%
	Other	1%	0%	0%	2%	1%
	Weighted Count	*193*	*77*	*78*	*99*	*450*
Total household size (Adults + Children)	One	1%	5%	12%	24%	9%
	Two	11%	12%	38%	62%	27%
	Three	27%	20%	30%	10%	23%
	Four or more	61%	63%	20%	3%	41%
	Weighted Count	*190*	*78*	*80*	*99*	*452*
Presence of children in household	No Children in HH	18%	24%	87%	98%	50%
	Children in HH	82%	76%	13%	2%	50%
	Weighted Count	*190*	*78*	*80*	*99*	*452*
Number of years lived at current residence	Less than 5 years	56%	17%	6%	11%	30%
	5 or more years	44%	83%	94%	89%	70%
	Weighted Count	*195*	*78*	*81*	*103*	*459*

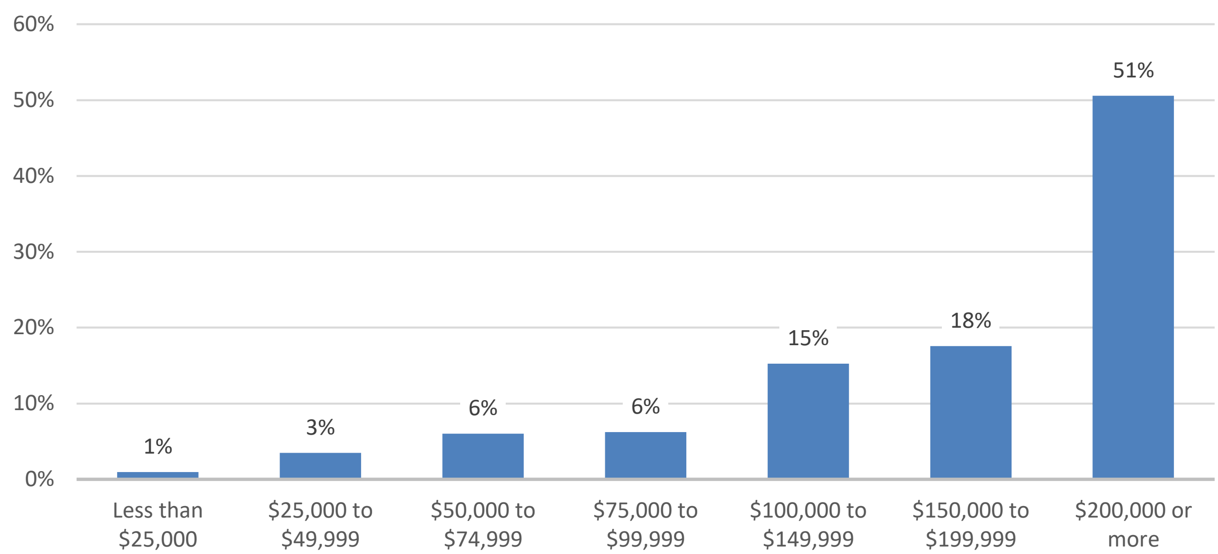
Most respondents have either a graduate, professional, or doctorate degree (61 percent) or a four-year college degree (31 percent), as shown in Figure 41.

