Digital Adoption • Broadband For All • Affordable Internet Service • Resilient and Reliable Communication Networks • Devices for Access • Digital Literacy • Collaboration & Data Sharing •

DIGITAL MARIN

Needs Assessment Report

August 2021

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Introduction

Two of Digital Marin's guiding principles directly influenced the needs assessment phase of the Digital Marin project.

1. The Strategic Plan development process is inclusive and collaborative, involving all sectors in Marin.
2. The resulting Strategic Plan is community driven to address what they say is important.

To satisfy these guiding principles, the Digital Marin project conducted significant community outreach by dividing Marin's stakeholders into seven (7) Communities, often called sectors, and assigning at least one (1) member of the project's Executive Steering Committee (ESC) as a liaison to each. More information about the project's ESC is available on the About ESC page at www.GoDigitalMarin.org.

Digital Marin Communities

The Communities, ESC liaisons, and acronyms follow. More information about each Community and their activities is available at www.GoDigitalMarin.org under the Communities section.

1. Business and Economic Development (B/ED) – Mike Blakely, Marin Economic Forum
2. Education – Ross Millerick, Novato Unified School District Trustee and Ann Mathieson, Marin Promise Partnership
3. Government and Emergency Management (GEM) – Michael Frank, Marin General Services Authority
4. Health and Community Based Organizations (H/CBO) – Johnathan Logan, Marin Community Foundation
5. Internet, Communications, and Technology (ICT) Providers - Javier Trujillo, Marin County
6. Planning, Transportation, and Public Works (PTPW) – Elise Semonian, Town of San Anselmo
7. Residents – Bruce Vogen, Resident

Work Groups

Each Community established a Work Group to support their Communities' specific outreach efforts. The Community Work Groups assisted with efforts such as developing focus group and survey questions, identifying people or groups to be contacted, and reviewing their Community's subsequent outreach findings. ESC and Work Group members also participated in the review of the combined needs assessment findings and the Digital Infrastructure Needs and Options Report drafted by the project's consultant, Magellan Advisors.

In addition to the 12 ESC members, a total of 56 individuals participated in Community Work Groups. Specific names and their affiliations are available on www.GoDigitalMarin.org under the Communities section. Some ESC and Work Group members participated in more than one Work Group.

Needs Assessment Findings

The individual findings from all Communities were analyzed and combined into a draft Needs Assessment presentation reviewed by the ESC and members of all Community Work Groups. The Needs Assessment presentation, minutes, and a video recording of the meeting at which it was presented are available on the Communities page.

Overall Needs Statements

Seven needs statements that directly relate to the project's goals were created.

Broadband for all

Universally accessible and consistent broadband is needed throughout Marin

Affordable internet service

Marin needs affordable broadband service, so cost is not a barrier to entry

Resilient and reliable communication networks

Redundancy and resiliency are needed for all digital infrastructure

Devices for access

Robust end user devices are needed to access all digital opportunities

Digital literacy

Collaborations are needed to help address lack of digital literacy for providers and consumers of internet content and services

Collaboration and data sharing

Collaborations and data sharing are needed to improve service delivery, increase efficiencies, and provide insights

Digital adoption

Trust is needed to increase usage of digital resources

Supporting Community Need Statements

Following is a summary of how the individual Community needs came together to form the seven (7) Digital Marin Needs Statements. More detailed information about each Community's needs can be found in the Individual Community Findings section beginning on page 15.

Broadband for all

- Businesses in Marin would benefit from investment in faster internet and more bandwidth (B/ED)

- Universally accessible, reliable, consistent high-speed internet is needed throughout Marin County (GEM)
- Increased infrastructure is needed to support Internet of Things (IoT) and wireless devices (PTPW)
- Marin needs affordable, reliable, and resilient broadband service throughout the county (Residents)

Affordable internet service

- Recipients need barriers to digital access removed (H/CBO)
- Marin needs affordable, reliable, and resilient broadband service throughout the county (Residents)
- Survey Finding: 30% of respondents would pay more for faster and more reliable broadband service but can't afford it (Residents)
- Survey Finding: 70% of respondents in subsidized housing identify cost as the #1 reason they do not have broadband at home (Residents)

Resilient and reliable communication networks

- Improved reliability and established standard speed of internet connection is needed at school and home (Education)
- Universally accessible, reliable, consistent high-speed internet is needed throughout Marin County (GEM)
- Redundancy and resiliency in all digital infrastructure are needed (GEM)
- Marin needs affordable, reliable, and resilient broadband service throughout the county (Residents)

Devices to access the internet

- Access to a device and connectivity in every home is needed (Education)
- Recipients need barriers to digital access removed (H/CBO)
- Survey Finding: 37% of students surveyed in one district reported not having a reliable device at home (Education)
- Survey Finding: 57% of households surveyed in one neighborhood reported not having a computer at home (Education)

Digital literacy

- Increased digital literacy training for parents and teachers is needed (Education)
- Both providers and recipients need more digital literacy training to be successful (H/CBO)
- Collaborations are needed to help businesses address overlapping internet issues and lack of digital literacy (B/ED)
- Significant ongoing and just-in-time community digital training in software and home technology are needed (GEM)

Collaboration and data sharing

- Proactive data infrastructure and staff capacity for tracking students' digital needs and assets are needed (Education)
- Sharing data across agencies is needed to increase coordination and public access (PTPW)
- Increased collaboration and coordination between governments and high-level cross-agency leadership are needed (GEM)
- Agencies need to collaborate, share staff, and streamline services (PTPW)

Digital adoption

- Recipients need services delivered in a way that best meets their capabilities and comfort (H/CBO)
- Marin needs to ensure that privacy, security, and transparency concerns are addressed (Residents)
- Systems and data at critical facilities need to be protected (PTPW)
- Balancing health and safety concerns with needs for broadband in areas not/not easily served by fiber is needed (Residents)

Marin's Digital Divide

Despite its relative wealth and location near San Francisco, a major technology hub, Marin still has residents who suffer from the digital divide - the economic, educational, and social inequalities between those who have computers and online access and those who do not have it. While many of these residents are concentrated in the five (5) geographic areas noted below, lack of access to affordable, reliable high-speed internet is not limited to these areas and is found throughout Marin County.

- Canal Neighborhood in San Rafael
- Marin City
- Two areas in Novato
- West Marin

These five geographic areas are also designated as un- or underserved in terms of broadband service. Collaborations to bridge aspects of the digital divide are already underway in three (3) of these areas – the Canal Neighborhood, Marin City, and West Marin. As noted in the Residents Community section of this Report, more work is needed to identify the two underserved areas in Novato along with the community advocates necessary to lead collaborative efforts.

For example, the City of San Rafael, County of Marin, Canal Alliance, and San Rafael City Schools teamed up to build a free and public Wi-Fi network for the Canal Neighborhood during the pandemic. Designed with resiliency in mind, generators keep parts of the network up during major power outages, allowing residents to access critical emergency information when home internet connectivity may be down. Usage has steadily increased since it was first deployed in late October 2020.

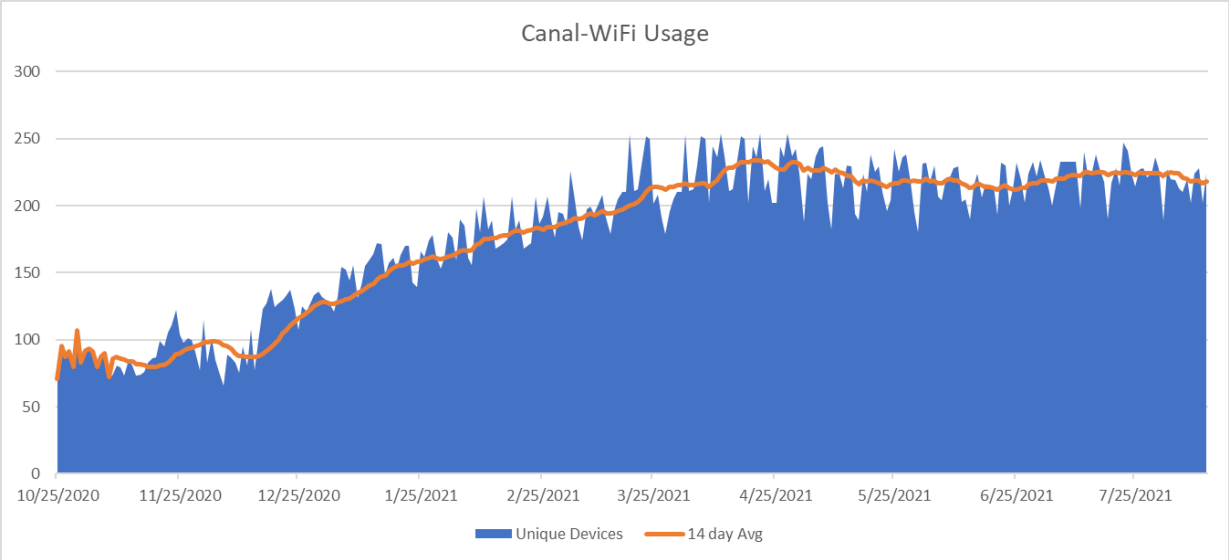

Figure 1 - Canal Neighborhood Free Wi-Fi Usage

More information about this collaboration and others can be found at www.GoDigitalMarin.org on the Collaborations page.

The needs assessment also identified another group of residents who frequently experience the digital divide - Marin's older adults and people with disabilities. People in these groups are not geographically concentrated. Instead, they are dispersed throughout Marin. Even when service is available and affordable, these residents often face other challenges and require intentional, targeted efforts to help them bridge the digital divide. Without these efforts, more than 12,900 Marin residents with disabilities under age 65 and nearly 60,000 residents 65 years old and older can be shut out of the increasingly digital world. Population estimates are based on U.S. Census Bureau data (V2019) for Marin County.

Causes of Marin's Digital Divide

In addition to a lack of or poor quality internet service, Marin residents and businesses often face other issues that contribute to the digital divide, including:

- Inability to afford internet service;
- Lack of devices to access the internet;
- Low levels of digital literacy;
- Language and other accessibility barriers; and

- Mistrust or misunderstanding of the benefits of being online.

When asked why they do not have high-speed internet at their home or business, the number one reason respondents gave was that it is too expensive. Respondents to the standard Online Residents Survey (ORS) are paying 5.82% more for internet only service than the $70/month national average. Discounted internet service programs are available to qualified households in Marin but not everyone who qualifies takes advantage of the programs. Some cannot since they do not have service available to their household, the second most often cited reason for not having high-speed internet service according to survey respondents. For some households with available internet service, the reduced price is still unaffordable or they simply don't know about the programs. One incumbent in Marin allows government entities to purchase multi-year bulk internet service subscriptions for qualified households through a partnership program. This approach was used to provide internet service in Marin City where infrastructure is available but cost is a barrier for many. Additional marketing to qualified households and expanding the use of bulk internet service subscriptions can increase usage of discount internet service programs.

While many digital literacy training programs were identified during the needs assessment process, Marin lacks the comprehensive, coordinated approach needed for all residents to achieve a baseline level of digital competency. Respondents from across Marin's Communities stressed that digital literacy training needs to be tailored to the audience and consistent in quality and standards.

Another area of inequality in Marin is access to online services. When service providers in the Health and Communities Based Organizations Community were asked about their online services, survey respondents indicated that, on average, 25% of their recipients could not access them. Responses to a poll conducted during a meeting of service providers had the same results, 25% of their recipients could not access online services. One quarter of Marin's most vulnerable population is not able to get needed services when they are offered digitally. The cause is one or more of the common aspects that contribute to the digital divide.

Marin's Device Disparity

The needs assessment findings highlight the device disparity among Marin's residents and businesses. When asked what devices were connected to their home internet service, 678 respondents to the standard ORS reported a total of nearly 5,800 devices; 8.5 per household. In contrast, 173 respondents to a survey conducted of residents in Marin Housing Authority (MHA) subsidized housing reported a total of 443 devices; 2.6 per household. A 2020 study regarding consumer electronics found that U.S. households on average have 10 connected devices.

In both cases, some of the difference between the project's survey findings and the U.S. study may be caused by under-reporting, especially of Internet of Things (IoT) devices, like security systems, sensors, personal assistants, and other smart devices. Even with more accurate

counts of devices by MHA survey respondents, the average per household would likely still fall well short of even 8.5 devices.

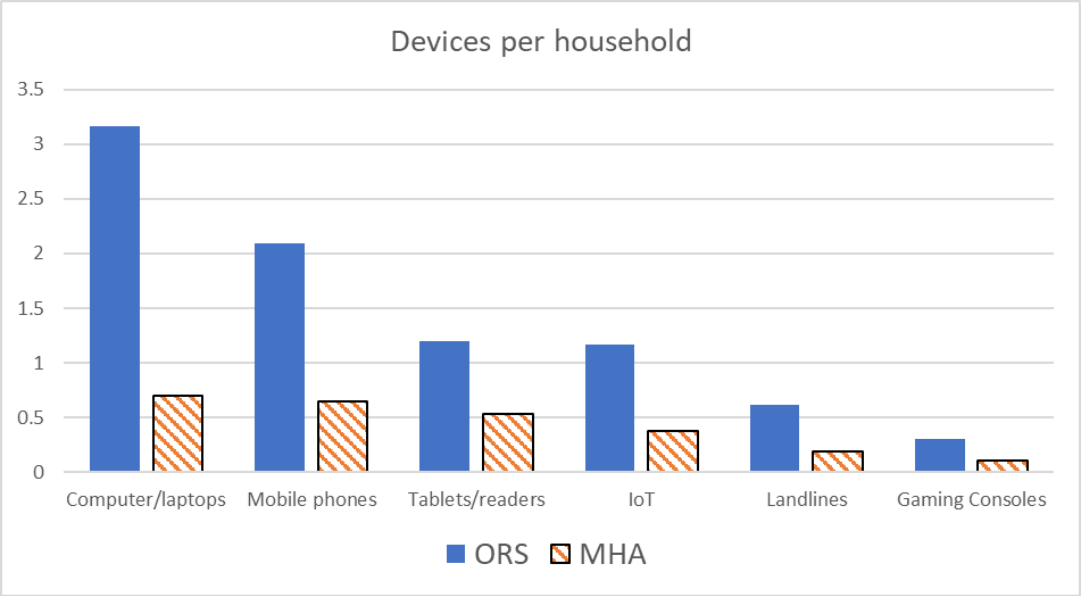

Figure 2 - Devices per Household

The same 2020 study found that the average U.S. household has two computers. When comparing computers/laptops per household in Marin, survey respondents reported a range of less than one half (.4) per household in the Canal Neighborhood through 3.3 per household for students at Terra Linda High School in San Rafael.

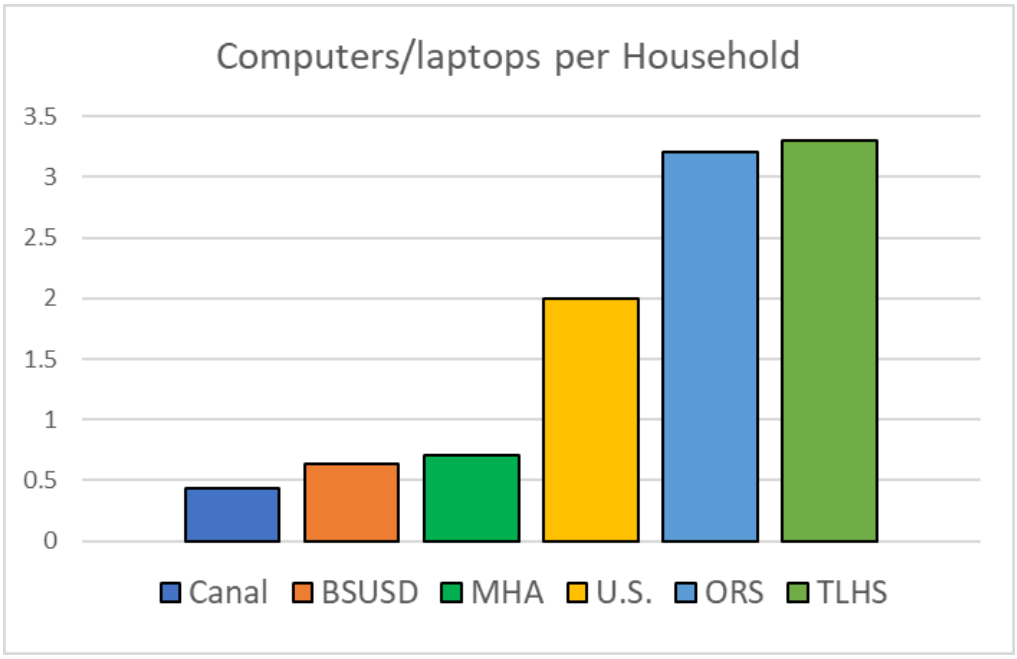

Figure 3 - Computers/Laptops per Household

This data in the above chart is based on the following survey sources.

- Canal neighborhood (Canal) survey conducted by the City of San Rafael
- Bolinas Stinson Union School District (BSUSD) Connectivity Committee Survey
- Marin Housing Authority (MHA) Residents Survey conducted by the Digital Marin project
- Online Residents Survey (ORS) hosted by Magellan Advisors and conducted by the Digital Marin project
- Terra Linda High School (TLHS) Student Survey conducted by students at the Marin Academy

Broadband Cost and Quality

Analysis of data collected during the needs assessment found no correlation between what residents pay and the speed or quality of their internet service. When asked about various aspects of their internet service, price consistently had the highest rate of dissatisfaction with an average of 41% of residents and 33% of businesses rating it as bad/terrible. Despite paying 5.82% more for internet only service than the $70/month national average, only 55% of all respondents to the ORS rated their overall internet service as good/excellent, with 64% of all respondents from business rating it that way. While 15 ORS respondents reported that they are paying $80/month for internet only service, their download speeds ranged from 5 Mbps to 465 Mbps.

When asked whether they would pay more for faster and more reliable internet services, just over 11% of all respondents to the standard ORS indicated that they believe their current service is already fast and reliable. Respondents paying approximately 12% more for internet only service than the $70/month national average said they "would likely pay a little more," showing some price flexibility. While over 62% of all respondents would pay more for better service, nearly half of them can't afford to do so (29.6%).

Broadband Availability and Speeds

The second most often cited reason for not having high-speed internet at home or a place of business was lack of availability. Magellan Advisors' inventory revealed that Marin has relatively few network assets and the incumbent internet providers' service areas do not cover much of Marin and overlap each other only in the more densely populated eastern areas. They also found that while the five (5) geographic areas noted above lack connectivity options, so do the more prosperous areas of Marin.

According to the California Public Utilities Commission (CPUC) data, Marin County has 591 households that are unserved, i.e. either have no internet service available in their community or service that is below the 25 Mbps download/3 Mbps upload (25/3) broadband speed policy set by the Federal Communications Commission (FCC). Of those 591 households, 208 have service but it is at or below 6 Mbps down/1 Mbps up (6/1). These households are identified as underserved. CPUC's most recently released data shows that Marin has 3,987 unserved households at their new recommended speeds of 100 Mbps down/20 Mbps up (100/20). The

data for speeds of 6/1 and 25/3 also identified 1,856 households with no service, i.e. broadband service is available but these households choose not to receive it. The new data regarding speeds of 100/20 did not provide the number of households with no service.

Speed	Served	No Service	Unserved	Underserved
At underserved speeds of 6/1	102,528	1,856	383	208
At FCC standard speeds of 25/3	102,528	1,856	591	N/A
At CPUC recommended speeds of 100/20	100,988	N/A	3,987	N/A

Figure 4 - Broadband Speeds

The table above is based on CPUC's 2020 data and estimates. According to the data, Marin County has 104,975 households representing 260,831 residents. The CPUC data is considered questionable since it is self-reported by internet service providers and the threshold for identifying what households are "served" is low. Detractors believe that the number of un- and underserved households is higher than reported. This issue appears to be the case in Marin County. For example, ORS speed tests for households in served areas reported results as low as 681 kb/s down and 126 kb/s up. As such, these findings show that even "served" households, i.e. those identified as receiving at least 25/3 or higher, experience speeds below FCC standards for broadband.

The current FCC standard of 25/3 was established in 2015. A six year old standard is not viable given the rapid pace of technology change and users' needs and demands. Recent experience showed us that service rapidly degrades or becomes unusable when multiple people in a household and a substantial number of residents work, attend school, receive services, and interact online. Additionally, while download speeds were traditionally considered more important than upload ones, users today need to upload large files and more content which requires rethinking that approach. In terms of Marin residents' internet experience, ORS findings showed that slowdowns and outages occurred several times a year for 61% of respondents and almost daily for over 20% of them.

More information about broadband policies, standards, and service maps can be found on the FCC's website.

Recommendations for Additional Needs Assessment

While the Digital Marin project worked to collect needs from the largest number of Marin's residents and businesses possible, more assessment is needed in several areas.

1. Identify and conduct additional needs assessment activities in the two under-served areas of Novato and identify community advocates to lead collaborative efforts to bridge the digital divide in these areas.
2. Conduct additional needs assessment efforts in West Marin beyond what was done by the Bolinas Stinson Union School District Connectivity Committee, especially when digital projects are proposed or planned for this area.

3. Conduct additional needs assessment efforts of students across Marin, especially when digital projects are proposed or planned for them.
4. Conduct additional needs assessment of the Business Community's digital needs as part of the development of a Marin County Economic Strategy.
5. Conduct needs assessment of actual recipients of Health and CBO services, especially when digital projects are proposed or planned for them.
6. Conduct additional needs assessment of non-profits/CBO's digital needs, especially when projects are proposed or planned for this sector.
7. Obtain detailed demographic data especially for projects that continue or project proposals that emerge as a result of Digital Marin's needs assessment or Strategic Plan.
8. Conduct additional needs assessment of the older adult and persons with disabilities communities to better define and recommend solutions to address their specific needs and ensure that all digital projects and initiatives include addressing their needs.
9. Obtain more information about consumer internet prices and speeds by conducting a year-long speed test coupled with an evaluation of individual service provider invoices voluntarily provided by consumers.
10. Conduct additional assessment activities to identify ways to offset the cost of constructing an open access public sector broadband network including analysis of current spending and performance metrics (number of circuits and speed) for government entities, schools, anchor institutions, and other related publicly-funded entities to identify spending that could be reduced or diverted.
11. Complete the assessment regarding the ability to use the strands of dark fiber in the SMART easement allocated to the County and the cities through which it passes in the License Agreement between SMART and Sonic.

Community Outreach

The community outreach process included conducting surveys, polls, focus groups, meetings, interviews, and project briefings, as well as, receiving comments via email or through the GoDigitalMarin website. A list of organizations that participated in focus groups and meetings is available on www.GoDigitalMarin.org under the Communities section.

Participation

Overall, Community outreach resulted in conducting 12 surveys and more than 47 focus groups, meetings, briefings, and interviews. In total, more than 2,700 touch points occurred, including participating on the ESC or in Community Work Groups, responding to surveys and polls, attending focus groups, meetings, interviews, or project briefings, and providing comments via email or the GoDigitalMarin website.

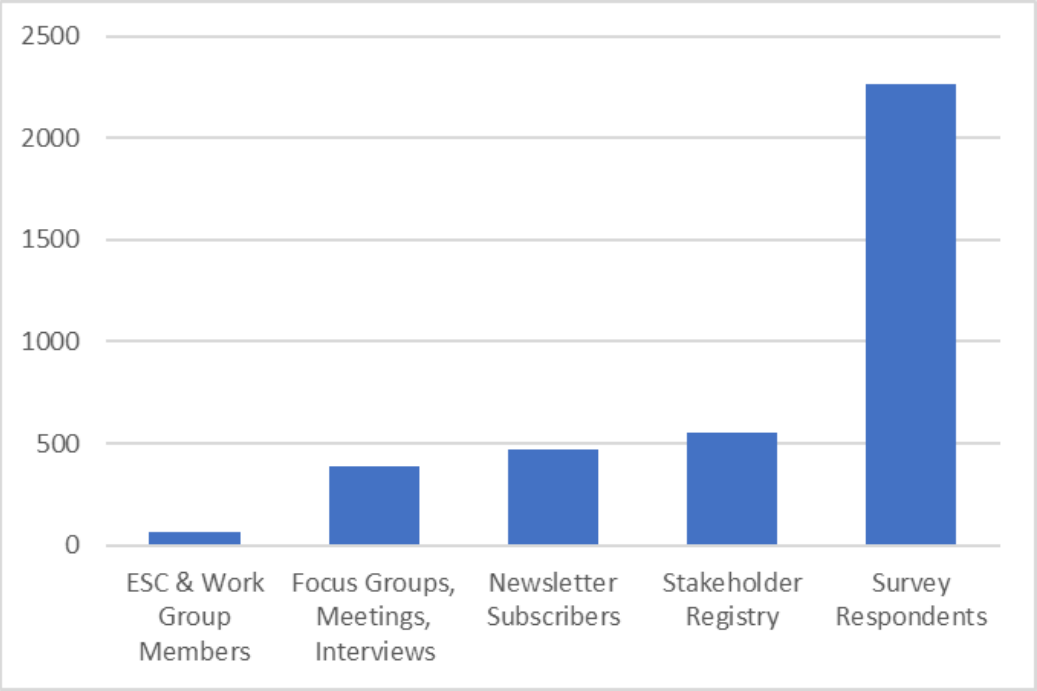

Figure 5 - Participation Breakdown

In addition, nearly 550 people are part of the project's Stakeholder Register (SHR) and over 460 people subscribe to Digital Marin's weekly email newsletter, bringing the total to over 3,700. These interactions are called touch points since in some cases, an individual participated in more than one activity.

Surveys

In addition to the standard Online Residents and Online Business Surveys hosted by the project's consultants, Magellan Advisors, six (6) targeted surveys for under-represented stakeholders were conducted by the Digital Marin project. Additionally, results of available community surveys and studies were reviewed and are referenced throughout this Report.

Community	Survey Name/Target Audience
Business & Economic Development	Standard Online Business Survey
Education	Countywide Education Survey
Health & Community Based Organizations	Health & Human Services Survey Community Based Organizations Survey
Residents	Standard Online Residents Survey Golden Gate Regional Center Survey Marin City Survey Marin Housing Authority Residents Survey

Figure 6 - Community, Survey, and Target Audience

Focus Groups

Focus Groups were conducted by one to three members of Digital Marin's ESC and project team using questions that were prepared in advance. These meetings were not recorded to allow participants to speak candidly about problems and issues as well as needs. Minutes were taken and used in aggregate to inform the needs assessment findings. The list of groups and organizations participating in focus groups and the presentations from these meetings are posted at www.GoDigitalMarin.org under the Communities section. A follow up survey consisting of the same questions asked at the focus group meeting was sent to all members of each group so that people who did not attend or attendees with additional comments could share information for inclusion in the process.

Other – Meetings, Interviews, and Comments

Digital Marin's ESC and project team members conducted individual and small group interviews. Notes were taken and considered as part of the needs assessment. ESC and project team members also presented at various community meetings where polls were conducted and participants were asked to make comments and/or ask questions about the project. Needs were captured from each of these meetings. Additional needs were provided to the project team via the comment function on the GoDigitalMarin website and through direct email. This information was also considered as part of the needs assessment process.

Demographics

The methods used to collect data during the project's needs assessment phase were solely for the purpose of identifying needs from the largest possible number of Marin's residents and businesses. The assessment was not conducted using a formal research methodology. As such, limited demographic data was collected. Digital Marin strongly recommends that projects which continue or emerge as a result of the needs assessment include collection of detailed demographic data. Following is the demographic data that was collected.

Residents accounted for slightly more than half of the participants (54%), followed by the Education Community, which included a large number of students. The Business Community's participation was less than desired, due in large part to timing. Businesses were challenged by the COVID pandemic during the needs assessment period. Digital Marin recommends that additional assessment of the Business Community's digital needs be conducted as part of the development of a Marin County Economic Strategy.

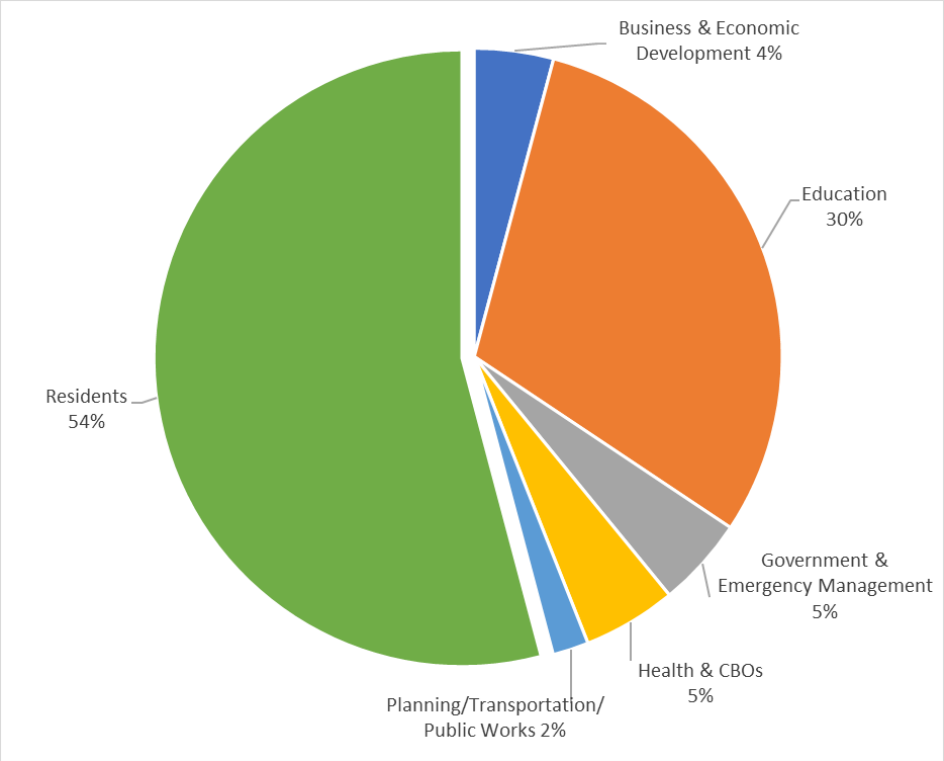

Figure 7 - Needs Assessment Outreach Participation by Sector

While the participation rates for the GEM, PTPW, and H/CBO Communities appear low, participants represented organizations, not individuals. Representation from organizations within these Communities was high with the exception of non-profits/CBO, which had lower than desired representation. Digital Marin recommends that additional assessment be done for non-profits/CBO when they are included in digital projects.

Providing location information was not mandatory for participation in surveys, focus groups, interviews, and other forms of data collection. Location information was collected for slightly more than half of the 3,700+ touch points (53%). The following graph shows the breakdown by location where data was collected.

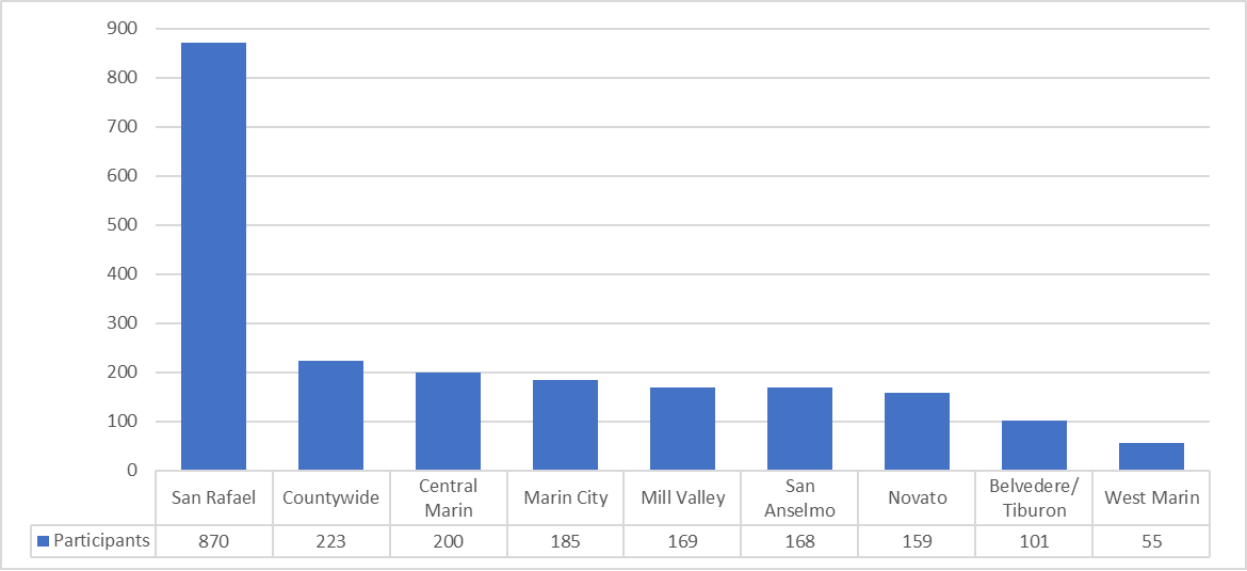

Figure 8 - Outreach Participants' Locations

For purpose of the above graph:

- San Rafael includes the Canal Neighborhood for participants in the Digital Marin project's surveys;
- Countywide represents participation by a person who individually or through their role in an organization provides services throughout Marin;
- Central Marin includes Corte Madera, Fairfax, Greenbrae, Larkspur, Ross, Sausalito, and Woodacre; and
- West Marin includes Tomales, Bolinas, Nicasio, Stinson Beach, Point Reyes, and other communities in that geographic region.

Although their findings were considered as part of the needs assessment process, the location graph does not include data from surveys conducted by other organizations such as the City of San Rafael in the Canal Neighborhood, the Bolinas Stinson Union School District, or as part of other studies and surveys referenced throughout the Report.

Unfortunately, Digital Marin's outreach in the Canal Neighborhood did not generate enough responses with location data to be statistically significant on its own. Luckily, the survey conducted by the City of San Rafael in the Canal Neighborhood generated a large number of responses for that Community (849). Digital Marin's targeted efforts in West Marin did not generate many responses. Additionally, despite several attempts to identify the two un- or underserved communities in Novato, the project team was unable to obtain enough

information to identify them. Digital Marin recommends that additional assessment efforts be conducted in West Marin and the two un- or underserved areas in Novato.

The standard Online Residents Survey generated more responses than all the other Digital Marin surveys combined. When compared with U.S. Census Bureau data (V2019) for Marin County, ORS respondents and their households skewed to older, highly educated occupants, who live in a home they own, with a 50% chance that it is located in San Rafael, Mill Valley, or San Anselmo. The Marin Housing Authority assisted with a survey of residents in Golden Gate Village in Marin City. Based on the World Population Review's 2021 estimates using U.S. Census Bureau data, Marin City survey respondents and their households were most likely younger, with a lower level of higher education, living in rental housing.

Demographic	ORS Respondents	Marin City	Marin County
Owner Occupied Homes	72.9%	26.7%	63.7%
Average Household Size	2.2 people	2.3 people	2.4 people
Persons 65 years and older	54%	14.3%	23%
Persons under 18 years	20.8%	27.8%	19.8%
Bachelor's degree or higher	88.3%	39.3%	59.5%
In the workforce	64.6%	64.5%	63.7%

Figure 9 - ORS, Marin City, and County Demographics

Individual Community Findings

Each Community Work Group, except the one for ICT Providers, developed findings based on their outreach efforts. Magellan Advisors interviewed the ICT Providers, and their assessment findings are included in the ICT Providers Community section. Following is a summary of the needs for each Community. The detailed outreach findings for each Community, along with video recordings of the meetings at which they were presented, are available on www.GoDigitalMarin.org under the Communities section.

Business and Economic Development Community

Process:

- A standard online Business Survey was hosted by Magellan Advisors, in both English and Spanish. It was posted on the GoDigitalMarin website and advertised by email to leaders of Marin's Chambers and other business groups with a request that they distribute the survey information and link to their members.
- A focus group meeting was conducted with representatives from cities and towns, plus other agencies with economic development interests.
- A follow up survey to the focus group was conducted.

- A total of 110 contributions were made.

Needs Statements:

- *Collaborations are needed to help businesses address overlapping internet issues and lack of digital literacy*
- *Businesses in Marin would benefit from investment in faster internet and more bandwidth*

Results of Standard Online Business Survey hosted by Magellan Advisors

While 101 business people began the survey, the completion rate was only 44%. The number of respondents to each question varied from 96 to the low 40s. A majority of respondents' businesses were located in San Rafael. A majority (86.5%) had high-speed internet at their location, 8.3% had low-speed, and 5.2% had no internet service. Forty-two percent (42%) of respondents with high-speed internet service had five (5) or less devices connected to it.

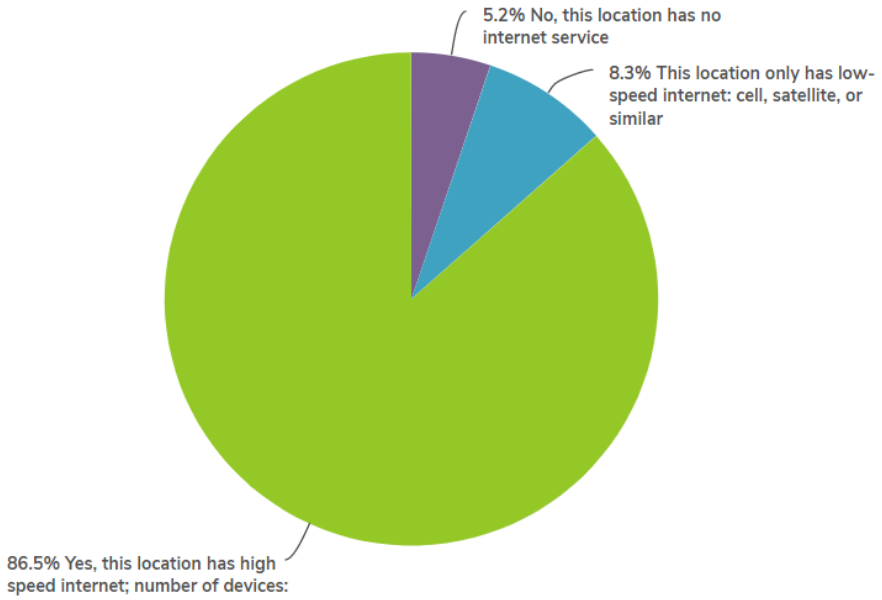

Figure 10 - Business Respondents' Internet Service Status

When asked, no single primary line of business or economic sector dominated the responses. The Other responses included lines of businesses that fell into the listed categories and did not materially change the distribution noted below.

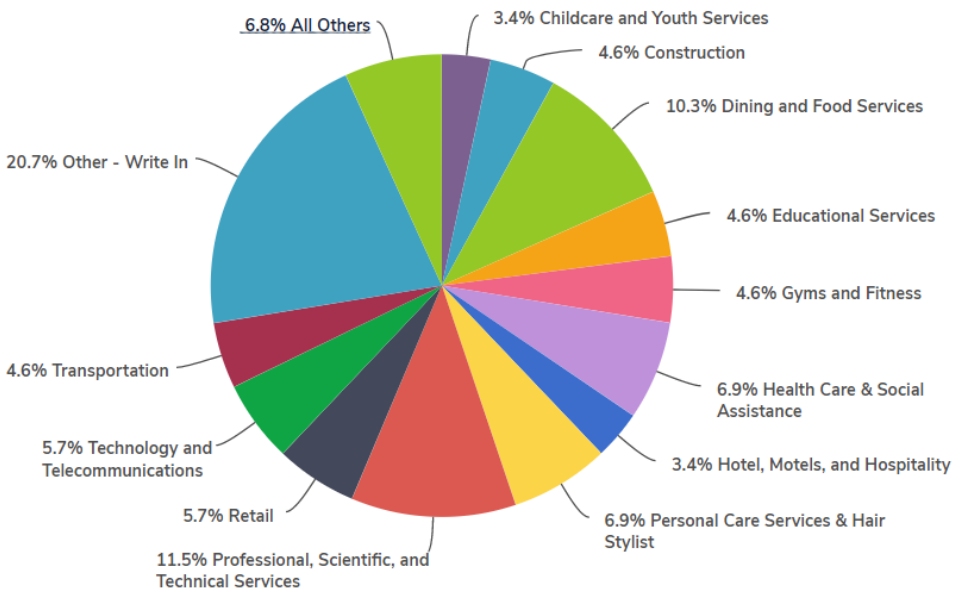

Figure 11 - Business Respondents' Line of Business and/or Economic Sector

Comcast dominated the providers for respondents with high-speed internet services (66.7%). Sixty-eight percent (68%) have less than 10 connected devices, 27% have 11 to 99, and the remainder have 100 or more (5%).

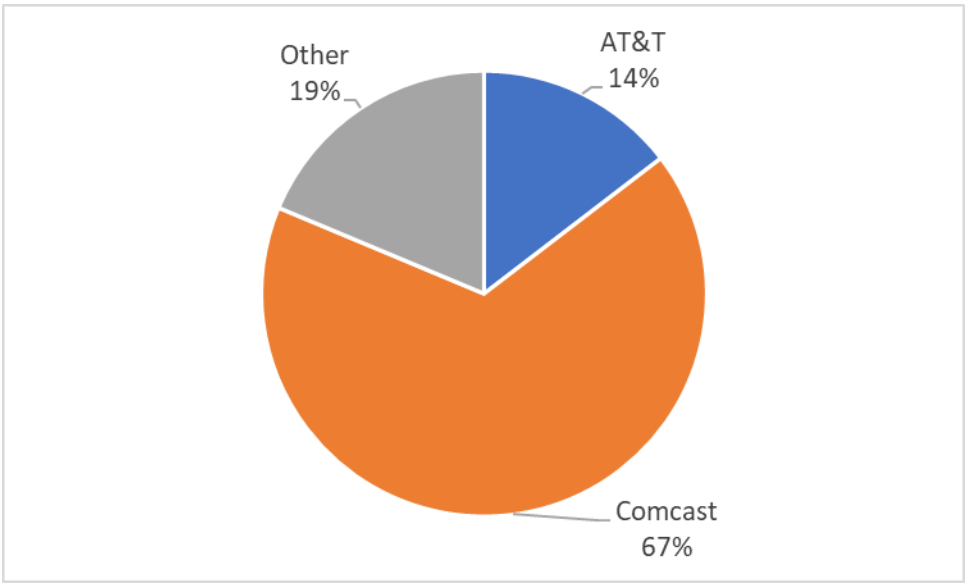

Figure 12 - Business Respondents' Internet Provider

The average cost of respondents' internet service was $203 per month. The average upload speed was 19 Mb/s, with the average download speed of 112 Mb/s. That equates to an average cost of $1.81 per 1 Mb/s download for respondents to this survey.

When asked about the most important aspects of their internet services, respondents indicated that having service is very important or critical (95%). Reliability was identified as the most critical single aspect (77%).

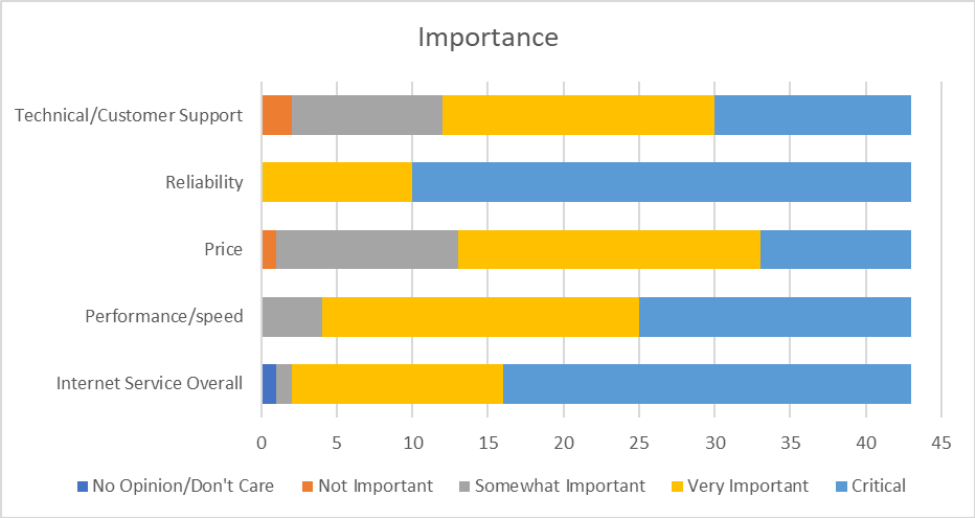

Figure 13 - Business Respondents' Rating of Importance of Internet Service (Figure 13 Data)

When asked about the quality of their high-speed internet service, more than half of the respondents rated their overall services as good or very good/excellent (64%). Reliability received the highest individual rating – 56% good or very good/excellent, followed closely by performance/speed (55%), with price receiving the lowest rating – 33% bad or very bad/terrible.

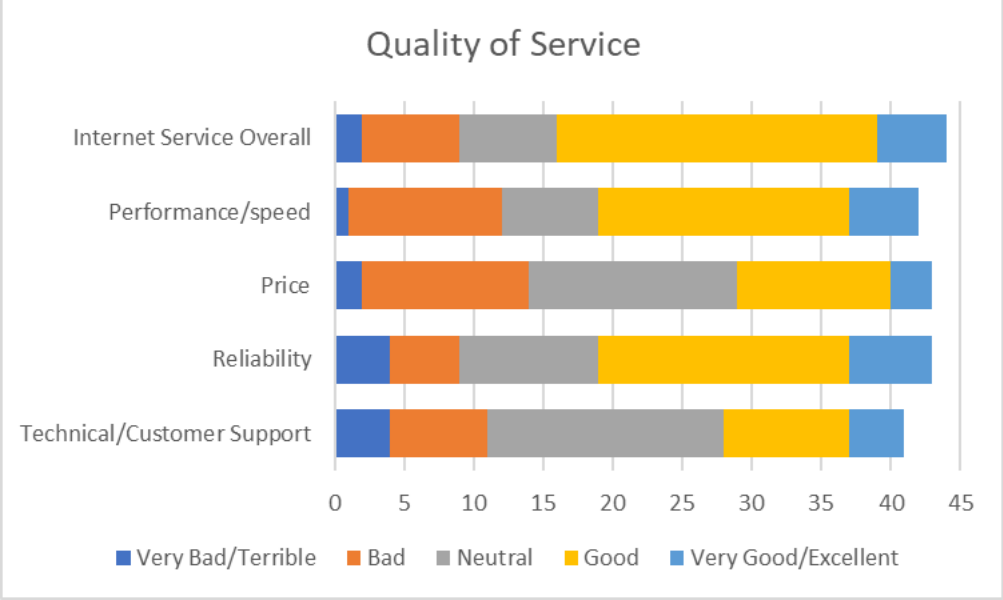

Figure 14 - Business Respondents' Rating of Quality of Internet Service (Figure 14 Data)

When asked how they would rate the ability to run a business in a society where communication and access to information is increasingly through digital means, nearly one quarter of respondents indicated that it was difficult (24.4%).

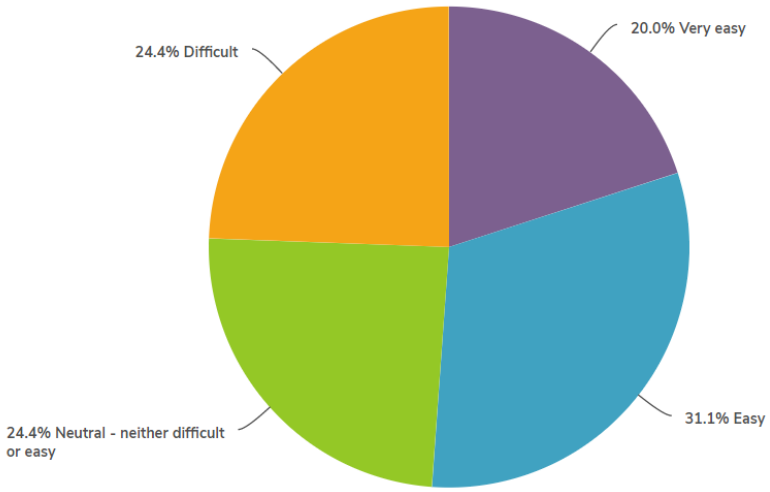

Figure 15 - Business Respondents' Ability to Run a Business in Digital Society

In addition to responses to the survey question above, several respondents included comments regarding how they felt about running a business in today's digital society.

- Until I pay for premium business services, I can't get the reliability and performance I need daily.
- Sometimes it is easy and at times it is difficult, especially during video calls
- Let's be real: I live in Marin County. Talk about privilege. On the whole, my internet connection via Comcast is good. But there are some cases where, even here, there are challenges. I have internet speeds that are fast, but bandwidth caps that are psychotically expensive to exceed. With the increase in wildfire risk comes PSPS outages, which increasingly makes California VERY difficult to work within in terms of reliability of contacting clients, receiving their projects, and delivering their work.
- Our data transmissions are small, mostly documents and email. Zoom is great for business meetings and bandwidth is critical to hold comfortable & effective meetings.
- Because internet upload speeds are so slow. I need to upload large amounts of data, as I am uploading photos and videos for clients and mapping.
- Overall great experience but the Internet goes out when it rains.
- I am out of business without the internet.
- Been doing it for 30+ years and have watched bandwidth evolve...Fantastic to watch and enjoy.

Respondents without high-speed internet service indicated that the top two reasons they did not have it at their business are due to cost – too expensive – or lack of available service.

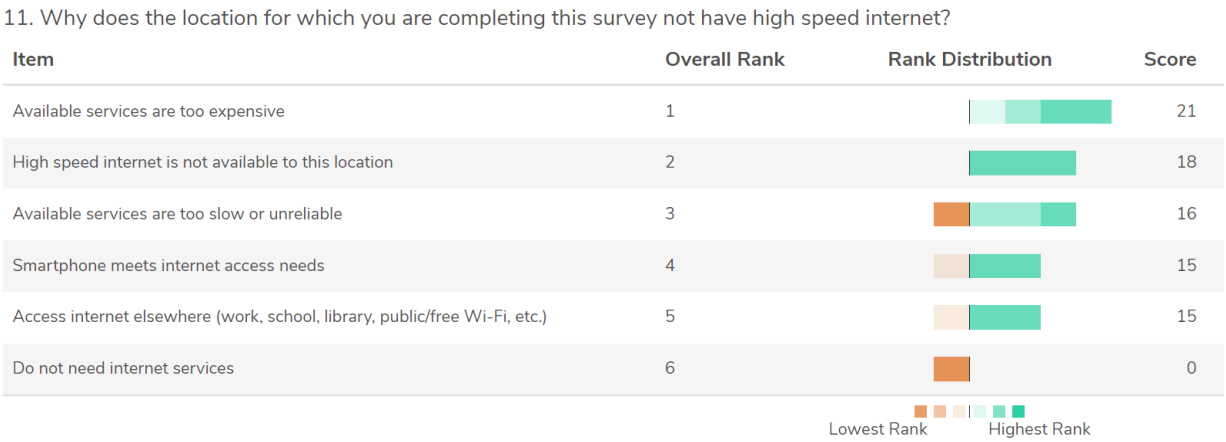

Figure 16 - Business Respondents' Reasons For No High-Speed Internet Service (Figure 16 Data)

When respondents who indicated that they did not have internet service at their business were ask what fast, reliable, and affordable high-speed internet access mean to their business, they provided a variety of responses.