Figure 41: Education of Respondent



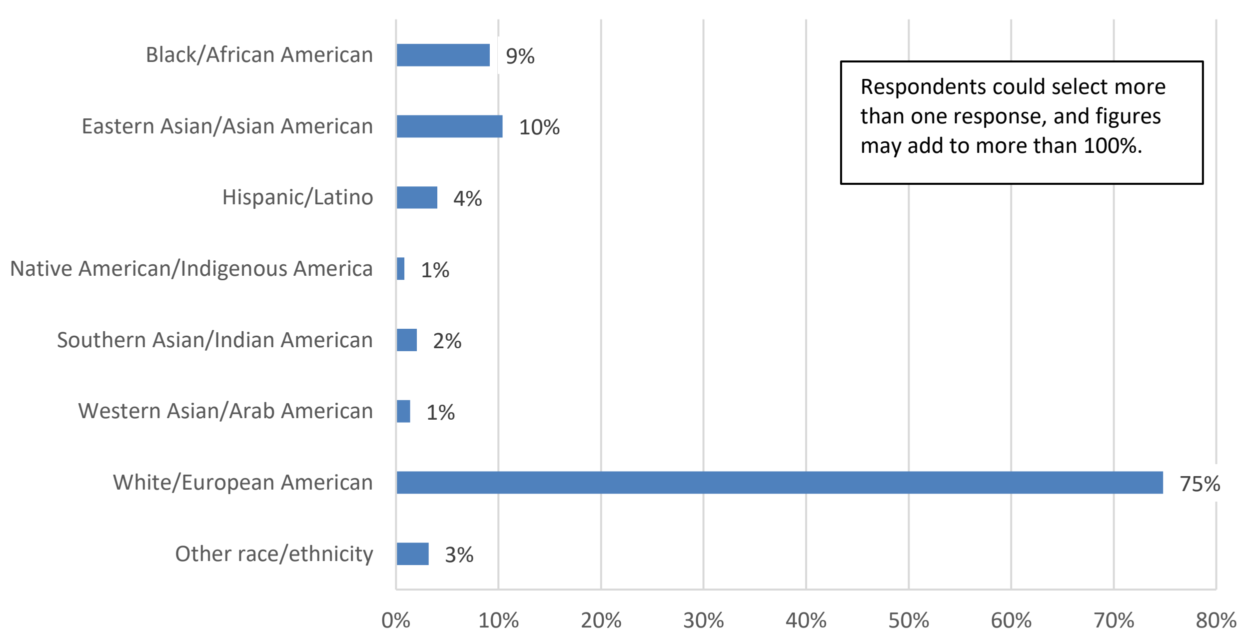
More than one-half of respondents have a household income of $200,000 or more. Another 17 percent of respondents have a household income under $100,000, and 33 percent earn $100,000 but less than $200,000 per year (see in Figure 42).

Figure 42: Annual Household Income



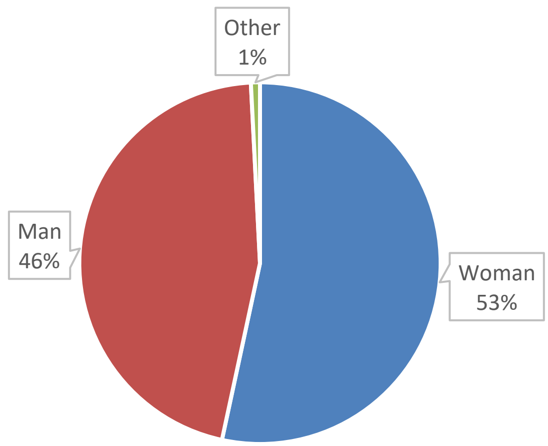
As illustrated in Figure 43, 75 percent of respondents are White/European American, 10 percent are Eastern Asian/Asian American, and nine percent are Black/African American.

Figure 43: Race/Ethnicity



More than one-half (53 percent) of respondents identify as a woman, 46 percent identify as a man, and one percent identify as other (see Figure 44).

Figure 44: Gender



Respondents were asked to indicate the number of adults and children in their household. Four in 10 households have four or more members, 23 percent have three household members, and 27 percent have two household members. Just nine percent of respondents live alone (see Figure 45). One-half of respondents have children living in the household (see Figure 46).

Figure 45: Total Household Size

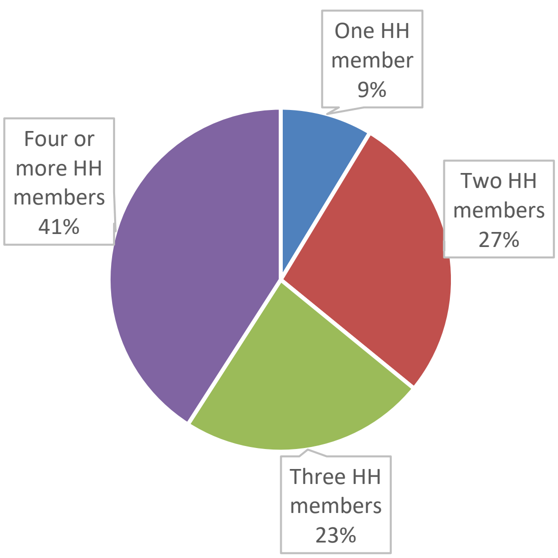
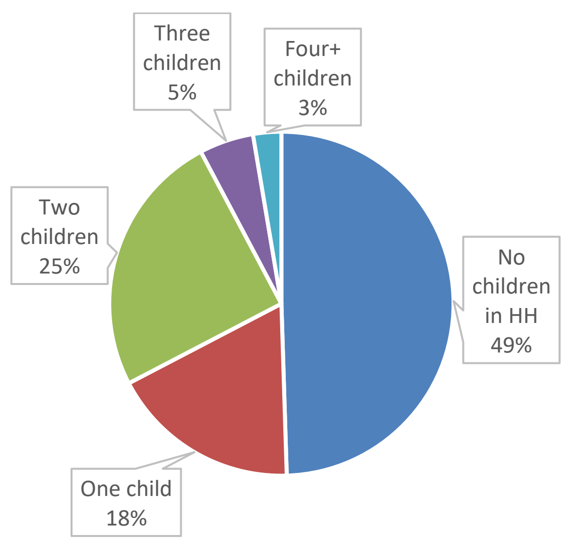
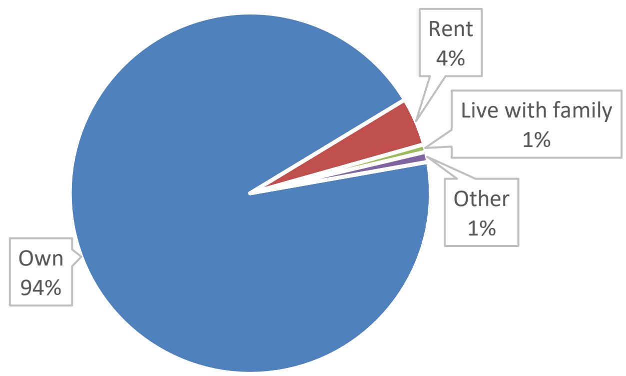