- Currently, we have Wi-Fi via Verizon. It doesn't reach very far and is slow. If we had fast, reliable, and affordable high-speed internet, we could offer Wi-Fi to people in our community who need to use it, whether for emergency, homework, or work. We could offer Wi-Fi to clients who rent the building (our main source of revenue) and they could use it to better coordinate their events. Our volunteer staff could also work more efficiently in our office.
- More income, profits.
- If I had affordable high-speed Internet for my business, it would make a world of difference. I am currently working with the pod of students for distance learning. It's frustrating when they are not able to do a full day of school because the computer gets disconnected in the middle of a lesson.

Highlights of Economic Development Professionals Focus Group

A focus group was held with Marin's economic development professionals along with a follow up survey. Three (3) main topics emerged from the discussion. Following is a summary of supporting statements for those three topic areas.

- Digital Literacy:
  - Marin County has digitally literate employees, but they aren't necessarily from Marin.
  - Literacy for the people in the County is important in order to offer job opportunities.

  - Need to embed [training] in the community due to a high immigrant population that doesn't seek traditional learning.
  - Internet access and digital literacy is changing. It's moving from the town centers and business districts and now spreading through the entire county.
  - We are far behind in our schools regarding digital literacy.

- Broadband infrastructure:
  - Improve infrastructure to deploy broadband to all communities.
  - Bandwidth issues are a large problem.
  - Internet is now a utility.
  - Drawing people into the area in general would be worth the investment in internet.
  - It's crucial for positive economic development to have broadband everywhere.
  - 5G reluctancy – Providers won't serve us because other areas are begging for their help. 5G may be reconsidered when people realize that cell phone service stops during emergency situations.
  - The vast majority [of residents] want cell service, the few that don't want 5G are very loud.
  - Fiber is safer and less people have an issue with it.

- Digital Adoption:
  - From Sausalito business survey regarding COVID recovery – several businesses that weren't online are moving in that direction. COVID has accelerated the need for business to have internet to go digital.
  - San Anselmo did an emergency survey for resource production for businesses and found that some owners are afraid to learn new tech, leaving haves and have-nots.
  - Need to better understand the needs and expectations from our business owners.
  - A culture shift is occurring and it would behoove us to invest in our business.

Education Community

Process:

- Three online surveys were conducted.
  - A survey distributed by Marin County Office of Education (MCOE) in both English and Spanish to the entire education staff community in Marin.
  - A survey distributed by Marin Housing Authority in both English and Spanish to their clients living in Golden Gate Village. It included questions to distinguish households with students.
  - A survey distributed by students at Marin Academy to students at Terra Linda High School in San Rafael. More information about that survey and its results can be found at this website.

- Five focus groups were conducted.
    - Marin County School District Superintendents
    - MARINet representatives from the County and city and town libraries
    - San Rafael City Schools Principals
    - San Rafael City Schools Technical Committee
    - San Rafael City Digital Learning Coaches
- A follow up survey was used for all five focus groups above.
- A meeting with sponsors and students from Children for Change was conducted which included online polls as well as comments and questions.
- A total of over 800 contributions were made.
- Available community data was also analyzed.
    - College of Marin Survey and Report
    - Surveys from Community Organizations Digital Literacy workshops
    - Community Organization Digital Literacy Listening Tour
    - School District Student Technology Data
    - Bolinas Stinson Union School District Connectivity Committee Survey

Needs Statements:

- *Improved reliability and established standard speed of internet connection is needed at school and home*
- *Increased digital literacy training for parents and teachers is needed*
- *Access to a device and connectivity is needed in every home*
- *Proactive data infrastructure and staff capacity for tracking student digital needs and assets is needed*

Results of Countywide Education Survey

Marin County Office of Education distributed a survey to educators, administrators, support staff, classified employees, parents involved in school organizations, and education based CBOs in both English and Spanish. The breakdown by role of respondents to the English language survey follows. The Spanish language version received one response from a parent.

The highest percentage of respondents was at school using school issued equipment (40.91%), followed by at home using their personal devices (25%) for both versions of the survey.

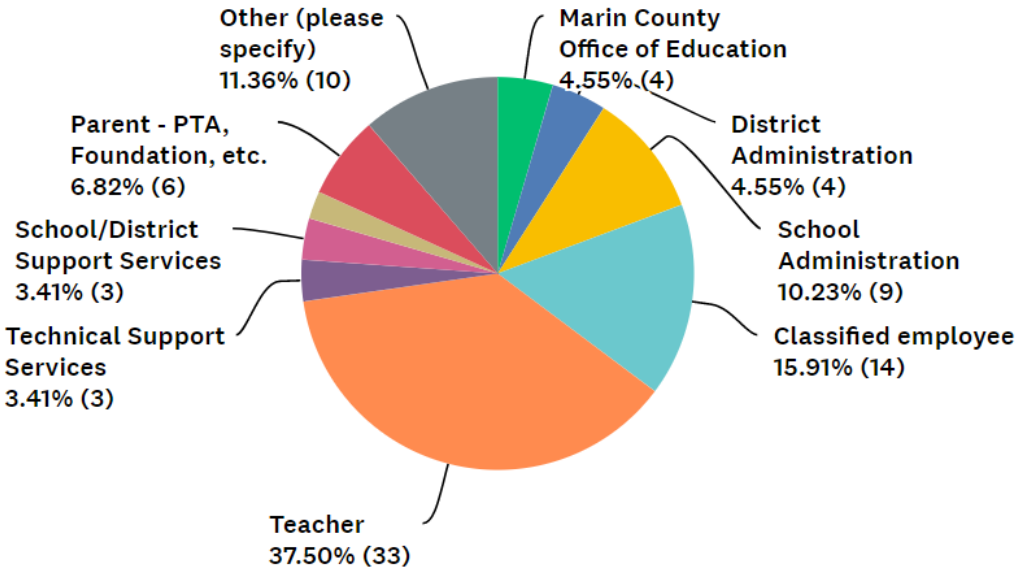

Figure 17 - Educators' Breakdown by Role (English Language Survey)

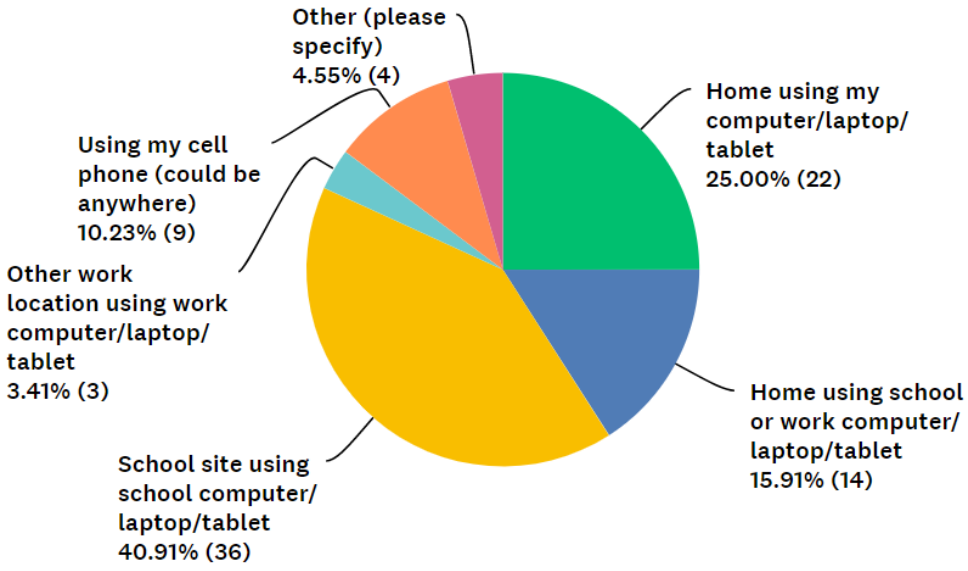

Figure 18 - Educators' Source of Device and Location

When asked to rate aspects of the internet access they most often use to conduct work related to their role in the Education Community, speed had the highest percentage of bad to terrible ratings (13%). Reliability received the highest percentage of good to excellent ratings (86%).

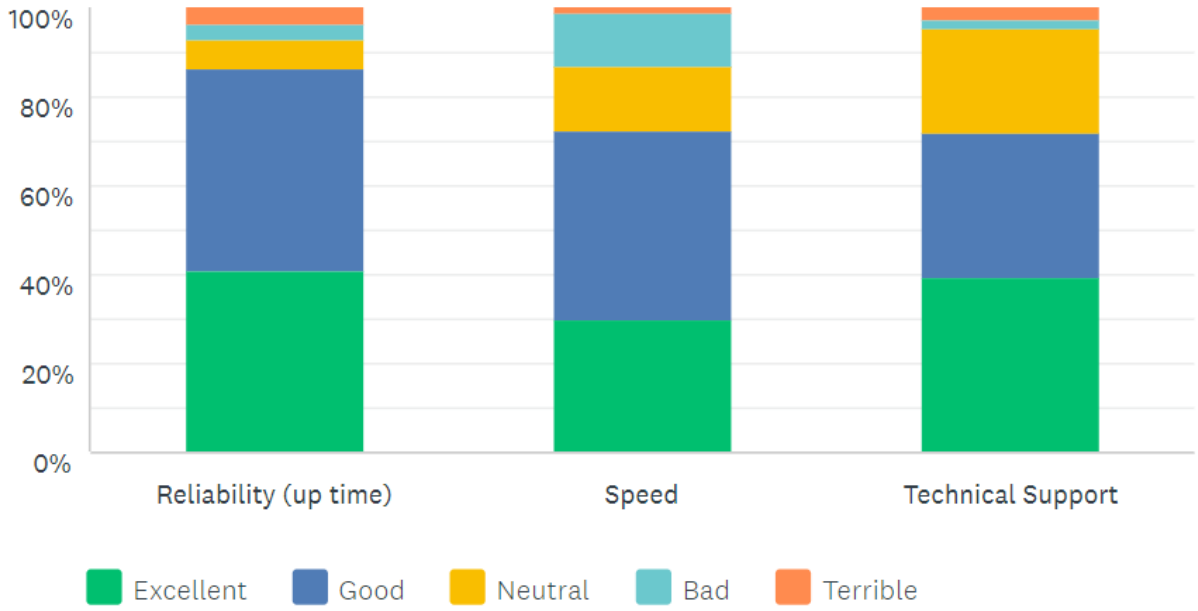

Figure 19 - Educators' Ratings of Various Aspects of Internet Access (Figure 19 Data)

When asked to rate the device they most often use to access the internet in their role in education, a clear majority of respondents rated them as good or excellent (83%).

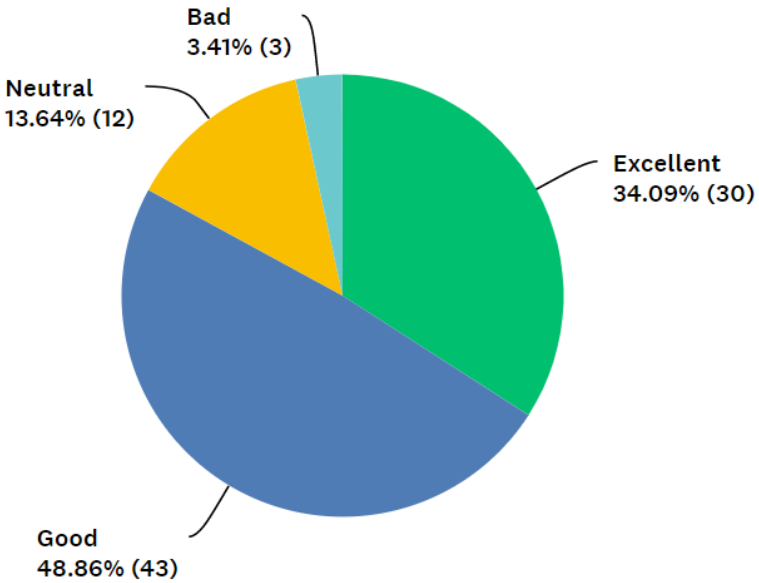

Figure 20 - Educators' Rating of the Quality of Devices

The speed test revealed that respondents experience an average download speed of 153 Mb/s with an average upload speed of 99 Mb/s. Following is a breakdown of the average download speed based on the location and device used for the speed test.

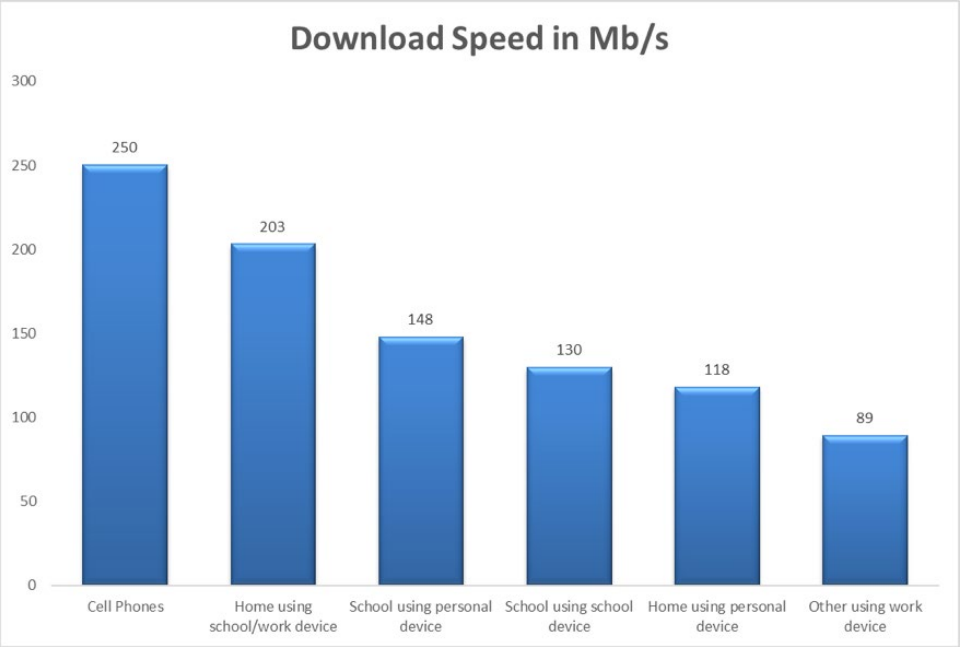

Figure 21 - Educators' Internet Speeds Based on Device and Location

Results of Marin Housing Authority Residents Survey

Marin Housing Authority (MHA) distributed a survey in both English and Spanish to their clients living in Golden Gate Village (GGV). It included questions for households with students. When asked what device their student most often uses to complete online learning at home, nearly half (44%) were using school provided devices.

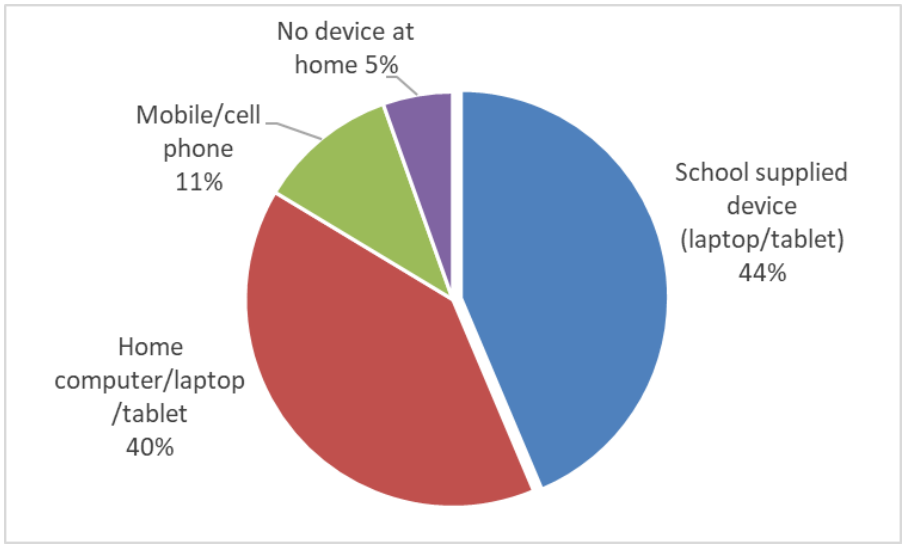

Figure 22 - MHA on Devices Students Use at Home

When asked how their student connects to the internet for online learning, nearly all (92%) used a home internet service. This finding is not surprising given the recent collaboration that provided free Comcast Internet Essentials service to residents of GGV. More information about that collaboration can be found on the GoDigitalMarin website under the Collaborations page.

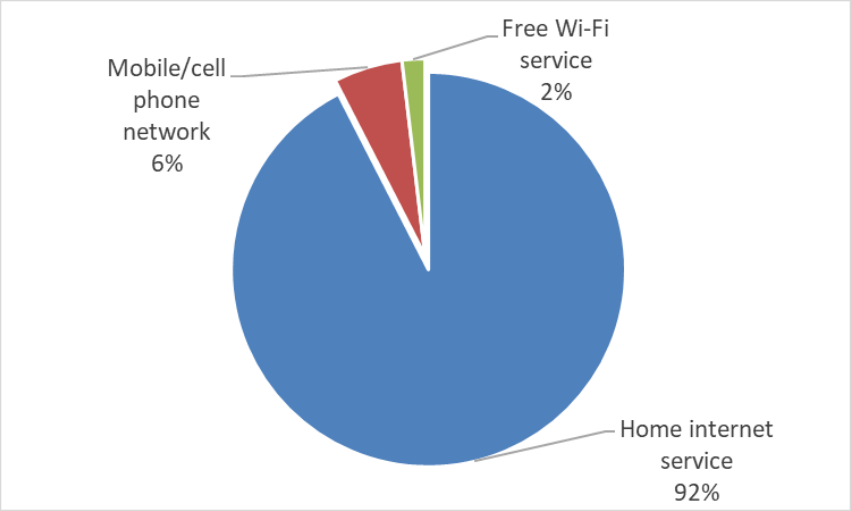

Figure 23 - MHA on How Students Connect at Home

Highlights of Other Education Outreach

Following is a summary of comments made in focus group meetings, follow up surveys with open-ended questions, and interviews. While numerous comments were made in each topic area, participants were focused on digital literacy (26%) and solving the digital divided (15%) as a foundation for improving students' learning experiences. Not all comments are included.

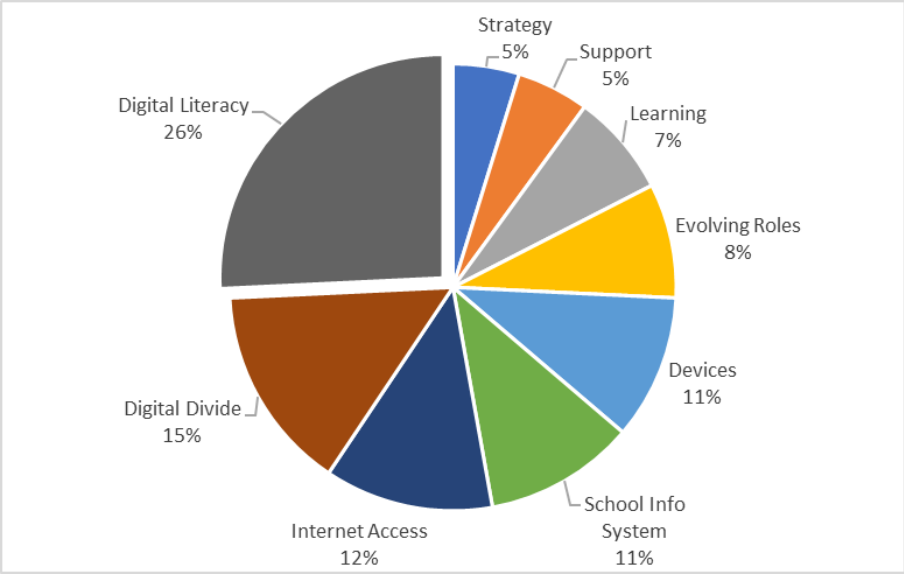

Figure 24 - Educators' Interview Comments

- Digital Literacy: Educators stressed the need for time to learn, access to affordable or even free interactive resources, and training delivered in a variety of ways to meet everyone's needs. Educators identified the need to increase digital literacy for students, parents, and themselves.
    - Digital literacy would require assessment, which would over burden an already stressed teaching staff. Next year with the focus on learning loss mitigation, this would be near impossible. (Education CBO)
    - Offer a free summer digital literacy workshop for families. Professional development as necessary for teachers/admin/school employees. (Classified Employee)
    - There needs to be more time to get the teachers and parents up to speed on the computer so they can help their kids. (Digital Learning Coach)
    - Digital literacy is key for the future. However, how do we create a healthy balance and relationship with our devices, especially for students? There has also been a deluge of resources because of the pandemic. This can be overwhelming and hard to know the best ones for students. (School Administrator)
    - Classes for parents, teachers, students, community members outside of school hours for those that would like training. Create access points for all stakeholders to engage when, where and why they want to. (Teacher)
    - I suggest making online learning more interactive including using apps like Kahoot. (PTA Parent)
    - Practice, practice, practice! The more you do, the more you learn, the more you master. :) (Teacher)

- Digital Divide: Educators expressed concerns about digital equity where the "have" students, parents, and teachers fill gaps with their own resources, while the "have nots" struggle.
    - Many of our families' only internet access is through hot spots and Chromebooks issued by the school. Unfortunately, Chromebooks do not support Zoom translation, so even though we are prepared to offer simultaneous translation, our families cannot enter the zoom room, so we need to do everything bilingually, which takes extra time. (School Administrator)
    - Some families in our area pay hundreds of dollars to Comcast for "better" internet, some which can barely afford these services and receive little or no internet at all. (Classified Employee)
    - Some students have better equipment at home, so they don't want to use a Chromebook. (Digital Learning Coach)
    - Teachers have to increase bandwidth if possible, then they pay even more to have it. Same with parents. (Digital Learning Coach)

  - Due to our rural environment, remote learning presented many challenges, especially to our low-income families. We have been open for full time in-person instruction since September, which greatly improved the "digital divide" we saw during the Spring 2020. (School Administrator)
  - Biggest issue is inconsistent Wi-Fi no cellular data signal here so when not on Wi-Fi can't access internet and Wi-Fi doesn't have strong range on campus and goes in and out. We are also very concerned about planned power outages and or emergency situations as our school does not have cellular signal accessibility. (School Administrator)
  - Whatever device is superintendents and district office employees use, should be provided to every student. Students who cannot afford to have devices at home should be provided one at home as well. (School Board Member)
  - Most vulnerable students are the ones least served in terms of digital resources and access. (Superintendent)
  - I believe that having reliable Internet is only part of the equation. We also need to make sure that the equipment everyone is using is relatively new, in good working order, and truly meets the students' needs. (Teacher)
  - Digital platforms should all be accessible for individuals who use screen readers! One size does not fit all. And everyone needs reliable internet access. I wish it was considered a utility like water, gas, and electricity. (Teacher)
  - The "Homework gap" is here to stay after the pandemic. Students and parents will continue to need to access internet resources from here on out. (Technical Support Staff)

- Internet Access: Educators and students are experiencing poor or a total lack of internet access at home, on campuses, and in classrooms.
  - With my job, I go to all the different schools, and my work cell phone doesn't have service in a few of them ex: San Pedro, Venetia Valley, Tierra Linda High School, and Sun Valley. Part of my job is calling families, and when there's no service, I have to go outside and walk around to find service in order to perform my job. That's inconvenient. I think we need more antennas around the schools. (Classified Employee)
  - I would like to see the installation of fiber optics to increase our digital reliability and speed without increasing EMF exposure. (Classified Employees)
  - Teacher's normal home internet was no longer sufficient. They've had to take everything off their network that isn't in use and they still have bandwidth issues with just two people home. (Digital Learning Coach)
  - Free public Wi-Fi is important but a stop gap, especially for students. (Superintendent)

  - If we, as a school, are going to rely on digital platforms to support a number of our educational methods (google classroom, Zoom, eBooks etc.) then we need better internet connectivity. (Teacher)
  - I use digital technology every day for class. I need to stream videos, load content, post things, and Zoom. My needs are not being met. Students get kicked out of Zoom. I get kicked out of Zoom. I use digital technology every day for class. I need to stream videos, load content, post things, Zoom. (Teacher)

- Student Information System (SIS): Educators were asked what it would take to add data regarding students' internet access, devices, and level of digital literacy into Student Information Systems. While they identified challenges, many were supportive of collecting the data.
  - An SIS would need to either have custom data fields available or build out a student equipment and literacy section. Gathering the data could be a part of our regular back to school paperwork every year, and from there needs could be assessed and addressed. (District Administrator)
  - I imagine a survey would be necessary to begin with to determine what the students have, and data entry or upload into our SIS. This is an interesting idea, but also, how would we get information for updates. (Superintendent)
  - It would require a dedicated person to walk everyone through this. I did this for my class or 9 kids, and I had to walk many of them through the speed test on different devices, different connections, etc. (Teacher)
  - We need a place to collect and analyze the student connectivity data to identify aggregate issues as well as specific household problems. (Technical Support Staff)
  - To effectively gather information from high school students in an efficient manner, live engagement (working directly with them or having someone of authority work directly with them) is optimal. (TLHS Students)

- Devices: Most of the comments regarding devices were negative. Only 17% of comments indicated that educators had the devices they need to do their jobs.
  - People need ancillary and accessories like power strips, headsets, etc. (Digital Learning Coach)
  - Gave out laptops too and believe they will continue to do so as an ongoing practice, even after pandemic is over. (College of Marin)
  - I would prefer a MAC computer to a DELL. I often use my personal MAC and it is much faster, easier to use and more reliable. (School Administrator)
  - This school has no cell signal for most phones. Could be useful in emergency situations. (Teacher)

  - Considering issuing every child with have a school device in their home. Asset management and tracking software will be needed. We will also have to onboard teachers to help us keep that data current when exchanging equipment. (Technical Support Staff)
  - The laptops I use at school with my students are old and lose charge very quickly (there is not a lot of time between classes to charge) and the programs we use should be upgraded but I believe there is no money for that. (Teacher)
  - All teachers need a reliable, high quality, large screen laptop. I have a 4 year old Dell with a small screen and a delaminating screen. Many colleagues as well as myself are frustrated by the politics of getting a high quality computer. Some favored teachers receive more, and better quality technology than others. Other schools have used parent support to receive computers for their students. It is a mess. (Teacher)
  - Standardize equipment and software at least in the same region is needed. (Teacher)
  - Email, google drive, online software, internet access, zoom. These needs are met. I'm using a personal laptop by choice due to the desire to use a MacBook. (Teacher)

- Evolving Roles: Despite the challenges, most of the educators' comments about their evolving roles were positive (72%).
  - Yikes. I spent much of my time providing tech support instead of instruction and troubleshooting all of the tech needs. I am not a digital native, but I had a learn fast. It was especially hard because my students and their families had a wide range of devices, so I was unfamiliar with how to help them sometimes. (Teacher)
  - Teachers have done a great job at teaching themselves and converting their skills and materials for distance learning. (Digital Learning Coach)
  - My role has expanded for the positive. As Disaster Service Worker, Zoom proved to be a wonderful tool when teaching k-2 grades. Currently in my assignment in Early Intervention ages 3-4 years old. In person Learning has been a necessity. (MCOE Employee)
  - I became more involved in problem-solving issues and provided more resources to parents that included taking technology to their homes and troubleshooting their issues, so their kids could attend virtual classrooms. (School Administrator)
  - Hated it. Not a good way for kindergartners to learn. First my tech support was minimal and I basically cobbled things together. Parents understandably stressed and overwhelmed, but they did not support good classroom norms like, being dressed, (being awake!) breakfast done, no toys, having materials handy, not doing the work, etc. It was miserable. (Teacher)

    - I have had to learn how to teach, share lessons, manage break out rooms, collect student work, do assessments all virtually this year with very little training. (Teacher)

- Learning: Educators expressed both support and concerns for distance learning and the changes it required.
    - It was a difficult year but I think it proved that strong technology presence made the year possible. (Classified Employee)
    - Virtual tools have improved one-on-one conversations with kids when they are at home. (Digital Learning Coach)
    - Students have become creative to get their work done. (Digital Learning Coach)
    - Some students thrived in Distance Learning. We may need to take this into consideration. (Superintendent)
    - GROSS! This whole experience has taught me hands-on, in person, cooperative, child centered learning is how HUMANS learn best! DO NOT EVEN CONSIDER making the digital world part of elementary education. Their social emotional education was nonresistant and we are making up for that lost time now. NO, NO, NO! We teachers are thrilled not to be on ZOOM. (Teacher)
    - It would take a team of mules to get me to agree to have kinders do anything digitally. Now back in class we are talking, listening, cutting, drawing, planting seeds in the garden, observing nature and recording our findings, we are in the REAL world learning how the YOUNG brain learns best. We have worked long and hard to get education to where it was pre-covid, now why would anyone want to go backward and screw up developing brains? It is NOT good for their ability to focus. There could be dangerous long term effects of creating a generation taught with screen time. (Teacher)
    - The emphasis has been on digital platforms. Some of my students (who are all visually impaired) have benefitted because material being presented is not on the screen directly in front of them instead of on a whiteboard at the front of the classroom. It's been hard to get other students, especially those with multiple disabilities, to interact with a screen instead of with real objects in real life. (Teacher)
    - We suggest, as part of the Digital Marin project, a youth feedback portal be created to encourage youth and student engagement in local government. Maximizing the number of voices heard and considered is essential. (TLHS Students)

- Support: Educators consistently expressed concerns and challenges with supporting technology needs, especially off campus.

  - It is difficult when students have a mix of devices - Apple, PCs, and Chromebook. How to do things is different and some software/apps, even tests, will not render on the Chromebook because they were tested on other platforms. (Digital Learning Coach)
  - Challenges in communicating with teachers and getting information about student technical problems back to the people who can help. Hard to identify which students have a problem with getting connected to the internet and those with just poor bandwidth. (Technical Support Staff)
  - Teachers and parents both struggle when students have different equipment. iPads/Chromebooks/personal computers. Parents with kids in different schools have to learn to troubleshoot different hardware and software when their kids attend different schools. They have a hard time helping. (Technical Support Staff)
  - Coverage needed at home for students. Was not really even a consideration previously. (District Administrator)
  - Where home support used to be a rarity, it quickly became almost 1/4 of my job. I had to quickly develop training materials geared towards families around new platforms to help struggling parents with technology at home. (District Administrator)

- Strategy and Funding: Educators expressed concerns about funding to meet distance learning needs and the need to step back to develop a long term strategy.
  - The need to develop a long-term technical strategy with a much larger scope. (Technical Support Staff)
  - Growth Mindset on the part of our district to make TECH a priority. It's not an item to budget cut. (Teacher)
  - I'm happy the district is taking this on and I hope you will provide the time and money to looking at the entire system and creating a sustainable plan. (Teacher)

Government & Emergency Management Community

Process:

- Eight (8) focus group meetings were conducted.
- A follow up survey was conducted for each focus group meeting.
- The focus group survey was also sent to specific functional areas within government.
- Eight (8) interviews were also conducted.
- A total of 125 contributions were made, including input from government and emergency management employees in the following areas.
  - Administration
  - City and Town Clerks

- Community Media Center of Marin
- ICT Professionals
- Marin Association of Public Information Officers
- Marin Climate and Energy Partnership
- Marin County Elections Department
- Marin County Sheriff's Department
- Marin Emergency Radio Authority
- Marin Fire Chiefs
- Marin Justice Community
- Marin Manager's Association
- MarinMap
- Police Chiefs
- Parks, Recreation, and Cultural Services
- Property Appraiser's Office

Needs Statements:

- *Universally accessible, reliable, consistent high-speed internet is needed throughout Marin County*
- *Increased software and network interconnectivity between departments and agencies is needed to increase data sharing, create efficiencies, streamline processes, and improve customer services*
- *Increased collaboration and coordination between governments and departments and high-level cross-agency leadership are needed*
- *Significant ongoing and just-in-time community digital training in software and home technology are needed*
- *More financial and staff resources are needed*
- *Redundancy and resiliency in all digital infrastructure are needed*

Highlights of Government and Emergency Management Outreach

Based on the review of focus group minutes, follow up survey responses, and interviews, the following four (4) topics were most frequently mentioned in comments. Supporting statements are also included below.

- Sharing resources: The most often mentioned topic was sharing of data, applications, infrastructure, and other resources.
    - As long as communication is open/strong and we are all on board with transparency and equity, I don't see any limits on collaborative opportunities between jurisdictions. We're eager to move the ball forward with any other willing parties. (Administration)
    - Opportunity for piggy-backing off of county agreements with other cities in Marin to reduce costs. (City Clerks)

  - Any consolidation of online resources is a good thing for public agencies and ease of access for the residents. (Fire and Paramedics)
  - Our County is small enough that we should have greater coordination between agencies on these IT decisions and be able to leverage our collective efforts for new initiatives, streamlined services, and cooperative procurements. (ICT Professionals)
  - Software and shared systems' standardization could lead to efficiencies and better customer experience. (Overall finding)
  - Increased data sharing could lead to better transparency and reporting around shared goals. (Overall finding)
  - Smaller agencies report challenges with high level IT strategic leadership, sourcing cost-effective IT services, and third-party vendor evaluation. (Overall finding)
  - Agencies (especially smaller ones) cited not having enough funding to buy software and improve/upgrade technology. (Overall finding)

- Infrastructure: The second most mentioned topic area was the need for communications infrastructure or improvements to current infrastructure.
  - Cellular dead spots. Fire is still using paper maps because of dead zones. Need for equipment and personnel location tracking in areas without cellular signal. (Fire and Paramedics)
  - Access is unstable, uneven, and inconsistent which are barriers to all people having equal access. (Parks, Recreation, and Cultural Services)
  - Lack of service or inconsistent service, and dead zones, where people can't make public comment or freeze. Zoom council meetings are here to stay. (City/Town Clerks)
  - On a wider scale, connectivity problems prevent educational opportunities, socioeconomic growth, and the ability for underrepresented populations to speak out and be heard by large audiences. (Administration)

- Digital literacy and devices: This topic was the third most mentioned and included the need for it both internal to government operations and external to residents.
  - It's common to get a phone call from a member of our senior community with a complaint that they did not hear about something, like a road closure, an infrastructure project, or other changes in our community. When we follow up with them, they usually tell us they don't use computers or have a smart phone. (Administration)
  - Solving for connectivity is one piece of the problem but overwhelmingly we are seeing the digital gap needs education and training to help mitigate equity challenges. (ICT Professionals)

    - Moving more services online will be more successful the more residents have internet access, devices, and education to effectively utilize online services. (Property Appraiser's Office)
    - Employees need training so software is used to its full potential and they don't have to create workarounds, which can introduce security risks. (Overall finding)

- Resiliency: The fourth most cited topic area was around resiliency of infrastructure and communications services.
    - Lack of internet service during Public Safety Power Shutdowns was a major safety and communication concern in previous years. (Administration)
    - Cooperation, partnerships, and shared services will strengthen resiliency and increase our capacity across a large geographic area to manage short and long term disruptions. (Parks, Recreation, and Cultural Services)
    - Outages and inconsistent cell services hinder internal communication and emergency response during disasters. (Overall finding)
    - Outages and inconsistent cells services also hinder external communication with the public and create a reliance on imperfect and inefficient modes of communication. (Overall finding)

Health and Community Based Organizations Community

Process:

- Two (2) online surveys were conducted.
    - Community based organizations
    - Marin County Health and Human Services
- Four (4) meetings and interviews were conducted.
    - Marin Community Foundation
    - Help @ Hand Marin
    - Marin County Health and Human Services (HHS)
    - Aging Action Initiative Network
- A total of 130 contributions were made.

Needs Statements:

- *Providers need digital applications and supporting processes to successfully deliver online services*
- *Both employees and recipients need more digital literacy training to be successful*
- *Recipients need barriers to digital access removed*
- *Recipients need services delivered in a way that best meets their capabilities and comfort levels*
- *Privacy and security concerns need to be addressed before many recipients will use online services*

Highlights of Aggregated H/CBO Data

The data from the two online surveys, meetings, interviews, and polls was aggregated for the following findings, unless otherwise indicated.

Following is a graph showing ratings of various aspects of the service providers' digital experiences based on survey responses. Data sharing was mentioned as an issue in all forums, as was lack of digital literacy among provider organizations and recipients.

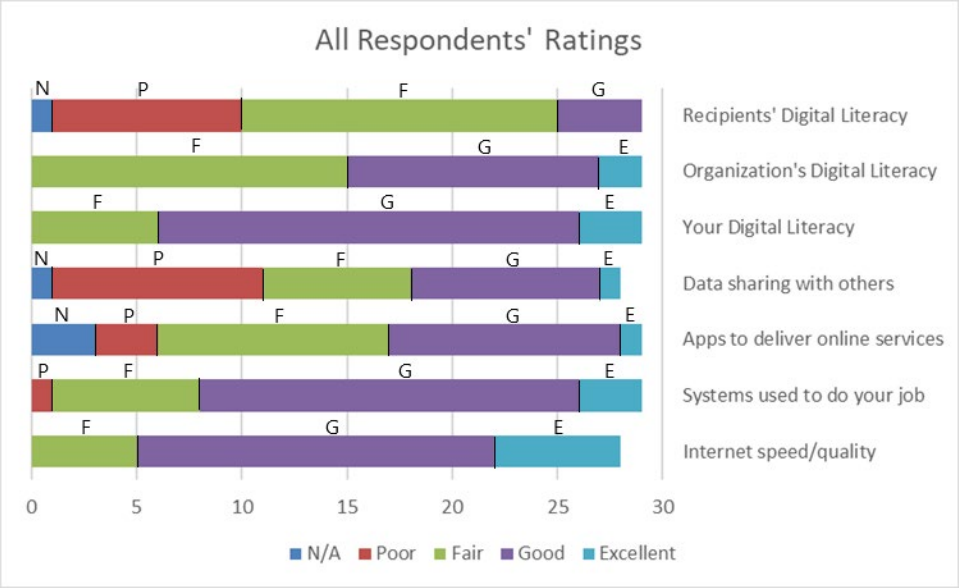

Figure 25 - H/CBO Ratings of Aspects of Services Providers Digital Experiences

Following is a graph showing the breakdown of respondents' online services for the H/CBO Community.

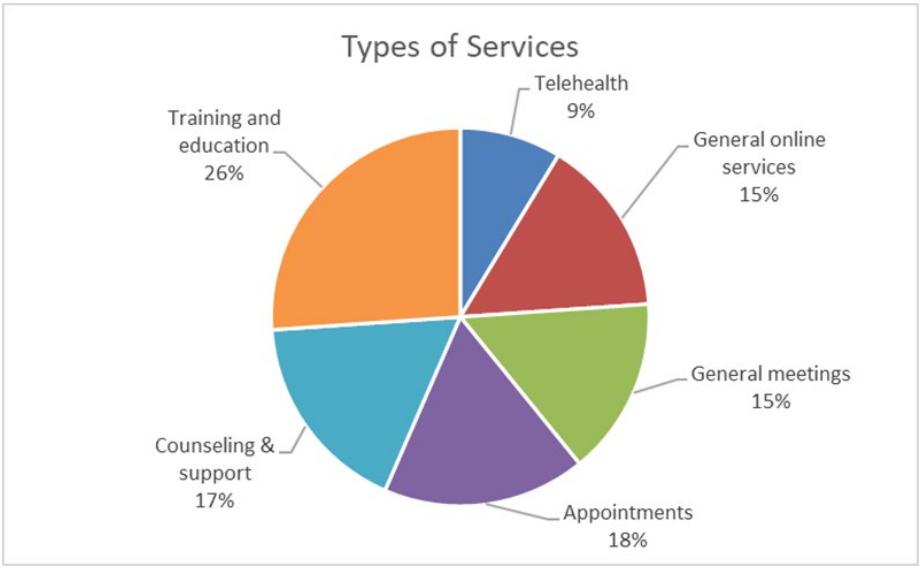

Figure 26 - H/CBO Breakdown of Online Services

When asked about their future plans, approximately 80% of respondents indicated that they will either keep or expand online services, with 20% indicating that they would decrease them.

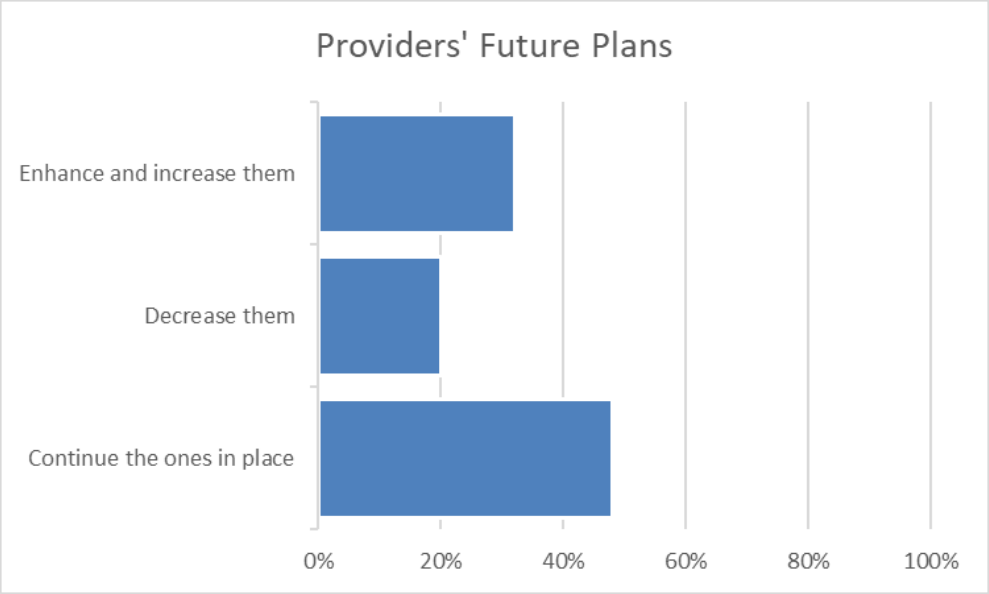

Figure 27 - Provider's Future Plans

The poll regarding recipients' reaction to online services according to service providers resulted in an average of 25% of respondents indicating that their recipients could not access online services. These results are similar to those provided in meetings and polling.

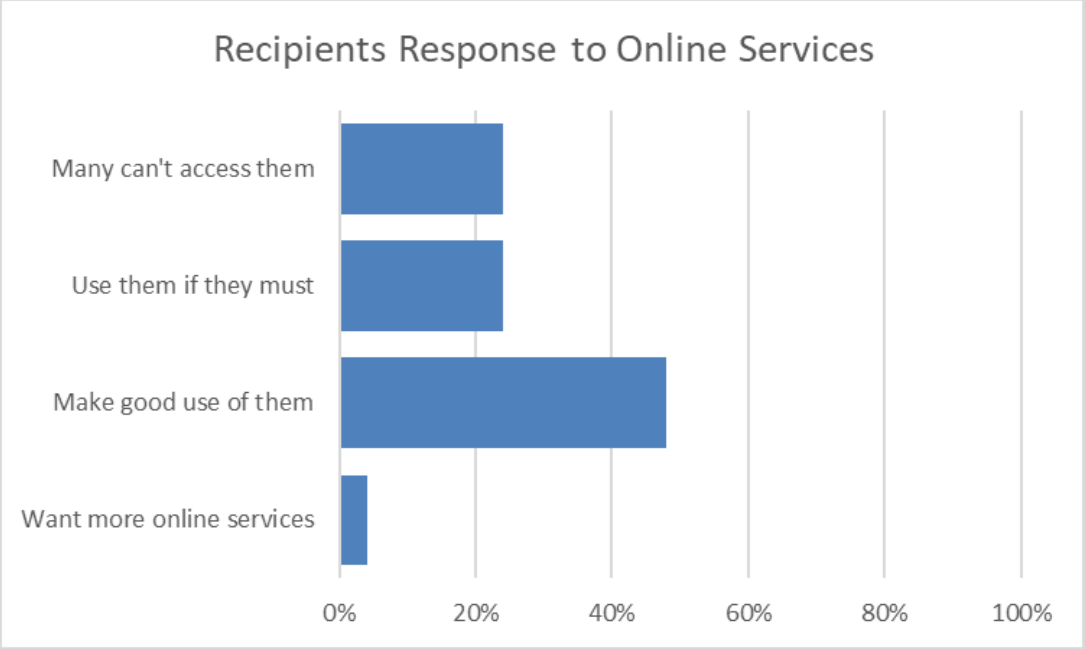

Figure 28 - Recipients' Response to Online Services

When asked about their challenges, aggregate survey respondents identified four (4) categories. While CBOs indicated that a lack of digital literacy was their top challenge, HHS indicated that their number one challenge is the need to change their business model.

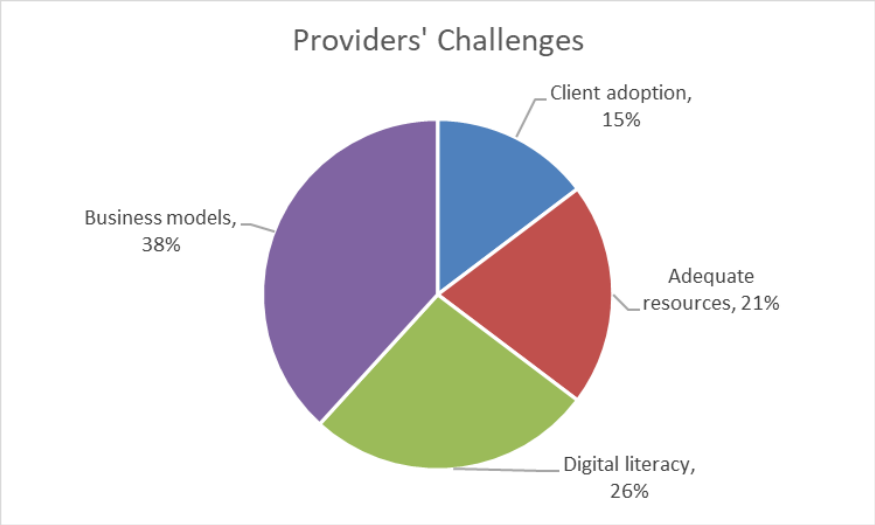

Figure 29 - H/CBO Providers' Challenges

When asked about their recipients' challenges, more than half of survey respondents indicated that a lack of adequate resources – devices, connectivity, systems and apps, and support are their top challenges (51%).

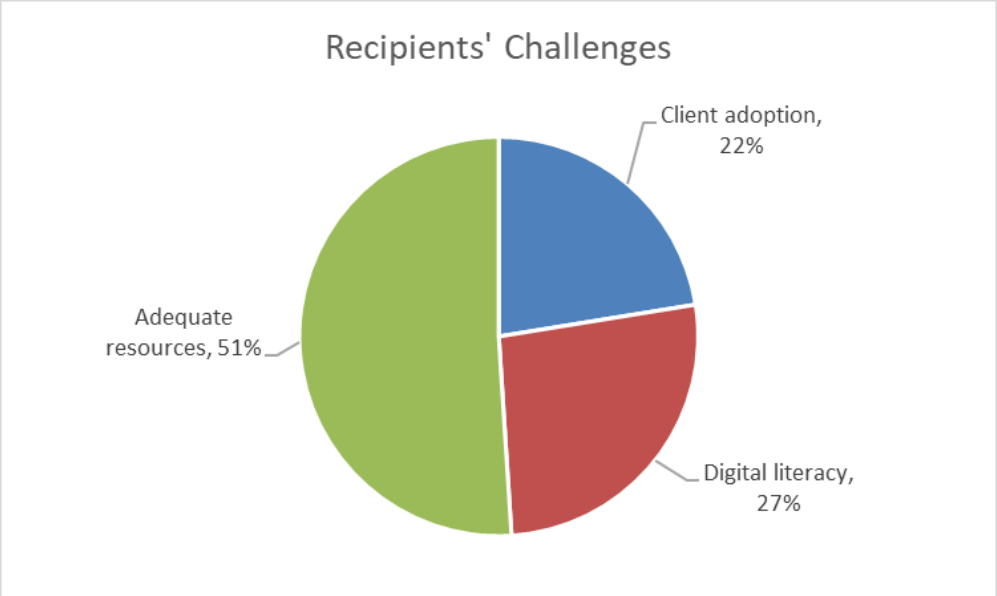

Figure 30 - H/CBO on Recipients' Challenges

Results of Online Survey of Community Based Organizations

Following are disaggregated results from the CBO survey. Marin Community Foundation assisted in sending an online survey to Community Based Organizations (CBOs). Twelve (12) completed the survey. Below is a graph of the sectors they represented.

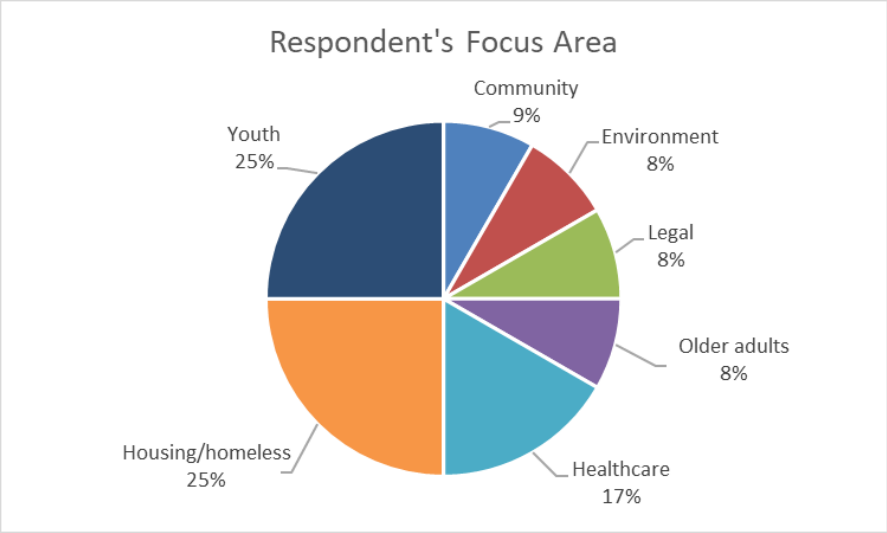

Figure 31 - CBO's Focus Areas

Following is a graph showing ratings of various aspects of the CBOs' digital experiences.