Figure 46: Number of Children in HH



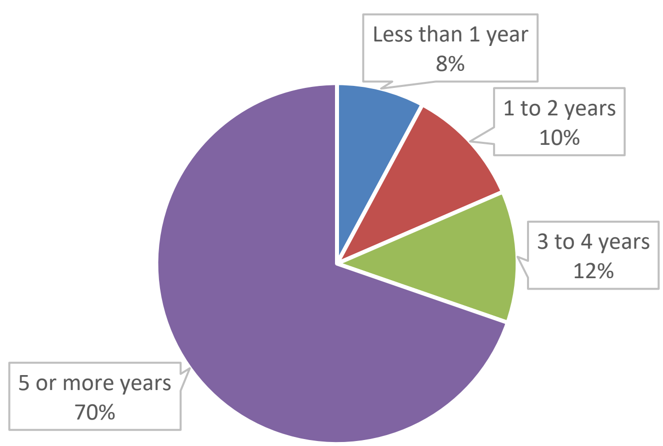
Most respondents (94 percent) own their residence, while four percent rent, one percent live with family, and one percent live in another setting (see Figure 47).

Figure 47: Own or Rent Residence



Seven in 10 respondents have lived at their residence for five or more years, as shown in Figure 48.

Figure 48: Length of Residence at Current Address



Appendix A: Survey instrument

Town of Milton, MA

Internet Usage Survey

November 2021

Even if you do not have home internet service, please complete and return this survey to us. Your opinions, experiences, and information are important to help the Town understand the needs of residents and ensure they have adequate internet access.

If you need help completing this survey in your language, please contact Town Manager Mike Dennehy at mdennehy@townofmilton.org or (617) 898-4800.

The Town of Milton is sending you this survey to help the Town explore strategies related to internet accessibility and affordability in Milton. *The information you share will not be used to sell you anything.*

Your responses will be kept confidential. Surveys sent back will be handed and processed by a survey partner. The Town will receive aggregate information and will not see or have the ability to share individual responses tied to specific addresses.

How long will the survey take?
This survey should take approximately 15 minutes to complete.

What is the due date to complete the survey?
Please return your completed form in the enclosed postage-paid envelope by **December 10, 2021**.

What if I have questions about the survey?
If you have questions, please contact Town Manager Mike Dennehy at mdennehy@townofmilton.org or (617) 898-4800.

Thank you in advance for your participation!

1. Do you subscribe to either mobile or home internet service (or both) for use at your home in Milton?

1 Yes **(Please skip to Question 4)**
2 No

2. Thinking about the reasons why you do NOT subscribe to such services for use at your home, please indicate how much you agree or disagree with the following reasons *(please circle your response for each statement, where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree)*

Aspect	*Strongly Disagree*				*Strongly Agree*
(a) An internet connection is too expensive.	1	2	3	4	5
(b) I am concerned about my safety and privacy.	1	2	3	4	5
(c) I am able to use the internet by other means, and don't need to subscribe to any service at my home.	1	2	3	4	5
(d) I am not interested in using the internet.	1	2	3	4	5
(e) I don't need to go online because I have someone who will do it for me.	1	2	3	4	5
(f) I have no one to teach me how to go online.	1	2	3	4	5
(g) Using the internet is too difficult.	1	2	3	4	5

3. Do you plan to sign up for either mobile or home internet service for use at your home in Milton in the next 12 months? *(✓ all that apply)*