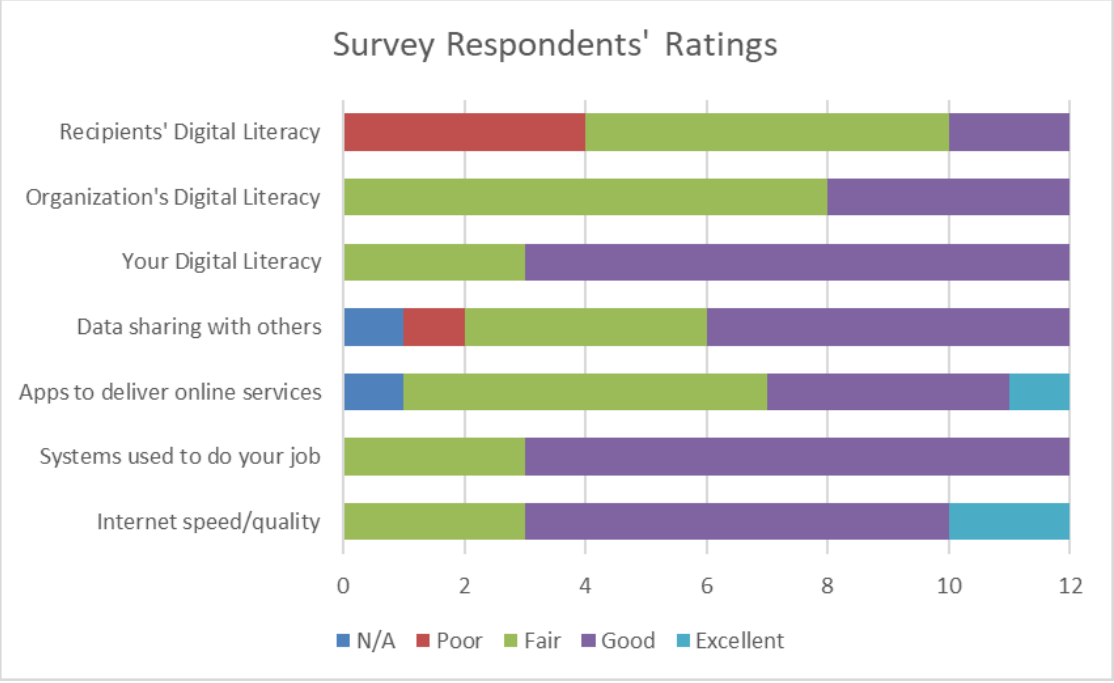

Figure 32 - CBO's Digital Experiences (Figure 32 Data)

Only two respondents did not offer online services. The stated reasons for not doing so were the cost and time required to implement online services.

Respondents most often indicated that their online services are virtual training and education.

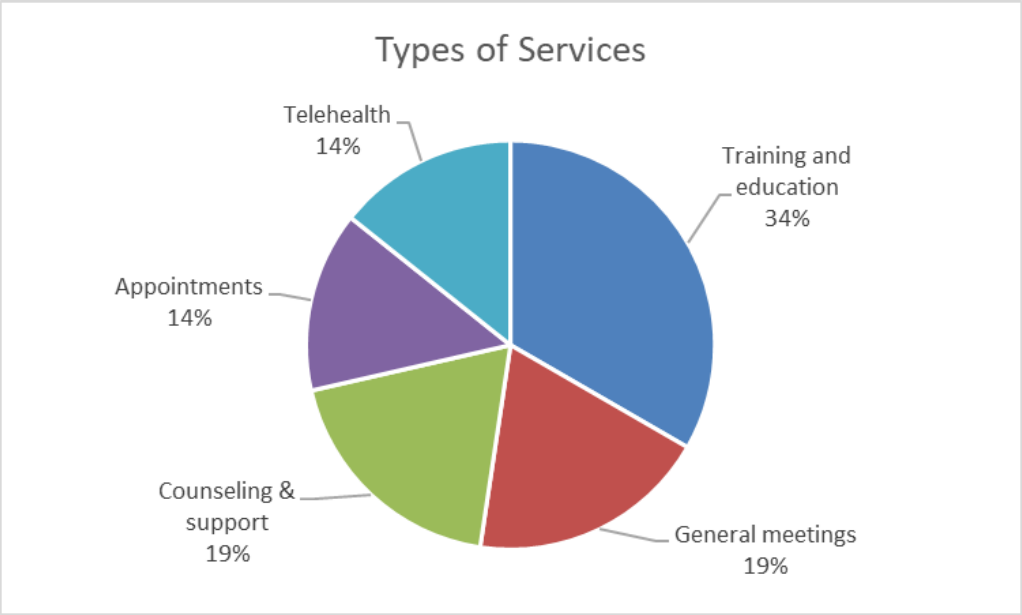

Figure 33 - CBO's Online Services

When asked about how their recipients responded to online services, no respondents indicated that their recipients are asking for more services to move online.

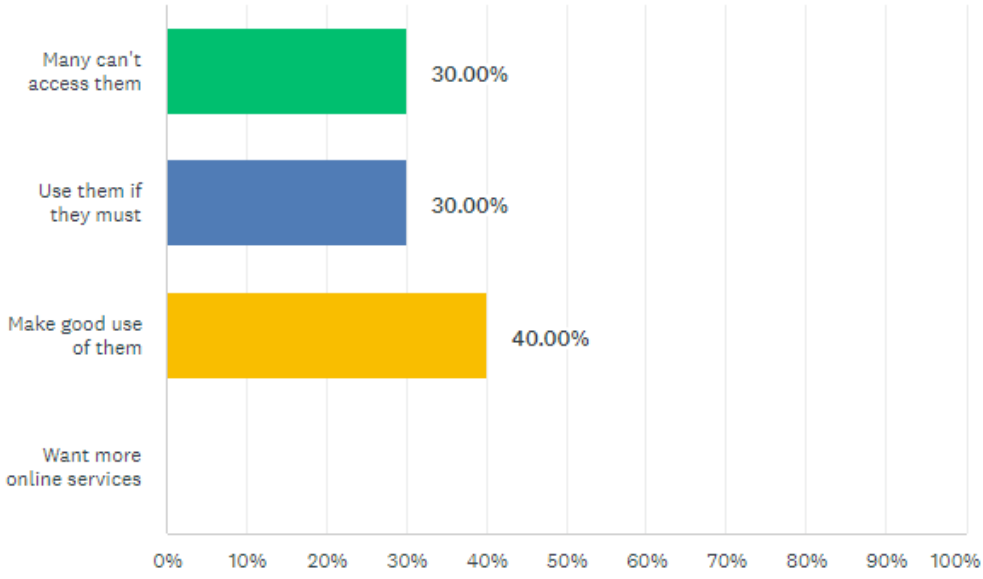

Figure 34 - CBO's Recipients' Responses to Online Services

When asked about their future plans, 60% of CBO respondents indicated that they will either keep or expand online services.

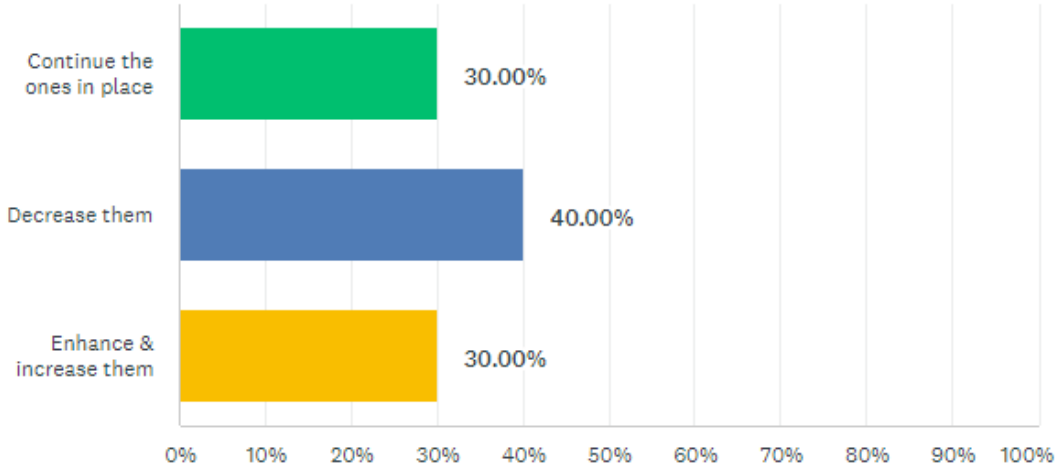

Figure 35 - CBO's Future Plans for Online Services

When asked what challenges their organization is facing in the delivery of online services, the following three issues were most often mentioned.

- Adequate resources: Respondents indicated that a lack of devices, apps and systems, connectivity, and support for both providers and recipients is their top challenge.
- Client adoption: Respondents indicated that recipients were often hesitant to use online options, preferring other options, or that it was hard to maintain users' attention.
- Digital Literacy: This challenge was the third most often mentioned and included the need for increased digital literacy for both providers and recipients.

When asked what challenges their recipients are facing in the delivery of online services, the following three issues were most often mentioned.

- Adequate resources: Respondents indicated that their recipients' lack of devices, apps and systems, connectivity, and support is their top challenge.
- Digital Literacy: This challenge was the second most often mentioned.
- Client adoption: Respondents indicated that recipients have other barriers such as lack of appropriate spaces to conduct private appointments, Zoom fatigue, and poor organizational skills to use online services.

Results of Online Survey of Health and Human Services

An online survey was sent to department leadership, program leads, and other key personnel in Marin County's Health and Human Services department. Seventeen (17) responses were received.

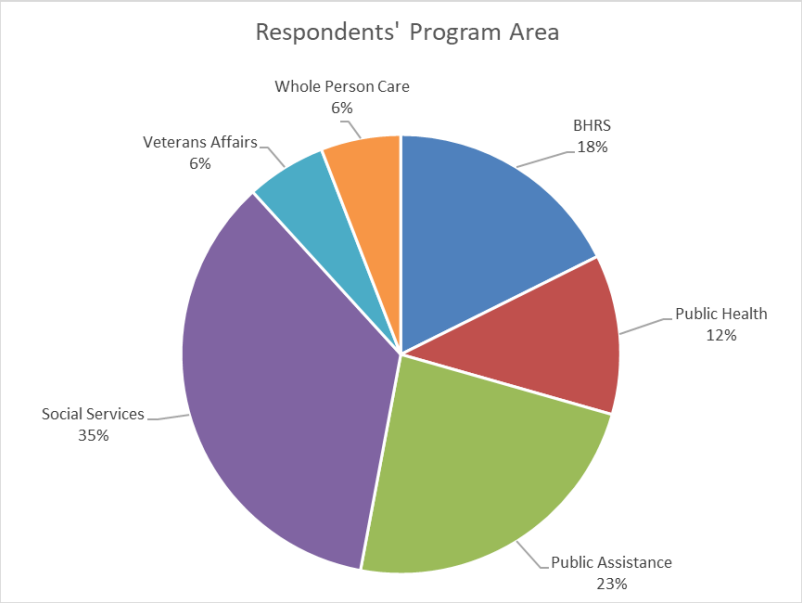

Figure 36 - HHS Program Areas

Following is a graph showing ratings of various aspects of Health and Human Services digital experiences.

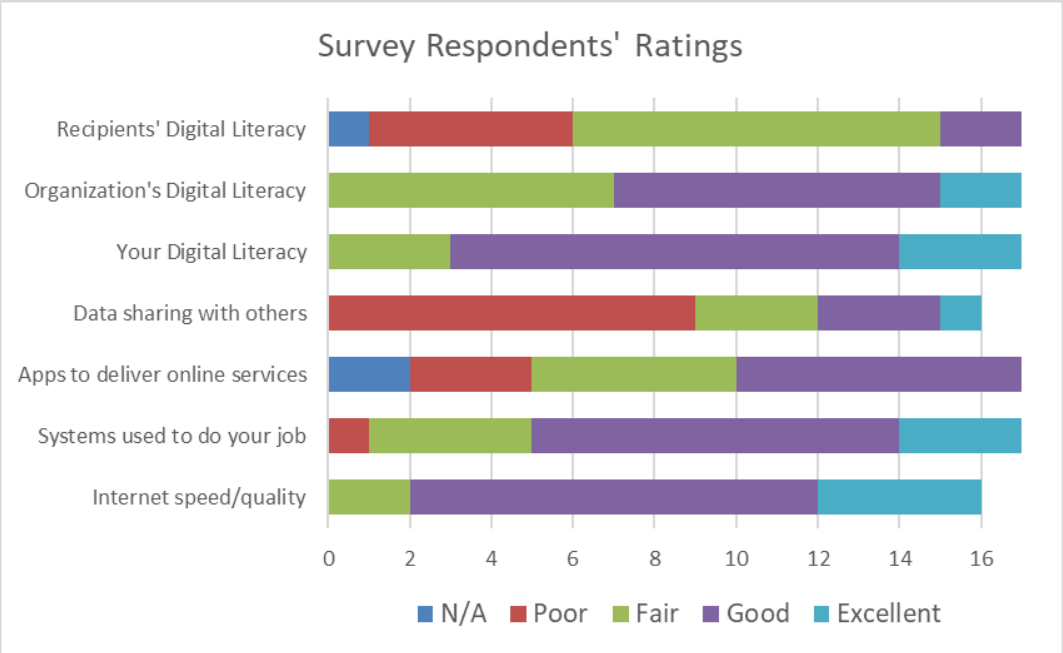

Figure 37 - HHS Ratings of Digital Experiences (Figure 37 Data)

Only two respondents' programs did not offer online services. The stated reasons for not doing so were due to services being better delivered in person and the inability for clients to use online services.

Respondents most often indicated that their primary online offerings are general online services such as submitting forms, checking status of applications, etc. (28%).

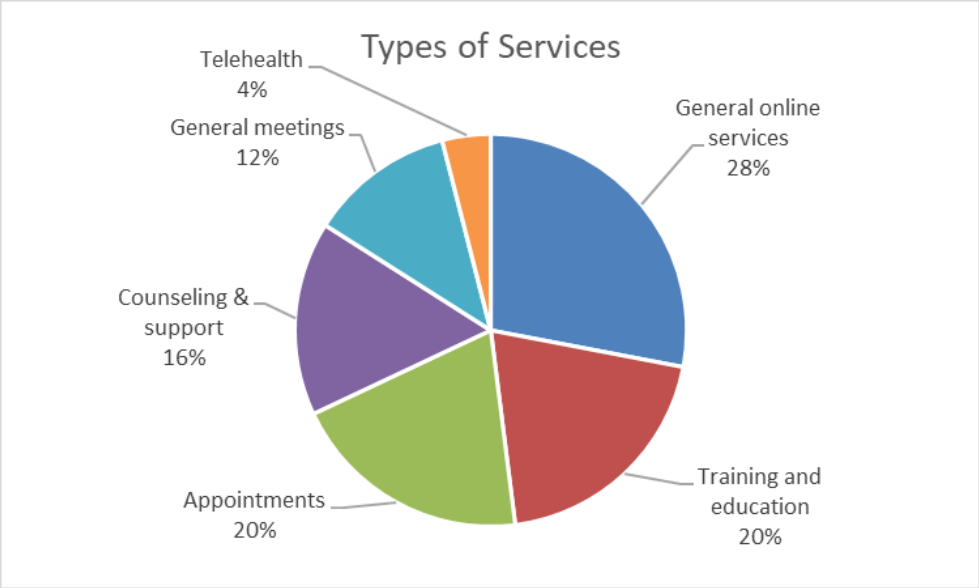

Figure 38 - HHS Online Services

When asked about how their recipients responded to online services, few respondents indicated that their recipients are asking for more services to move online.

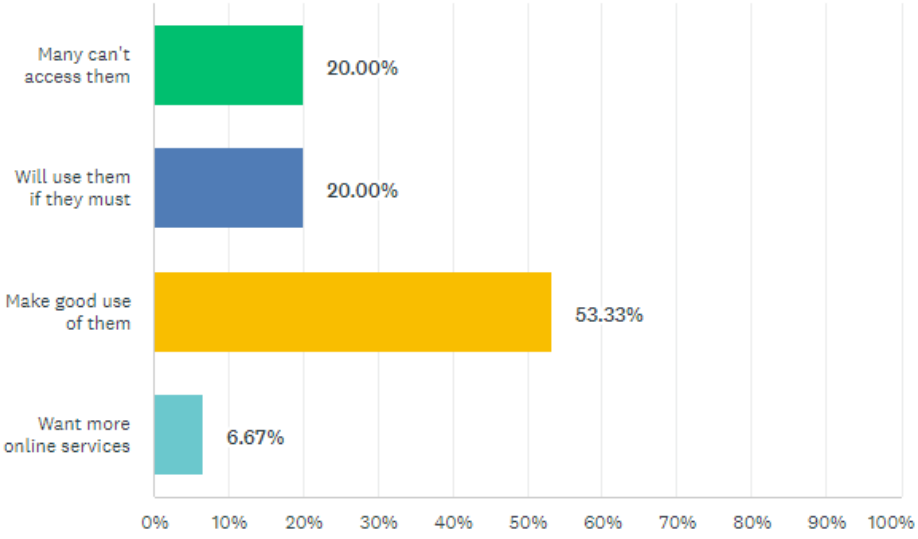

Figure 39 - HHS on Recipients' Reactions to Online Services

When asked about their future plans, over 93% of the respondents indicated that they will either keep or expand online services.

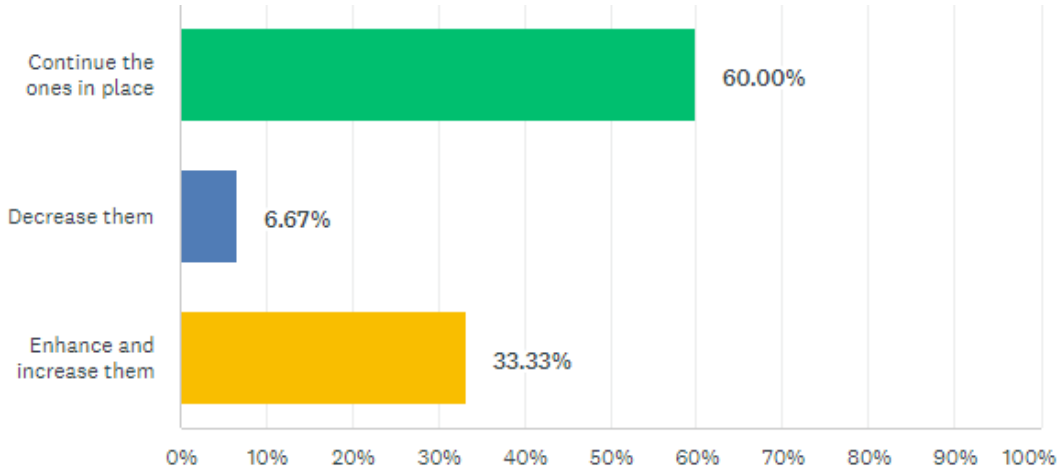

Figure 40 - HHS Future Plans for Online Services

When asked what challenges their organization is facing in the delivery of online services, the following three issues were most often mentioned.

- Business models: Communication, personal interactions, system integration, ease of use, and cultural change needs related to delivering services online were often cited as challenges.
- Digital literacy and devices: Devices, use of cell phones, internet access/broadband, and varied levels of digital literacy were often mentioned as challenges.
- Digital adoption: Balancing virtual with in person service delivery, improving access and usability for older adults and persons with disabilities, and encouraging providers to increase online delivery of services were cited as challenges for adoption.

When asked what challenges their recipients are facing in the delivery of online services, the following three issues were most often mentioned.

- Adequate resources: Respondents indicated that their recipients' lack of devices, apps and systems, and connectivity is their top challenge.
- Client adoption: Respondents indicated that recipients have other barriers such as lack of appropriate spaces to conduct online business, difficult to use apps and systems, limits on what can be submitted digitally, and confusion over what system to use for which service.
- Digital literacy: The lack of or poor digital literacy was the third most often mentioned challenge.

Internet, Communications, and Technology Providers Community

Process:

- Magellan Advisors was hired to conduct a needs assessment, asset inventory, and gap analysis, make recommendations, and develop a conceptual network design.
    - Conducted nine (9) interviews of ICT providers
    - Reviewed input from the two (2) online surveys they hosted
        - Online Residents Survey (ORS was still open when their analysis was conducted; more data was received)
        - Online Business Survey
    - Collected information and spoke with residents, as well as representatives from education, government, public works, and utilities organizations
    - Reviewed minutes and findings from focus group meetings
    - Briefed and obtained feedback from members of the ESC and all Community Work Groups
    - Delivered a Digital Infrastructure Needs and Options Report (Magellan Report) as input for the Strategic Plan

Needs Statements: (presented by Magellan Advisors as recommendations)

- *Evolve Digital Marin into a formal organization to develop, manage, and own public network assets with the ESC as initial Board of Directors.*
- *Establish a position to lead development of private investment, public financing, and wholesale revenue sources for Digital Marin.*
- *Develop a business plan focused on digital inclusion that leverages public investment in infrastructure to drive additional investment and revenue from private sources that support basic purpose.*
- *Create a framework for local governments and other public institutions to cooperate on managing critical data (e.g., permitting), including securing systems, making information more accessible, and ensuring privacy.*
- *Establish common policies and standards for network infrastructure and services, including fiber and wireless specifications, master license agreements, quality of service definitions, and zoning guidelines.*
- *Translate the conceptual network design into a "shovel-ready" high-level design, including lease and/or wholesale commitments from providers and specific services for targeted areas.*

Highlights from Magellan Advisors' Report

With regard to access infrastructure and broadband service options, Magellan Advisors included the following findings in the Magellan Report. The bottom line is that despite Marin County's advantages, access infrastructure and broadband options are no better than most other communities across the country.

- Marin County has numerous local governments and special districts as well as private companies that own infrastructure in the public rights-of-way.
- Considering Marin County's position adjacent to a global technology hub, the number of entities involved, and the relative affluence of its population, the County has relatively few network assets.
- The number of players [owning infrastructure in Marin] has not yet translated into abundant and extensive infrastructure.
- The five (5) [geographic] areas targeted for investment by the County for socio-economic reasons seem to lack connectivity options but so do the more prosperous areas.
- Substantial middle-mile and long-haul infrastructure exists, but it does not extend into Marin communities.
- The incumbent providers service areas do not cover much of the County and overlap each other only in the more densely populated eastern portions of the County.
    - The information used [by Magellan Advisors] to make this determination came from the providers via their reporting to the FCC.
    - Although the accuracy of the information from the FCC is dubious, it can be assumed the companies have substantial infrastructure [in Marin] —including access infrastructure in these areas.
    - The providers did not otherwise provide information about their infrastructure and service areas.

Planning, Transportation, and Public Works Community

Process:

- Four (4) focus group meetings were conducted.
- A follow up survey was conducted for each focus group meeting.
- Three (3) interviews were also conducted.
- A total of 50 contributions were made, including input from:
    - Marin's Planning Directors
    - Marin's Public Works Directors
    - Transportation sector
    - Utilities (water, electricity, and sanitation) sector

Needs Statements:

- *Increased infrastructure is needed to support Internet of Things (IoT) and wireless devices*
- *Agencies need to collaborate, share staff, and streamline services*
- *Sharing data across agencies is needed to increase coordination and public access*
- *Systems and data at critical facilities need to be protected*
- *More staffing resources are needed*

Highlights of Planning/Transportation/Public Utilities Outreach

The following five (5) topics were most frequently mentioned in focus group meetings, follow up survey responses, and interviews. Supporting statements are also included below.

- Resources, sharing, and collaboration: Elements of this topic area were cited the most often by individuals in focus groups and interviews.
    - All [government] developers have tech and resource problems with maintenance and implementation of new tech. (Building Official)
    - Lack of staff and resources to implement new solutions. (Building Official)
    - Regional permit software that allows for better collection, storage, and access to permit data to better coordinate business license and permit data for efficiency. (Building Official)
    - Implementing new software - issues with support staff and no new software/improved software requires need for 2-3 more full-time employees. (Building Official)
    - [Need] standardization of tech or better integrations of many different tools. (Building Official)
    - Building inspection services lend well toward shared services. (Building Official)
    - COVID has also forced planning and building departments to pivot to digital submittals and plan reviews and permitting. (Planning)

- Digital adoption: This area was the second most often mentioned.
    - Privacy and security are top concerns. (Building Official)
    - Everything has become digital, and it was hard at the beginning, but people are getting used to it. (Planning Official)
    - Making permit files available to the public and streamlining public information would be great. (Planning Official)
    - A lot of language barriers exist. Need to serve all needs of our entire population. (Transportation Official)
    - They [organization with online services] have to keep the phone line in service since their populations doesn't have access and literacy to technology. (Transportation Official)

- Infrastructure: Resiliency was the top issue cited related to infrastructure.
    - Resiliency is also a concern as cell service and power grids are not dependable everywhere. (Planning Official)
    - Expand access to cellular networks particularly during fire season. (Planning Official)
    - Lack of internet service during Public Safety Power Shutdown was a major safety and communication concern in previous years. (Utilities)

    - Bandwidth- invested in iPads, but they can't access internet due to gaps in coverage. (Planning Official)

- Digital literacy: Literacy challenges were both internal to organizations and external to users.
    - Implementing new software, training is top of mind. (Building Official)
    - Digital Literacy training is needed for navigating applications. (Transportation Official)
    - We have some community members not comfortable using technology to communicate. (Planning Official)
    - Funded [project] - found that digital literacy was the issue. (Planning Official)

- Devices: Planning and Transportation Officials also cited the need for devices for their customers.

Residents Community

Process:

- Five (5) focus groups and meetings were conducted:
    - Kruger Pines Residents
    - Marin County Commission on Aging
    - Aging Action Initiative (2)
    - Sponsors and students from Children for Change
- Four (4) surveys were conducted:
    - Standard Online Resident Survey
    - Marin City Residents Survey
    - Marin Housing Authority Survey
    - Golden Gate Resource Center
- Residents Work Group members conducted analysis and contributed significant information.
- Over 1,500 contributions were made.
- Available Community Data was also analyzed:
    - Bolinas Stinson Union School District Connectivity Committee Survey
    - City of San Rafael Canal Neighborhood Survey

Needs Statements:

- *Marin needs affordable, reliable, and resilient broadband service throughout the county*
- *A comprehensive digital literacy strategy is needed*
- *Marin needs to ensure that privacy, security, and transparency concerns are addressed*
- *Balancing health and safety concerns with needs for broadband in areas not/not easily served by fiber is needed*

Results of Standard Online Residents Survey Hosted by Magellan Advisors

The standard Online Residents Survey was hosted by Magellan Advisors, in both English and Spanish. It was posted on the GoDigitalMarin website homepage and advertised through the follow channels.

- County, City & Town Public Information Officers
- Digital Marin Executive Steering Committee
- Digital Marin Work Group members
- Fire Safe Marin (Residents Group outreach)
- Marin County Department Heads and Assistant Department Heads
- Marin County Free Library newsletter
- Marin County press release
- Email to Marin County registered voters (80,000)
- Marin Managers Association (County, city, and town managers)
- Vivalon (formerly Whistle Stop) newsletter (12,000 subscribers)
- KWMR Interviews (3 while survey was open)
- NextDoor (asked ESC, Work Groups, etc. to post)
- Community advocates for unserved, language barriers, older adults, etc.
- Distributed information in person in Canal District (part of research project)
- Focus group attendees
- Postcards to registered voters in zip codes un- or under-represented in early survey responses
- Board of Supervisors for newsletters
- Digital Marin Social Media Accounts
- People who contacted us via GoDigitalMarin website
- GoDigitalMarin.org newsletter subscribers

While 1,222 residents began the survey, the completion rate was only 57%, for a total of 702 complete submissions. The number of responses to any one question varied from nearly 1,200 to the mid-600s. A majority of respondents were located in San Rafael. A majority were responding to the survey from home (94.2%) and had high-speed internet access (91.8%).

When compared with U.S. Census Bureau data (V2019) for Marin County, survey respondents' and their households skewed to older, highly educated occupants, who live in a home they own. These results should be considered as context for the following survey findings. They also required the project team to conduct additional targeted surveys, focus groups, interviews, and meetings.

Demographic	ORS Respondents	U.S. Census Bureau
Owner Occupied Homes	72.9%	63.7%
Average Household Size	2.2 people	2.4 people
Persons 65 years and older	54%	23%
Persons under 18 years	20.8%	19.8%
Bachelor's degree or higher	88.3%	59.5%
In the workforce	64.6%	63.7%

Figure 41 - ORS Respondents' Demographics

A majority of respondents (94.2%) indicated that they were at home when asked the location for which they were completing the survey.

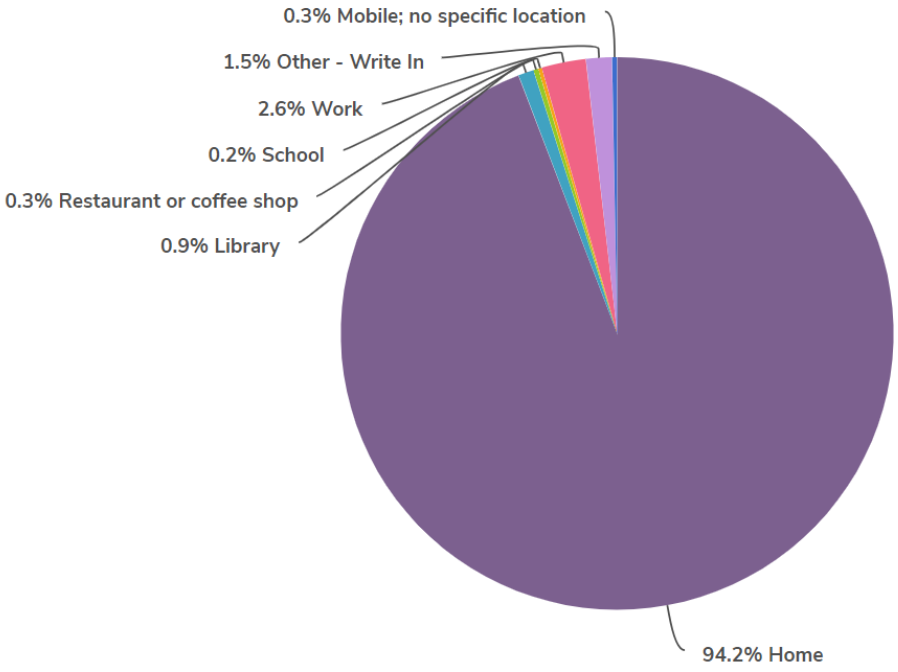

Figure 42 - ORS Respondents' Location When Completing the Survey

A majority of respondents (91.8%) indicated that the location where they completed the survey had high-speed internet access.

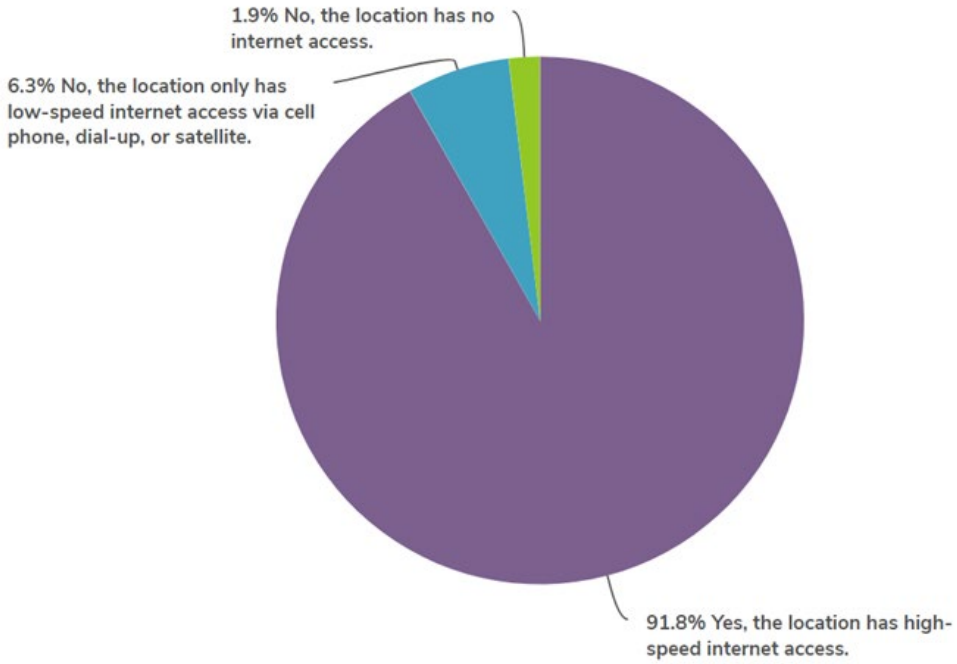

Figure 43 - ORS Respondents' Location Has High-Speed Internet

When asked where else they accessed the internet, the largest group indicated that they were on their cell/mobile phones in no specific location.

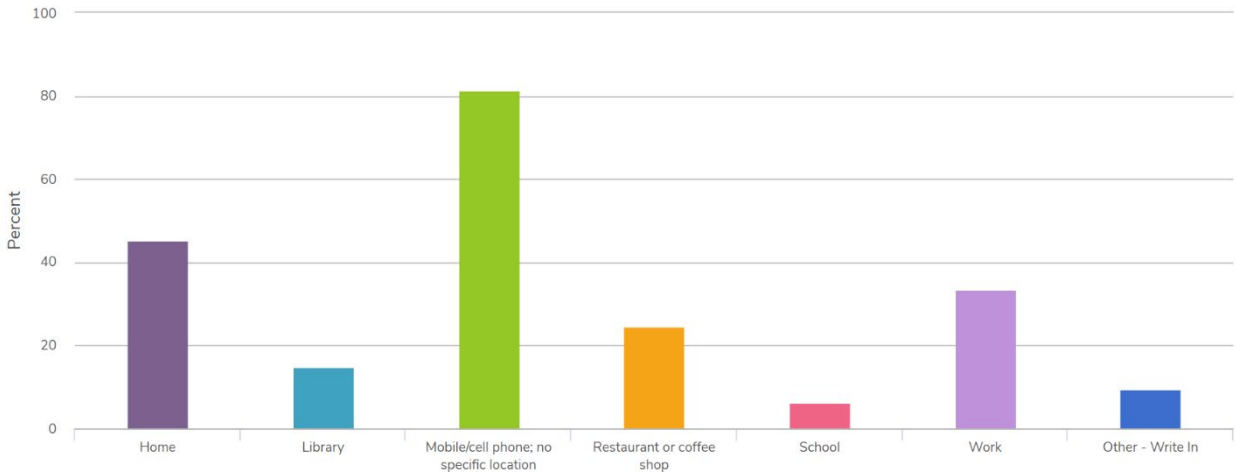

Figure 44 - ORS Respondents' Locations to Access the Internet (Figure 44 Data)

When asked to share more about where they accessed the internet, respondents shared that they accessed the internet mostly from home due to the pandemic restrictions. Prior to those restrictions they listed a variety of locations including cafes, restaurants, coffee shops, libraires, schools, outside on walks, in their cars, hotels, ferries and boats, stores, and workplaces. Many described accessing the internet from their mobile phones from anywhere, even all over the world.

A majority (67.9%) of respondents are Comcast customers.

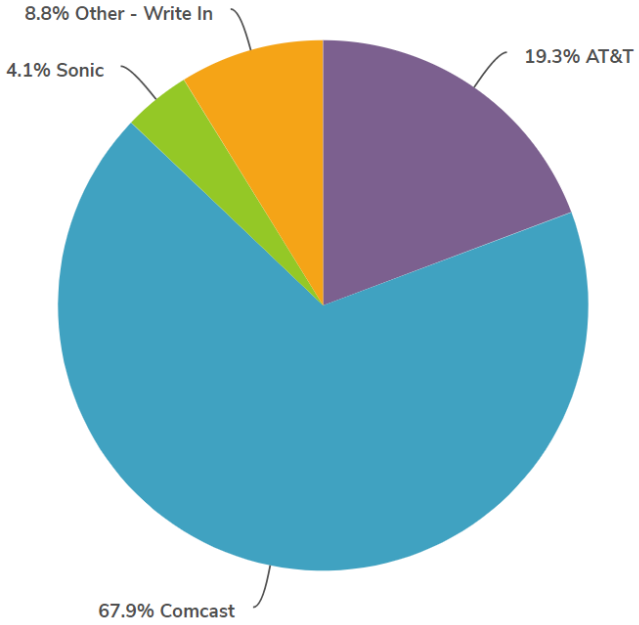

Figure 45 - ORS Respondents' Internet Provider

Respondents reported that the speeds their providers were contracted to deliver varied from 1 Mb/s to 1.2 Gb/s down and 46 kb/s to 1 Gb/s up. The actual speeds varied from 681 kb/s to 817 Mb/s down and 126 kb/s to 983 Mb/s up. The high end of the expected download speeds varied significantly from the actual speeds.

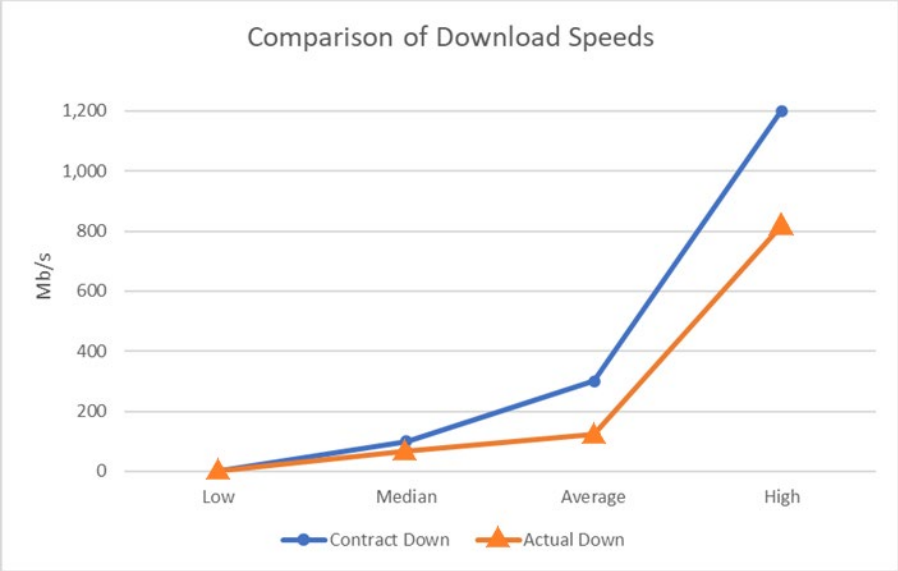

Figure 46 - ORS Respondents' Internet Download Speed

The expected upload speeds are more aligned with actuals. Typically, download speeds are higher than upload, but this survey found that the high end of the actual upload speeds was greater than that of the download. Several factors such as available memory and hard drive space on respondents' devices may have caused this outcome.

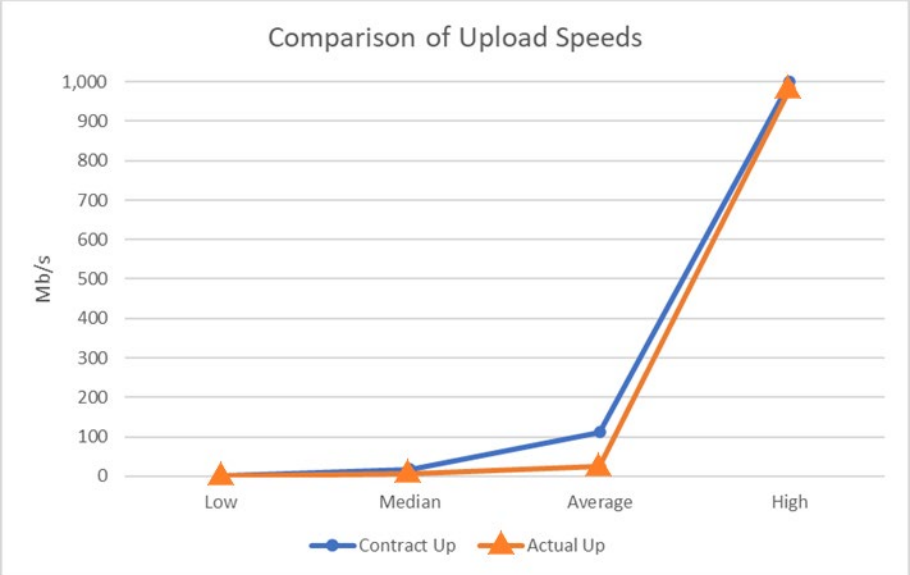

Figure 47 - ORS Respondents' Upload Speed

When asked how much their providers charged for all internet services, 55% of respondents indicated that they paid $100 or less a month, with 43% paying between $51 and $100 per month.

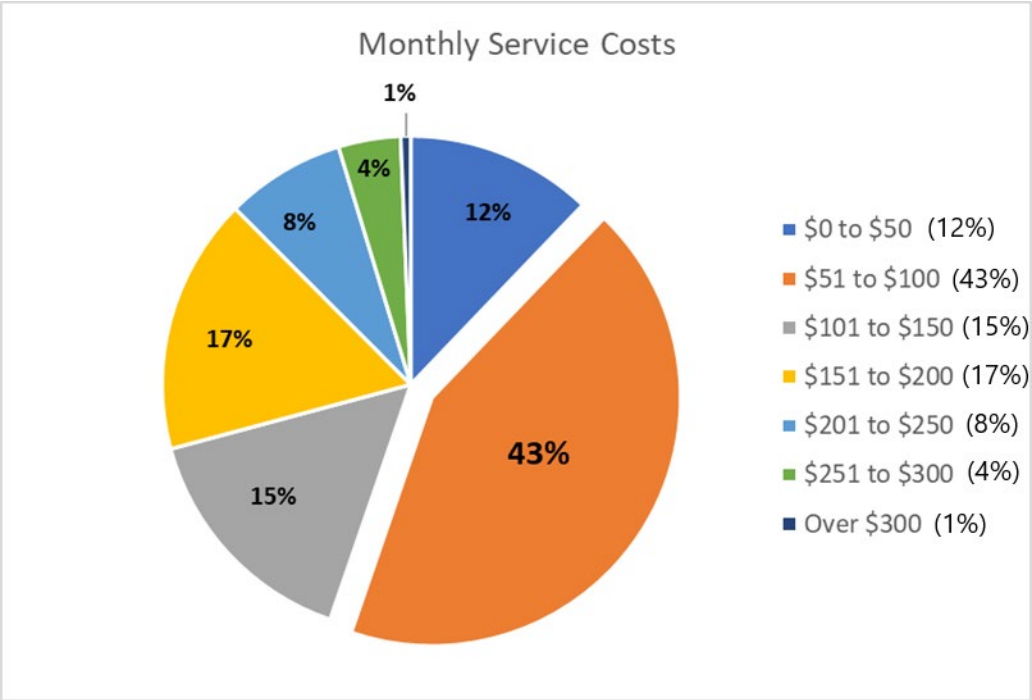

Figure 48 - ORS Monthly Internet Service Costs

When asked what devices were connected to their home internet service, 678 respondents reported a total of nearly 5,800. A 2020 study regarding consumer electronics found that U.S. households on average have 10 connected devices in the home. At 8.5 per household, survey respondents fell below that level. The reason may be a result of under-reporting, especially of Internet of Things (IoT) devices such as security systems, TVs, sensors, appliances, personal assistants, exercise equipment, streaming devices, smart devices - plugs, speakers, thermostats, lightbulbs, and even cars.

While the same 2020 study found that the average household has two computers, our survey respondents had three per household. Our respondents reported having two mobile phones per household, which is in line with the same 2020 study. With nearly 62% of households having landline phone service, our respondents are above the U.S. average of 37% reported by at least two 2020 studies.

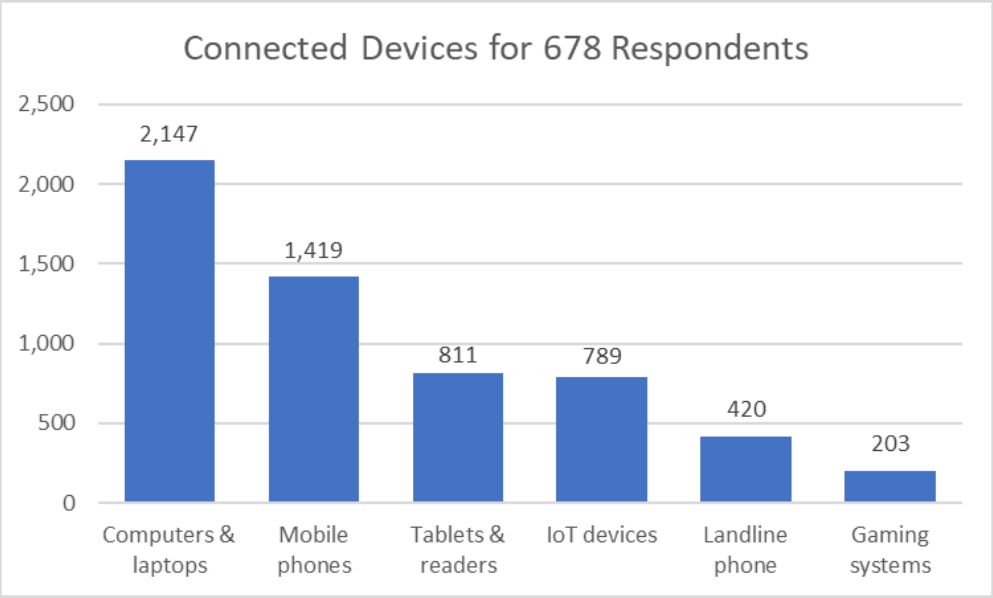

Figure 49 - ORS Connected Devices

When asked what services are bundled with their internet service, nearly 44% reported some type of phone service, 40% indicated that they receive basic TV channels, and 34% receive premium TV channels. The Other write in responses all fell within one of the categories already listed and do not materially change the percentages.

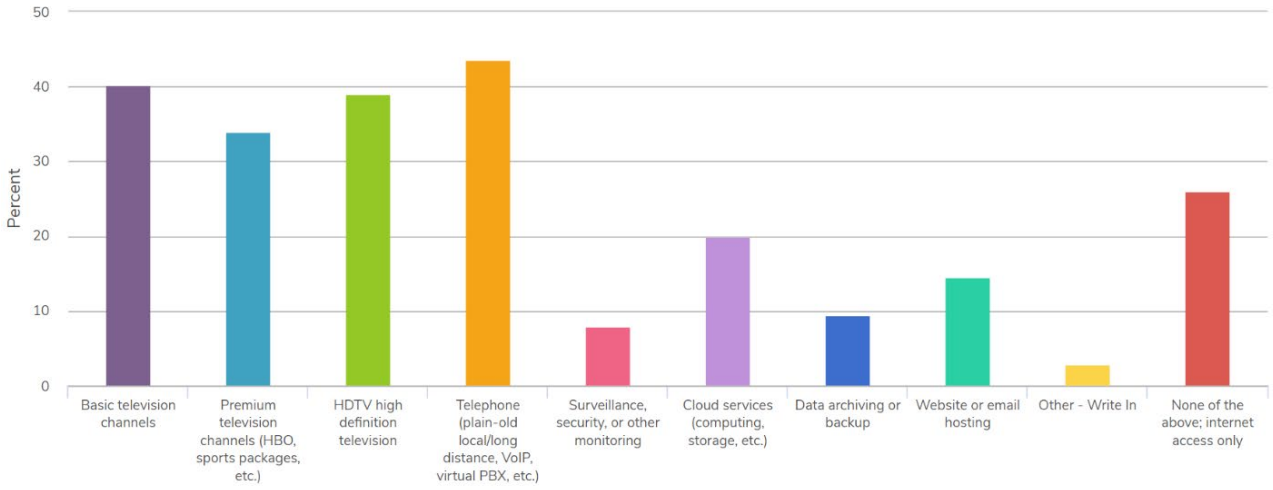

Figure 50 - ORS Bundled Services (Figure 50 Data)

When asked about to rate the quality of their internet services, 55% of respondents rated overall service as good/excellent. As a single aspect of service, reliability had the highest percentage of good/excellent responses at 56%. Price had the highest level of dissatisfaction – 44% responding bad/terrible. Numerous Other write-in responses were received. They fell into one of the categories below and do not materially change the results.

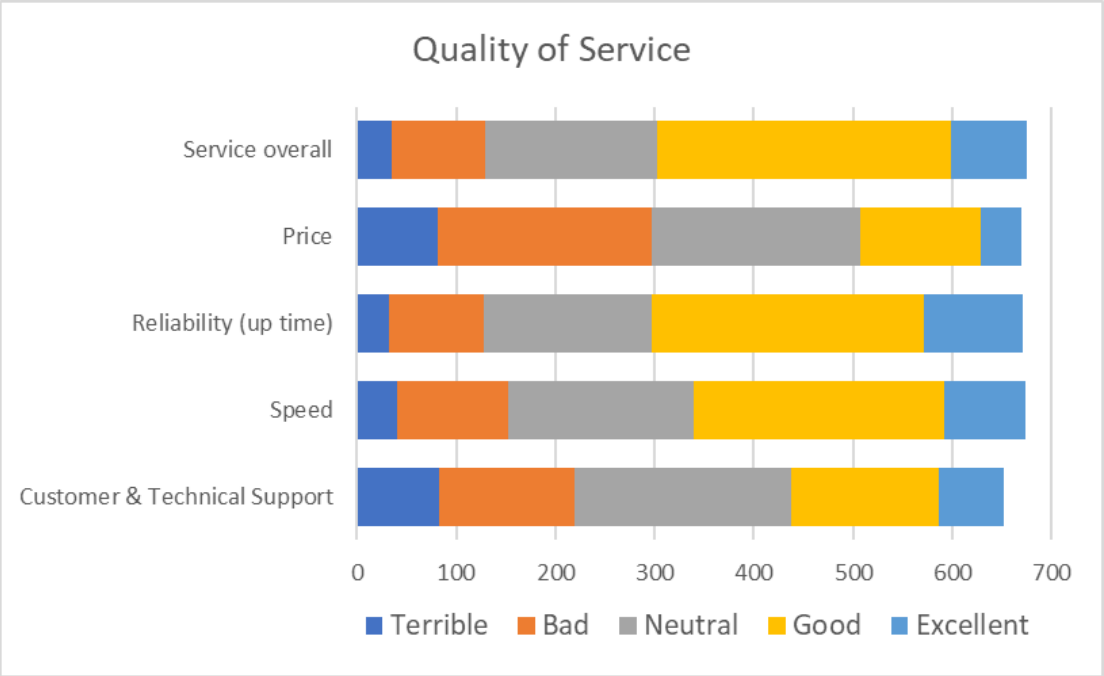

Figure 51 - ORS Respondents' Ratings of Quality of Services (Figure 51 Data)

When asked about internet slowdowns and outages, over 61% of respondents indicated that they occurred several times a year, with the lowest percentages of responses nearly the same at approximately 23% on both ends of the spectrum - never occurred or occurred every day.