1 Yes, cellular/mobile telephone service with internet (smartphone)
2 Yes, home broadband internet service
3 Do not plan to subscribe
4 Unsure

1

4. Which of the following services do you or other household members currently use in your household? (✓ *all that apply*)

- [1] Internet service subscription (not including cellular/mobile)
- [2] Cellular/mobile telephone service with internet (smartphone)
- [3] Cellular/mobile telephone service without internet (basic phone)
- [4] Landline telephone service
- [5] Cable or satellite television
- [6] Free Wi-Fi service
- [7] Don't know

5. How important are the following services to your household? *(please circle your response for each aspect, where 1=Not at all important, 2=Slightly important, 3=Moderately important, 4=Very important, 5=Extremely important)*

Aspect	*Not at all important*				*Extremely important*
(a) Internet connection (any speed)	1	2	3	4	5
(b) High-speed internet connection	1	2	3	4	5
(c) Cable television service	1	2	3	4	5
(d) Free broadcast TV from an antenna	1	2	3	4	5
(e) Satellite television service	1	2	3	4	5
(f) Fixed (land-line) telephone service	1	2	3	4	5
(g) Cellular/mobile telephone service	1	2	3	4	5
(h) Free public Wi-Fi service	1	2	3	4	5

6. What is the primary source of internet service in your home? *(✓ only one)*

- [1] Do not have internet service (home internet or cellular/mobile) (Please skip to **Question 12**)
- [2] Comcast
- [3] Verizon wired service—please circle one
  - ○ DSL (my router plugs into a phone jack)
  - ○ Fios (fiber optic service available in some areas)
- [4] Dish Network
- [5] RCN
- [6] Starry
- [7] HughesNet
- [8] ViaSat
- [9] AT&T wireless (mobile service)
- [10] Verizon wireless (mobile service)
- [11] T-Mobile (mobile service)
- [12] Mobile Wi-Fi hotspot provided to me by a school, library, or other entity
- [13] Other (Please specify:________________________)

7. How *satisfied* are you with the following aspects of your current primary internet service provider in your home? *(please circle your response for each aspect, where 1=Not at all satisfied, 2=Slightly satisfied, 3=Moderately satisfied, 4=Very satisfied, 5=Extremely satisfied)*

Aspect	*Not at all Satisfied*				*Extremely Satisfied*
(a) Speed of connection	1	2	3	4	5
(b) Reliability of connection	1	2	3	4	5
(c) Price of services	1	2	3	4	5
(d) Overall customer service	1	2	3	4	5
(e) Ability to "bundle" with TV and phone	1	2	3	4	5

3

8. How *important* to you are the following aspects of your current primary internet service provider in your home? *Please circle your response for each feature, where 1=Not at all important, 2=Slightly important, 3=Moderately important, 4=Very important, 5=Extremely important*

Feature	*Not at all important*				*Extremely important*
(a) Speed of connection	1	2	3	4	5
(b) Reliability of connection	1	2	3	4	5
(c) Price of services	1	2	3	4	5
(d) Overall customer service	1	2	3	4	5
(e) Ability to "bundle" with TV and phone	1	2	3	4	5

9. If you are a Comcast customer, are you enrolled in Comcast's Internet Essentials program, which provides $9.95 (plus tax) home internet service and other benefits to eligible low-income subscribers?

- 1 Yes
- 2 No
- 3 I had not heard of this program until now
- 4 I attempted to enroll in this program but was declined
- 5 I am not a Comcast customer

10. If you are a Comcast customer, to what general type of service do you subscribe?

- 1 Internet only (just data)
- 2 Bundle (internet plus video and/or phone)

11. Please estimate how much your household pays PER MONTH for your PRIMARY service, regardless of provider and regardless of whether the service is internet-only or a bundle.

- 1 $0 to $10
- 2 $11 to $20
- 3 $21 to $40
- 4 $41 to $60
- 5 $61 to $80
- 6 $81 to $100
- 7 $101 to $120
- 8 $121 to $140
- 9 $141 to $160
- 10 $161 to $180
- 11 $181 to $200
- 12 $201 to $220
- 13 $221 to $240
- 14 More than $240

4

12. How many personal computing devices (desktop/laptop computers, tablets, smartphones, console gaming devices) are used in your household?

1 1 or 2
2 3 or 4
3 5 or more
4 I do not have any personal computing devices in my home

13. At peak usage times in your household, how many people need to be online for work, school, and other activities <u>at the same time</u>?

1 None
2 1
3 2
4 3
5 4
6 5 or more

14. In your opinion, does the Town of Milton need an additional internet service provider?

1 Yes
2 No
3 Not sure

15. If the Town of Milton had an additional internet service provider, would you be interested in acquiring services from the new provider?

1 Yes
2 No **(Please <u>skip</u> to Question 18)**
3 Not sure

16. How willing would you be to purchase, from a new Milton internet service provider, service of 100 Mbps download/100 Mbps upload (not including bundled services such as video or phone)? This is a relatively fast service with upload speeds that are much faster than upload speeds available from Comcast. *(please circle your response at each price level, where 1=Not at all willing, 2=Slightly willing, 3=Moderately willing, 4=Very willing, 5=Extremely willing)*

Monthly Price	*Not at all Willing*				*Extremely Willing*
(a) $40 per month	1	2	3	4	5
(b) $60 per month	1	2	3	4	5
(c) $80 per month	1	2	3	4	5
(d) $100 per month	1	2	3	4	5
(e) $120 per month	1	2	3	4	5

17. Consider at what price you would be interested in purchasing, from a new Milton internet service provider, extremely fast internet service of one gigabit per second upload and download. This is ten times faster than the speed in the previous question and can handle multiple high-definition video streams simultaneously or transmit large video or other files near-instantaneously.

How willing would be to purchase such service (not including bundled services such as video or phone) for the following monthly price? *(please circle your response at each price level, where 1=Not at all willing, 2=Slightly willing, 3=Moderately willing, 4=Very willing, 5=Extremely willing)*

Monthly Price	*Not at all Willing*				*Extremely Willing*
(f) $40 per month	1	2	3	4	5
(g) $60 per month	1	2	3	4	5
(h) $80 per month	1	2	3	4	5
(i) $100 per month	1	2	3	4	5
(j) $120 per month	1	2	3	4	5

18. Please indicate to what extent you disagree or agree that the Town of Milton should do the following: *(please circle your response for each statement, where 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree)*

Aspect	*Strongly Disagree*				*Strongly Agree*
(a) Help ensure that all residents have access to affordable broadband internet services	1	2	3	4	5
(b) Help ensure that all residents know how to make effective use of the internet	1	2	3	4	5
(c) Provide free Wi-Fi in public areas at Town cost	1	2	3	4	5
(d) Start a new municipal internet service (potentially with a private partner), even if this requires subsidies and funding from the Town.	1	2	3	4	5
(e) Start a new municipal internet service (potentially with a private partner), only if this entails no subsidy or funding from the Town (the business breaks even).	1	2	3	4	5

INFORMATION ABOUT YOU

The following questions will help describe the total group of survey respondents. The purpose of these questions is to ensure that the survey captures perspectives from all segments of the Milton community and to help achieve statistical validity in the data analysis. As noted earlier, the Town will not receive or be able to share individual responses tied to specific addresses.

19. Do you own or rent your residence?

- ☐1 Own
- ☐2 Rent
- ☐3 Live with family
- ☐4 Other: ____________________

20. How long have you lived at your current address?

- ☐1 Less than 1 year
- ☐2 1 to 2 years
- ☐3 3 to 4 years
- ☐4 5 or more years

21. Which of the following best describes your age?

- ☐1 18 to 34 years
- ☐2 35 to 44 years
- ☐3 45 to 54 years
- ☐4 55 to 64 years
- ☐5 65 years and older

22. What is the highest level of education you have completed?

- ☐1 Grade School
- ☐2 Some high school
- ☐3 Completed high school
- ☐4 Two-year college or technical degree
- ☐5 Four-year college degree
- ☐6 Graduate, professional, or doctorate degree

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23. What is your approximate annual household income?

- [1] Less than $25,000
- [2] $25,000 to $49,999
- [3] $50,000 to $74,999
- [4] $75,000 to $99,999
- [5] $100,000 to $149,999
- [6] $150,000 to $199,999
- [7] $200,000 or more
- [8] Prefer not to answer

24. What is your race/ethnicity? (*✓ all that apply*)

- [1] Black/African American
- [2] Eastern Asian/Asian American
- [3] Hispanic/Latino
- [4] Native American/Indigenous American
- [5] Southern Asian/Indian American
- [6] Western Asian/Arab American
- [7] White/European American
- [8] Other (please specify): ____________________

25. What is your gender or gender identity?

- [1] Woman
- [2] Man
- [3] Other (neither term describes me)

(please specify): ____________________

26. How many people reside in your home (adults and children)?

Adults (including yourself)	Children age 18 and younger
	[0] None
[1] 1	[1] 1
[2] 2	[2] 2
[3] 3	[3] 3
[4] 4 or more	[4] 4 or more

Thank you for completing this survey!

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