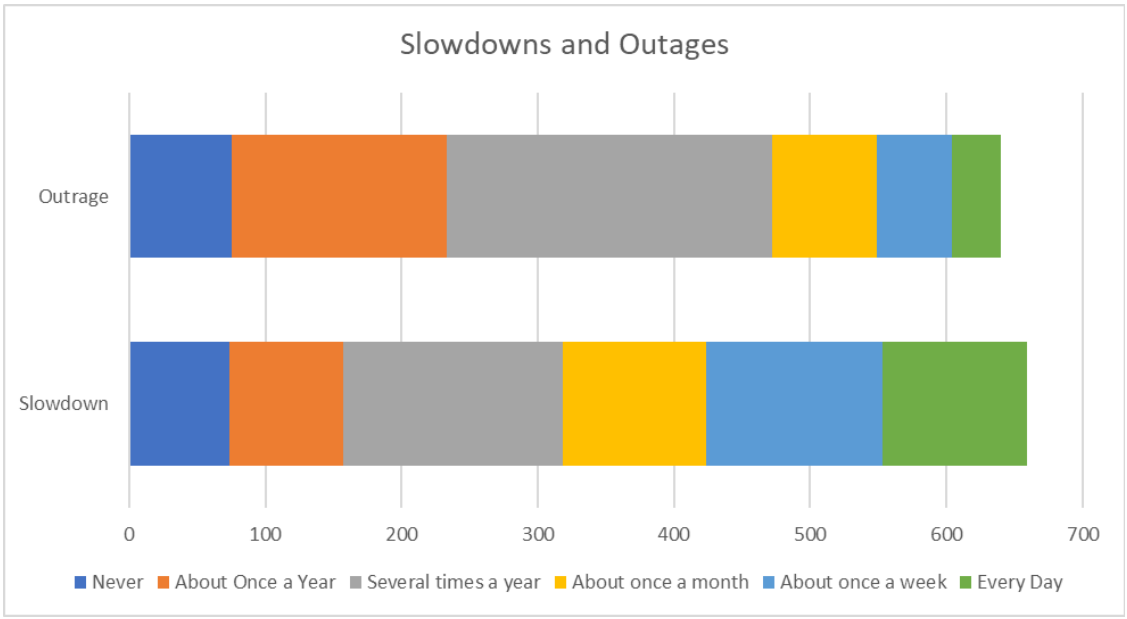

Figure 52 - ORS Respondents' Internet Slowdowns and Outages (Figure 52)

When asked whether they would pay more for faster and more reliable internet service, just over 11% indicated that they believe the service they have is already fast and reliable and 26.5% said their current service is good enough. While over 62% would pay more for faster and more reliable service, nearly half cannot afford to do so (29.6%). These findings align with other quality and satisfaction survey findings in that reliability only received a good/excellent rating 56% of the time, price had the highest level of dissatisfaction, and 61% of respondents indicated that they experience unacceptable slows downs and outages several times a year.

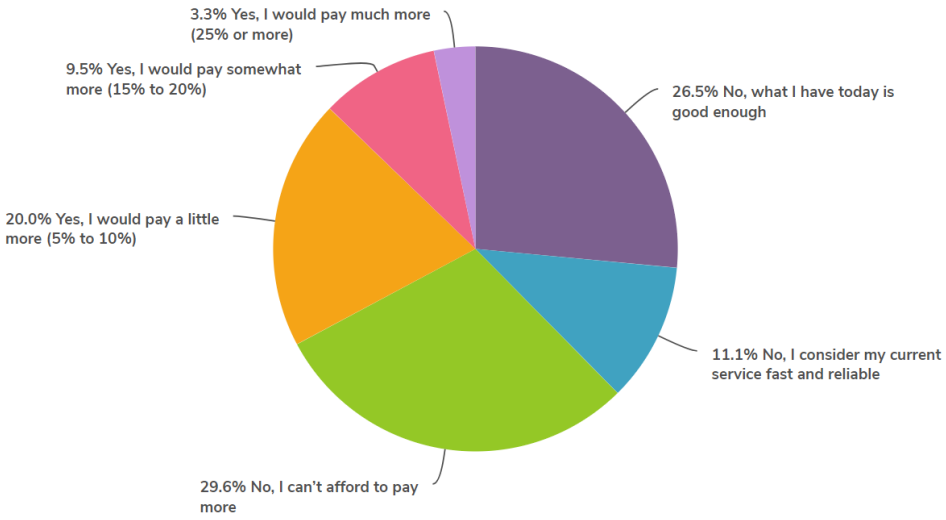

Figure 53 - ORS Respondents on Paying More for Faster and More Reliable Services

Very few of this survey's respondents did not have high-speed internet at the location they completed the survey (8.2%). When respondents without high-speed internet access at home were asked why they did not have it, they cited price and availability as the top two reasons. These findings are the same as those of other targeted surveys. Speed and reliability were the third most cited reason, which aligns with survey findings regarding respondents' willingness to pay more for faster and more reliable service.

Item	Overall Rank	Rank Distribution	Score
Available services are too expensive	1		206
High speed internet is not available to this location	2		157
Available services are too slow or unreliable	3		139
Access internet elsewhere (work, school, library, public/free Wi-Fi, etc.)	4		63
Smartphone meets internet access needs	5		60
Other reason not listed here	6		56
Do not need internet services	7		12

Lowest Rank Highest Rank

Figure 54 - ORS Respondents on Not Having High-Speed Internet (Figure 54 Data)

When the same group of respondents without internet service at home were asked the importance of getting other services in addition to high-speed internet access, nearly all indicated that getting just internet access was most important to them, with 94.6% rating it important/very important.

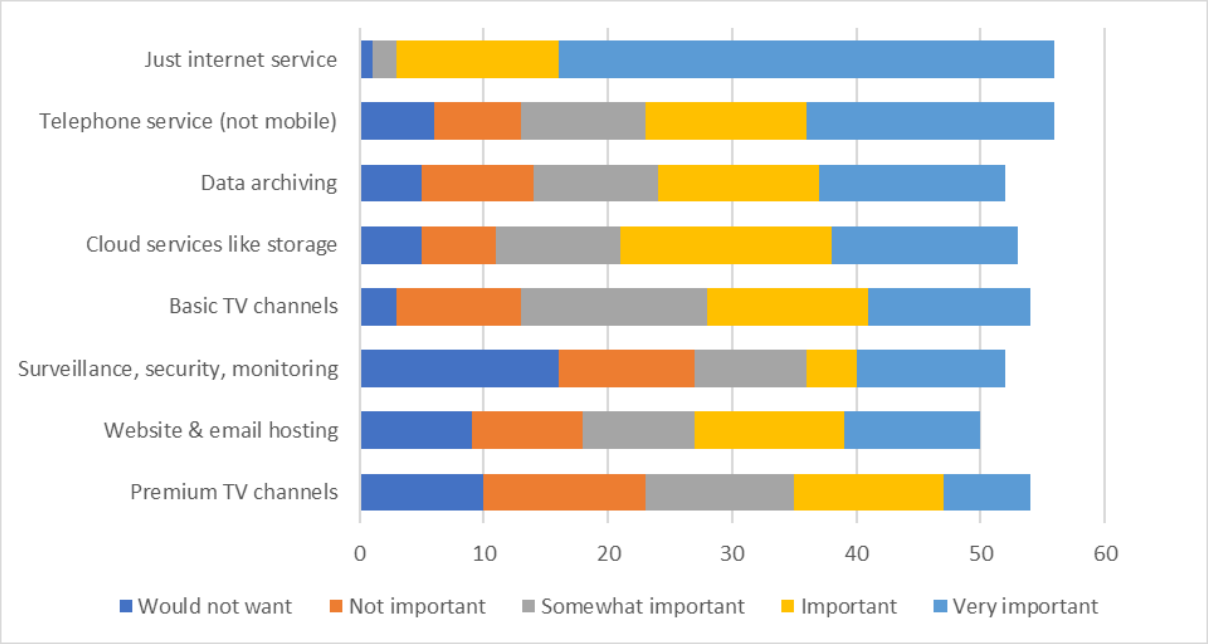

Figure 55 - ORS Respondents on Other Internet Services (Figure 55 Data)

When all respondents were asked who provided their mobile phone service, a majority indicated Verizon (36%) or AT&T (33%).

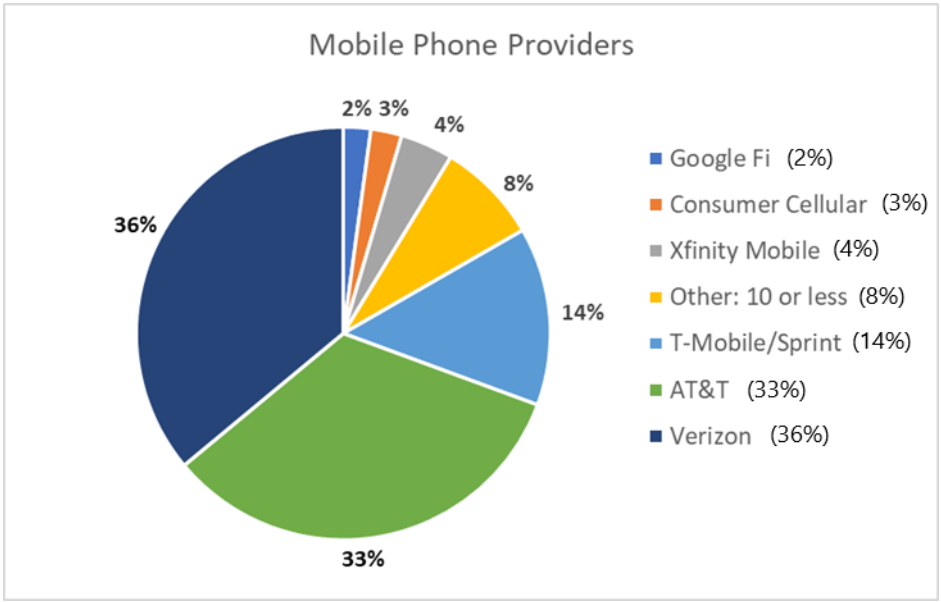

Figure 56 - ORS Respondents' Mobile Phone Providers

A majority of respondents rated their overall mobile internet access as Good/Excellent (60%), slightly above their rating of overall internet service (55%). Like internet service, reliability received the best rating of all aspects of mobile phone service with 63% of respondents rating it as good/excellent. Reliability of mobile internet service was rated a good/excellent by 55% of respondents. Price received the lowest rating for mobile phone service with 25% of respondents rating it as bad/terrible. While price also received the worst rating for internet service, it was significantly worse at 44% of respondents rating it as bad/terrible.

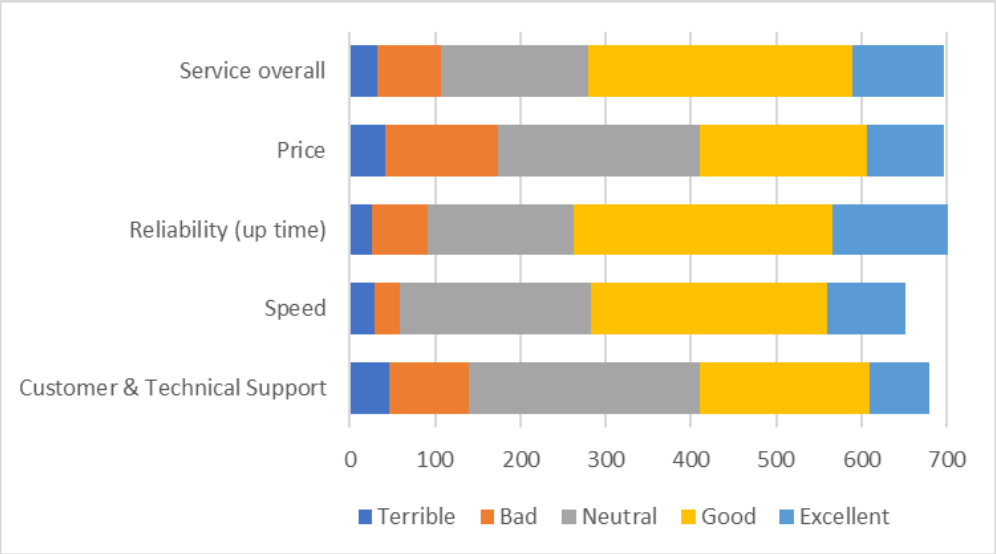

Figure 57 - ORS Responses on Mobile Phone Service Quality (Figure 57 Data)

A comparison of satisfaction levels with mobile internet access for the three most often used providers shows that Verizon has the highest percentage of respondents rating it as good/excellent (63%). AT&T received the lowest satisfaction rating with the highest percentage of respondents rating it as bad/terrible (21%).

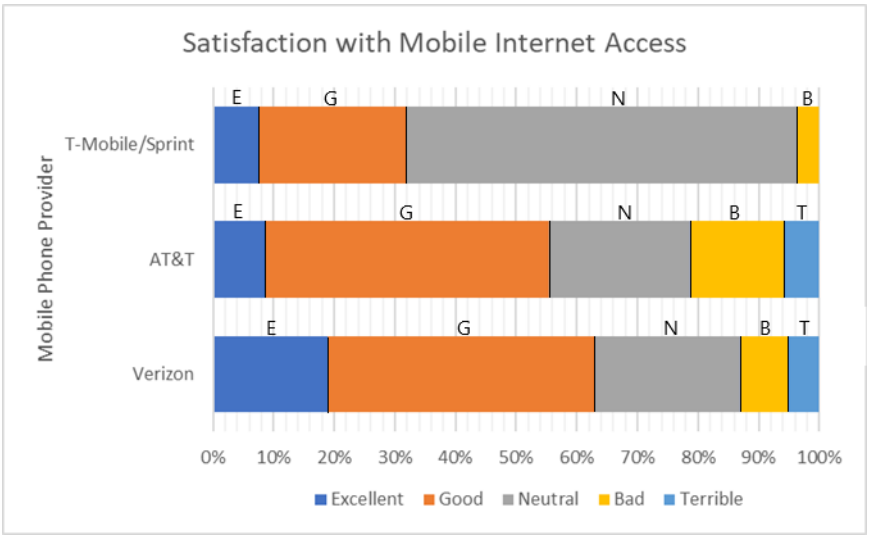

Figure 58 - ORS Respondents' Satisfaction with Mobile Internet Service

When respondents were asked to rate the device (mobile phone, tablet, computer) they primarily use to access the internet, the results were positive with over 78% indicating that they are good/excellent. This response indicates that having a robust device to access the internet is not an issue with this survey's demographic.

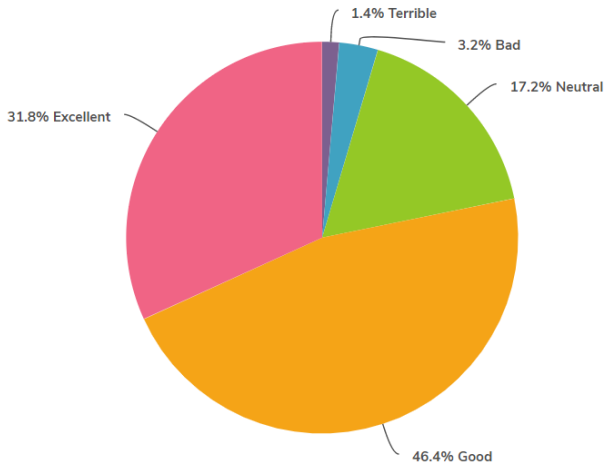

Figure 59 - ORS Respondents' Satisfaction with Devices

Survey respondents were asked to identify how often anyone in their households used the internet for a variety of purposes. Results indicate that the highest level of constant usage is for email, social media, and general surfing (96%), followed by reading (66%), then the broader category of entertainment (52%).

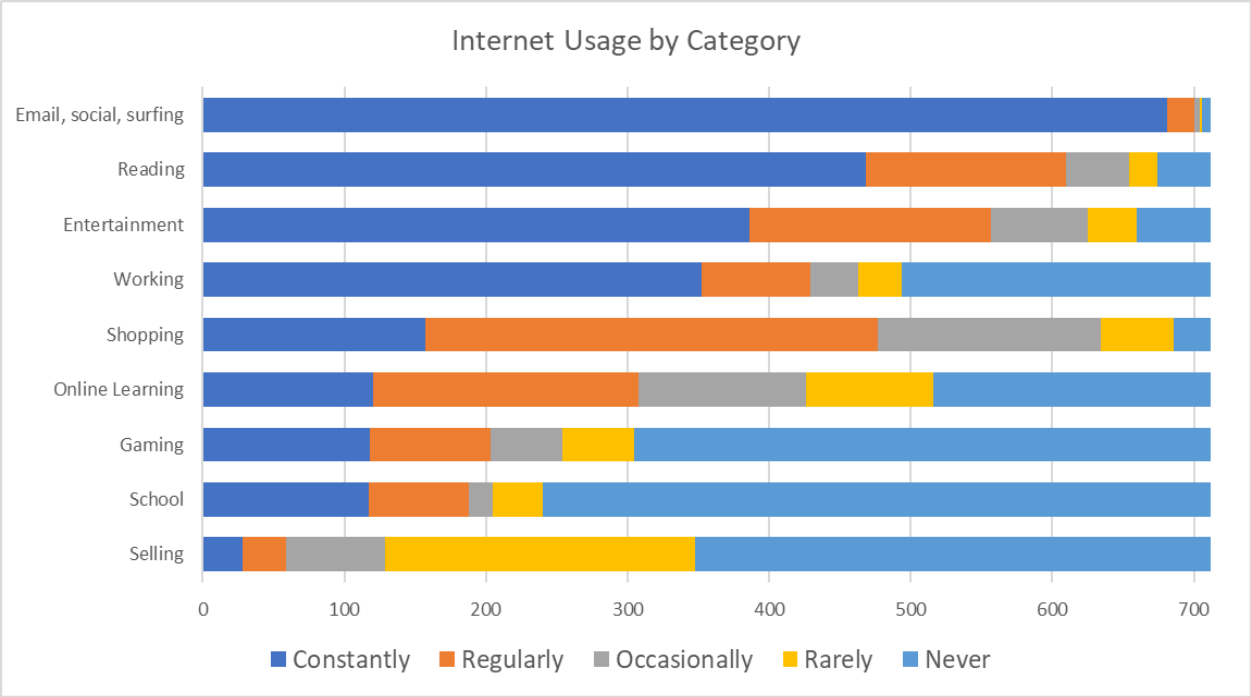

Figure 60 - ORS Respondents' Households on Internet Usage (Figure 60 Data)

Respondents were also asked if they had a choice, how would they prefer to have high-speed internet access provided to them. Slightly over half (51.6%) indicated they did not care as long as the service is fast, reliable, and affordable. The next highest percent (33.2%) of respondents indicated that they prefer a wired connection. While a majority of the survey's free form comments were related to health concerns of wireless devices and the preference for wired internet services, the responses to this survey question indicate that two-thirds of respondents do not have a preference for wired connections.

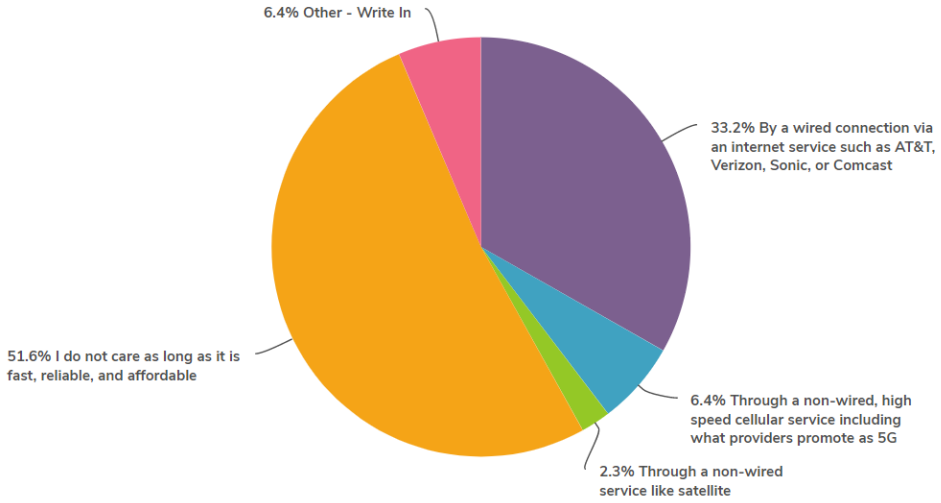

Figure 61 - ORS Respondents on Preference for Delivery of High-Speed Internet

Respondents were asked to rate their ability to live, learn, and work in a society where communication and access to information is increasingly through digital means like the internet, websites, online applications, email, etc. Nearly three fourths (74%) of respondents indicated that their experience is good/excellent.

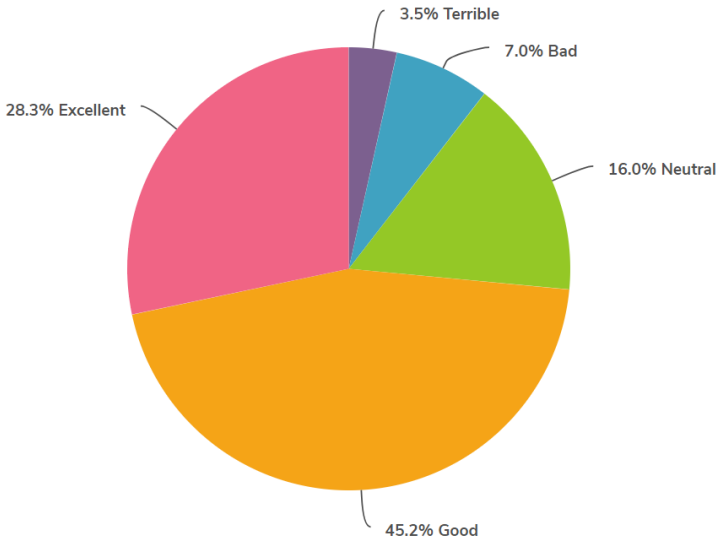

Figure 62 - ORS Respondents on Ability to Live in a Digital World

The following information is based on optional demographic data provided by survey respondents.

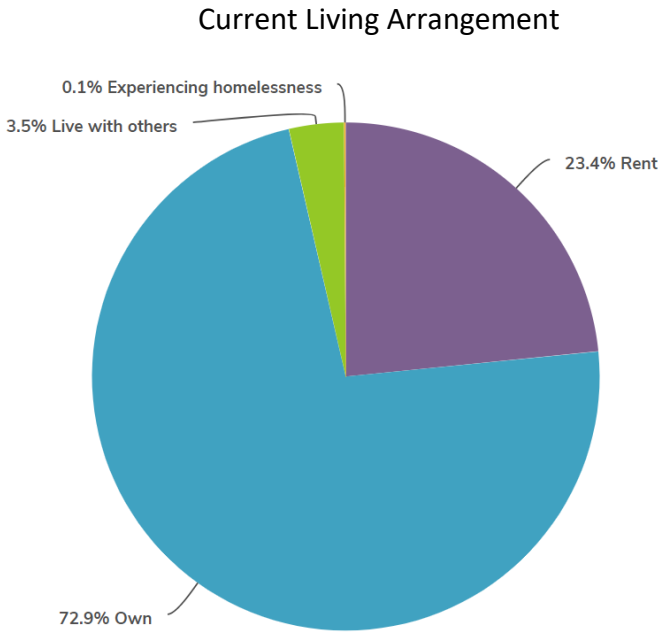

Figure 63 - ORS Respondents' Current Living Arrangements

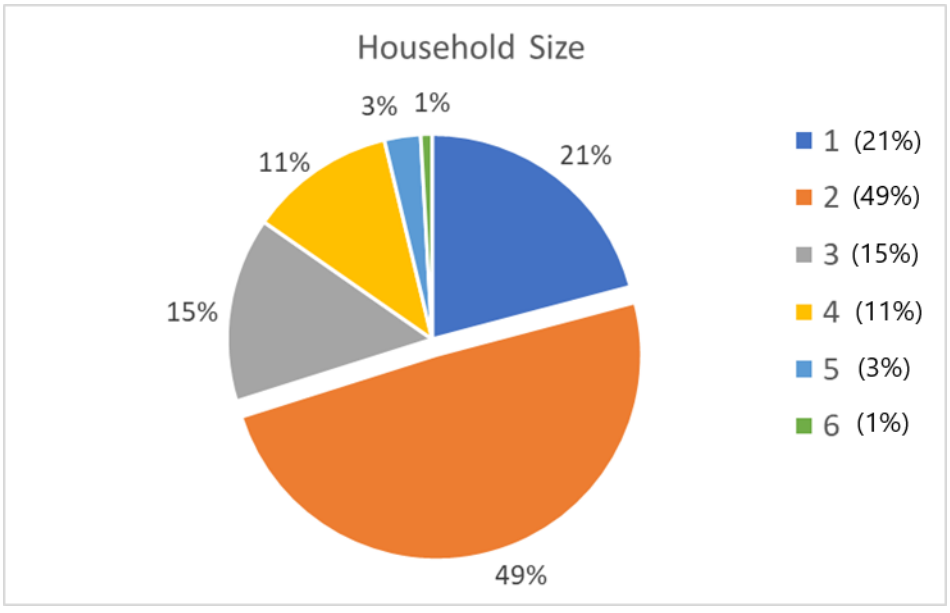

Figure 64 - ORS Respondents' Household Sizes

While the largest group was people in their 70s, the average age of the youngest household member was 46 years of age.

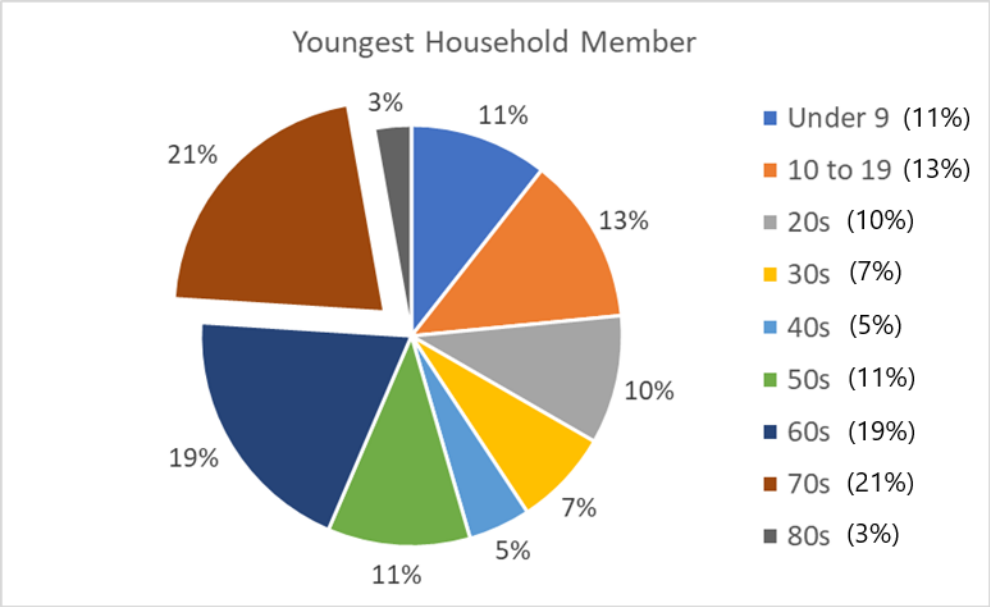

Figure 65 - ORS Respondents' Youngest Household Member

While the largest group was again people in their 70s, the average age of the oldest household member was 64 years of age.

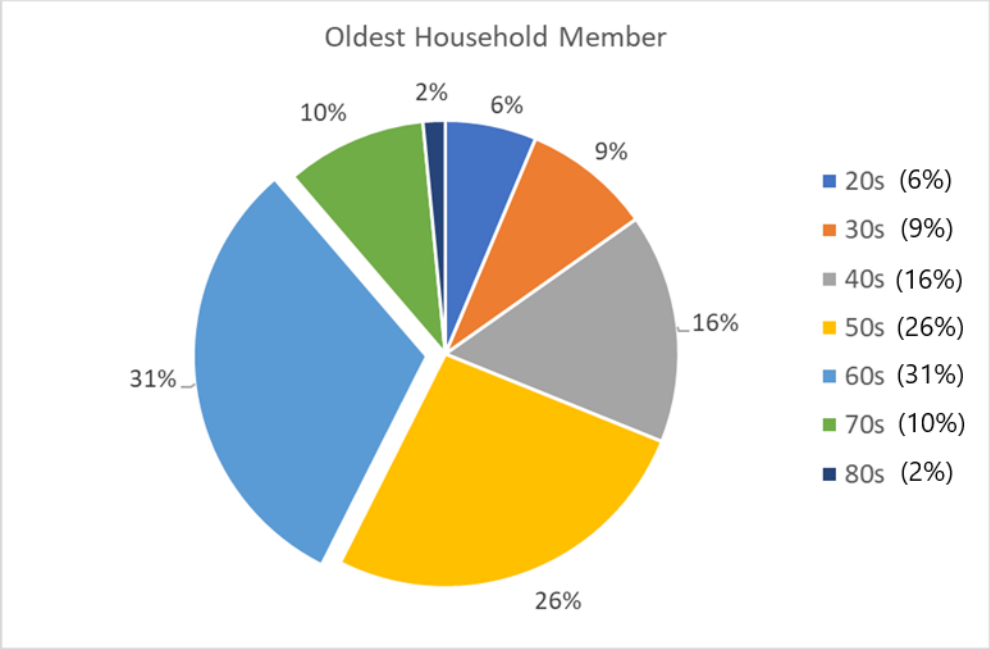

Figure 66 - ORS Respondents' Oldest Household Member

Primary Income Provider's Type of Work

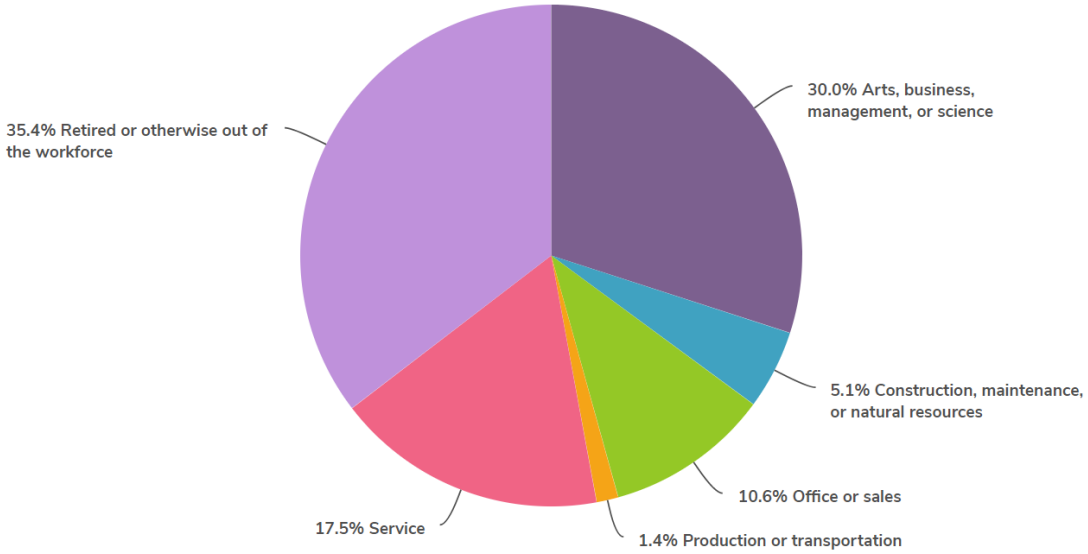

Figure 67 - ORS Primary Income Provider's Type of Work

Highest Level of Education in Household

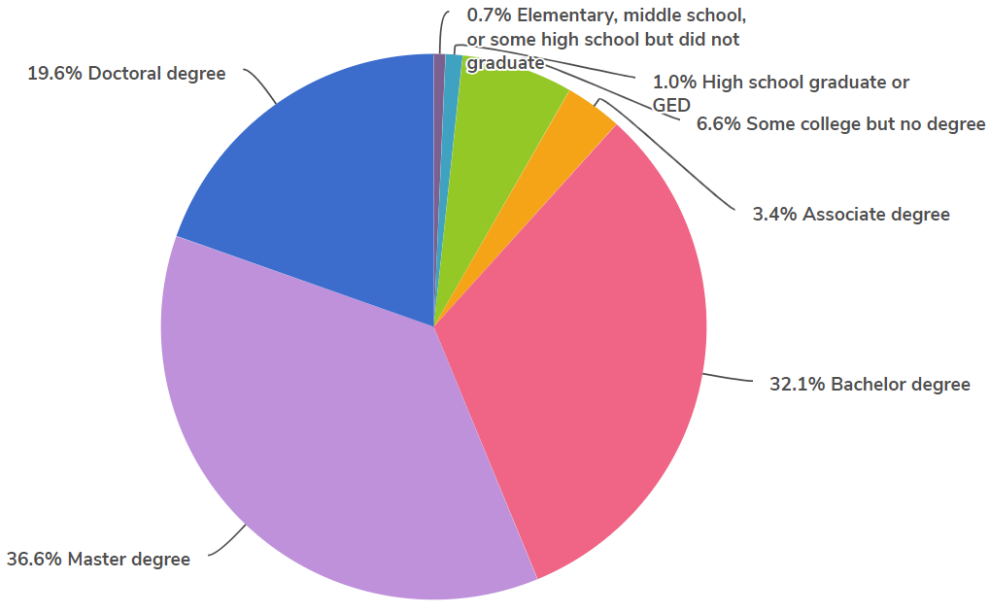

Figure 68 - ORS Highest Level of Education in Household

Results of Targeted Resident Surveys

Two identical resident surveys were conducted in both English and Spanish via community advocates for residents of Marin City (also provided in hard copy) and clients of Golden Gate Resource Center (GGRC). A total of 21 responses were received. Specific demographic data was not requested as part of the survey process. Speed tests were not performed as most of the respondents use cell phones to connect to the internet (72%).

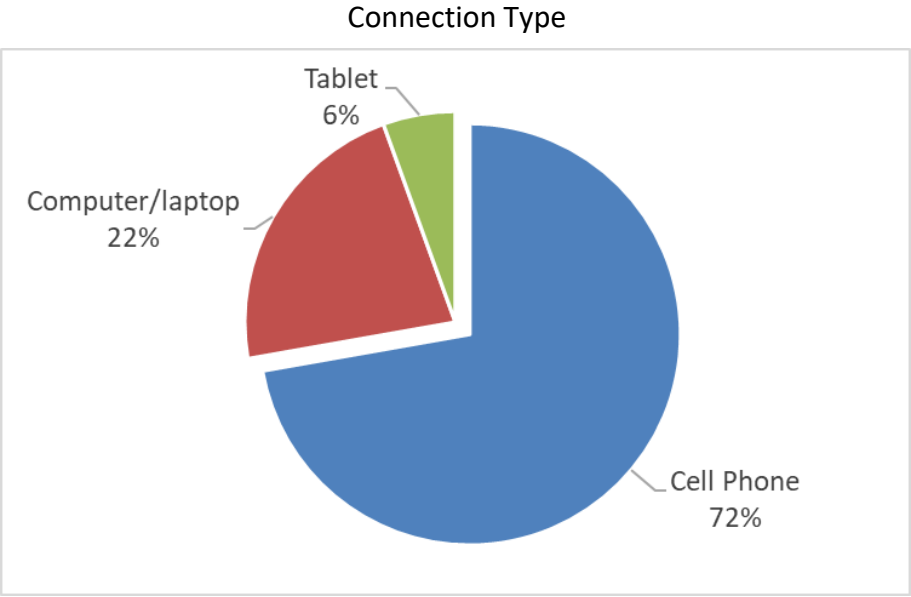

Figure 69 - TRS Respondents' Type of Device to Connect to the Internet

When asked to rate their own level of digital literacy, i.e. knowledge of computers and the internet, 63% of Respondents rated it as good/excellent.

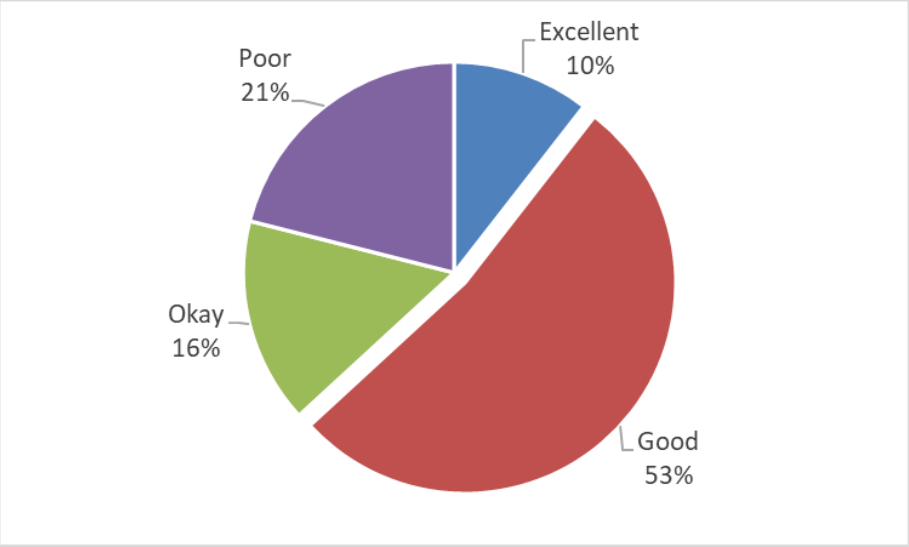

Figure 70 - TRS Respondents' Level of Digital Literacy

When asked to rate their internet service, a majority of respondents rated it as good/excellent (74%). This internet access satisfaction rating is significantly higher than the standard ORS where only 55% of respondents rated overall internet service as good/excellent and 60% rated their mobile internet access as good/excellent. An even higher percentage of respondents to this survey rated the device they most often used to access the internet as good/excellent (84%). These results were slightly higher than those of the standard ORS were respondents indicated that the device they most often use to access the internet is good/excellent (78%).

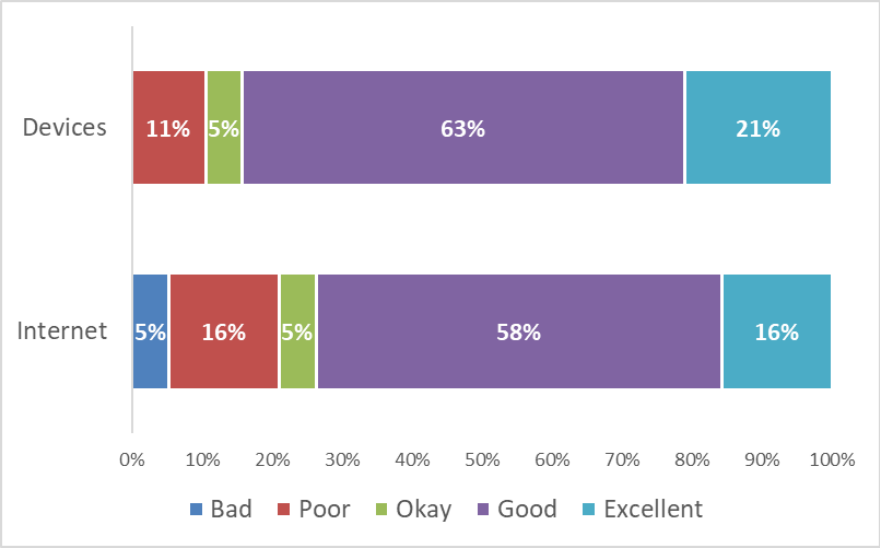

Figure 71 - TRS Respondents' Satisfaction with Internet Service and Device Quality (Figure 71 Data)

Respondents were frequent users of the internet, with 79% indicating they use it every day.

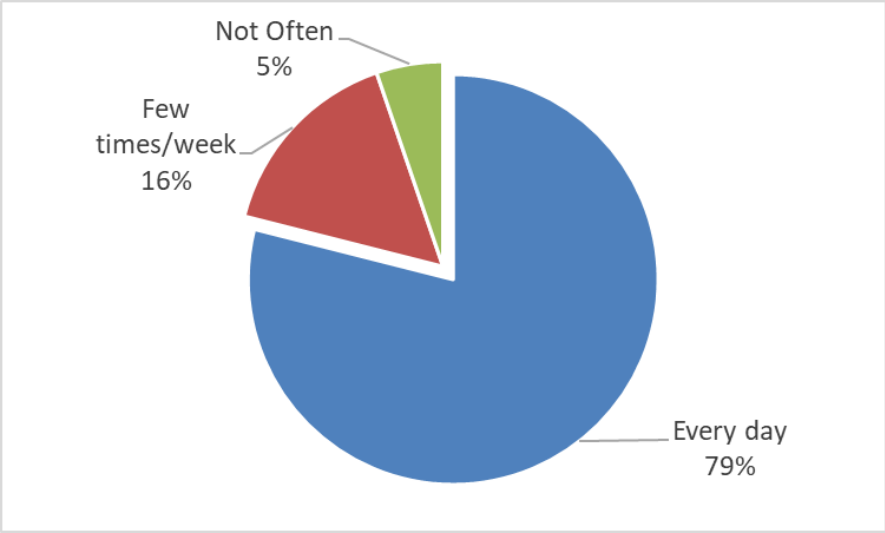

Figure 72 - TRS Respondents' Frequency of Internet Usage

When respondents were asked how they used the internet, email, social media, and general web surfing was the highest single usage (36%), followed by online services such as banking and shopping (19%) and reading (16%). Email, social media, and general web surfing, reading, and shopping were also the highest use of the internet in the standard ORS.

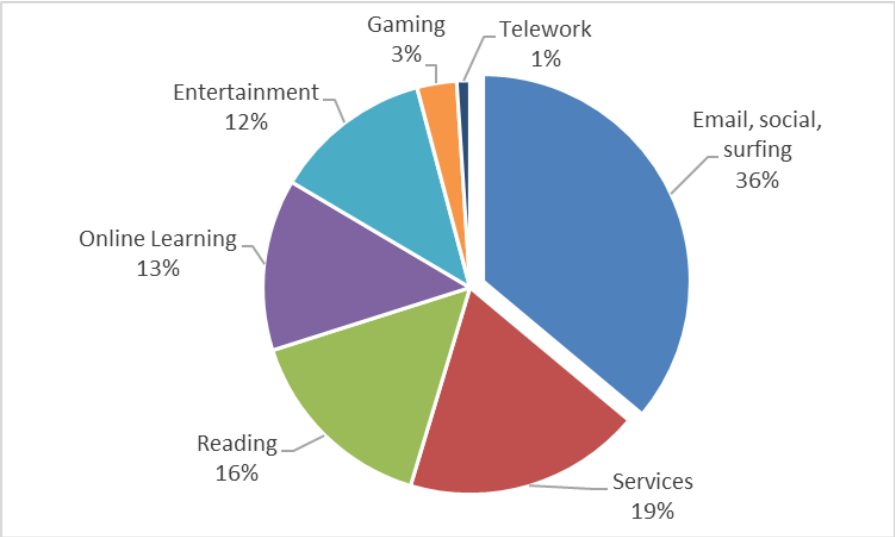

Figure 73 - TRS Responses on Internet Usage

Respondents were asked to rate their ability to live, learn, and work in a society where communication and access to information is increasingly through digital means like the internet, websites, online applications, email, etc. The findings were similar to the larger standard ORS, with 75% responding good/excellent.

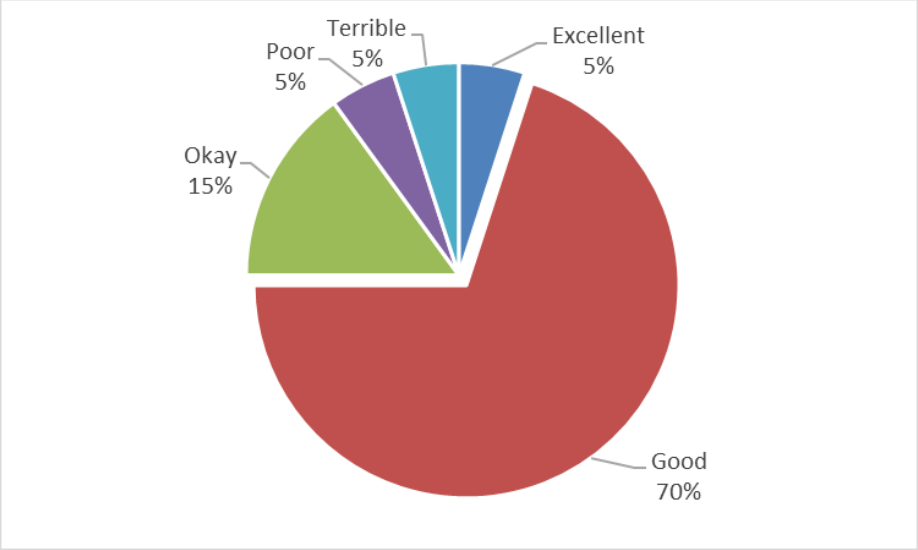

Figure 74 - TRS Respondents' Ability to Live in a Digital Society

Finally, when asked if they had any comments, respondents mentioned the desire to learn more about computers, apps, and the internet, as well as have faster access speeds.

Results of Marin Housing Authority Targeted Resident Surveys

A targeted survey of residents living in Marin Housing Authority's (MHA) Golden Gate Village in Marin City was conducted in both English and Spanish. MHA distributed the survey via email to their residents.

A total of 183 responses were received. Specific demographic data was not requested as part of the survey process. Speed tests were not performed as part of this survey.

Respondents were asked where they access the internet. While 90% indicated that they access the internet from home, over half (52%) use their cell phone at no specific location.

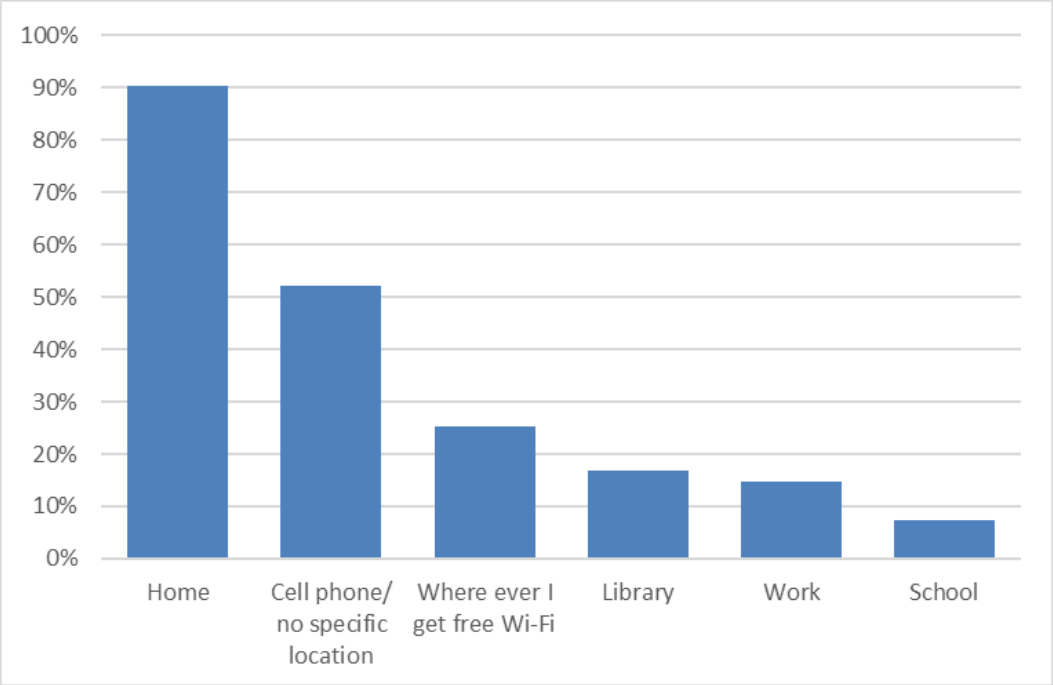

Figure 75 - MHA Respondents' Location Accessing the Internet

Only 5% of the respondents did not have internet access at home. When ask why, a majority indicated that service is too expensive (67%). This finding is in line with all other survey findings as a top reason that residents do not have internet access at home.

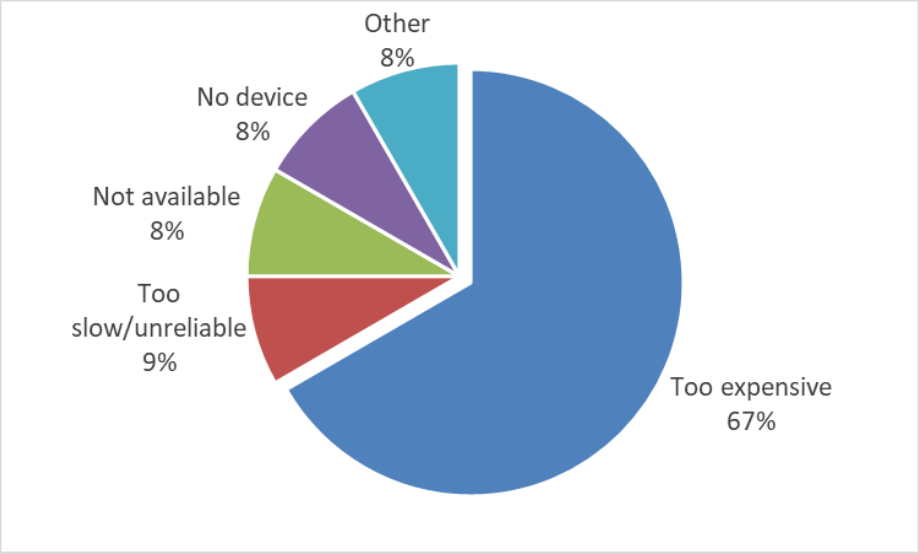

Figure 76 - MHA Respondents' Reasons for Not Having Internet at Home

For residents who do have internet access at home, Comcast is once again the provider for a majority of them (71%).

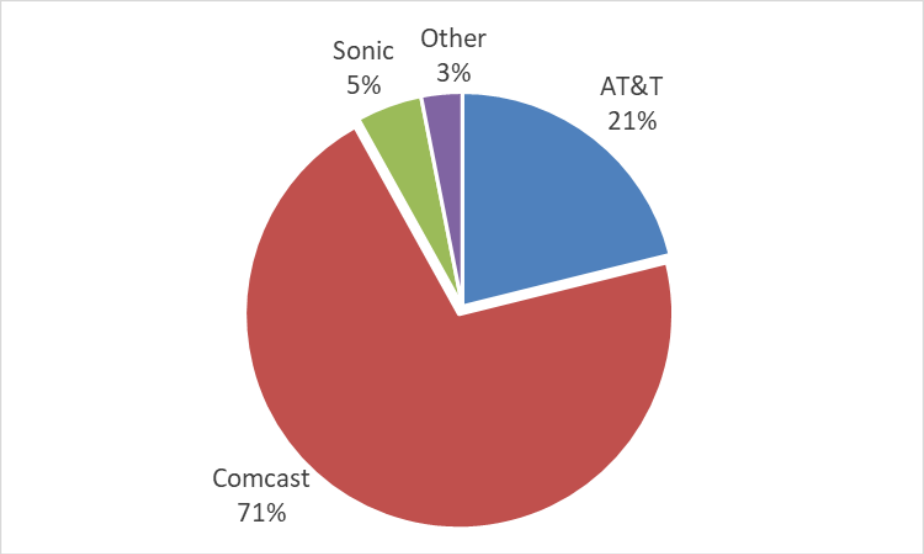

Figure 77 - MHA Respondents' Internet Service Provider

When asked to rate satisfaction with their overall internet service, about half of respondents rated it as good/excellent (54%). This satisfaction rating is similar to the standard ORS where 55% of respondents rated overall internet service as good/excellent. As a single aspect of service, reliability had the highest percentage of good/excellent responses (51%), again similar to the ORS findings (56%). Price had the highest level of dissatisfaction with 38% responding bad/terrible, similar to ORS respondents (44%).

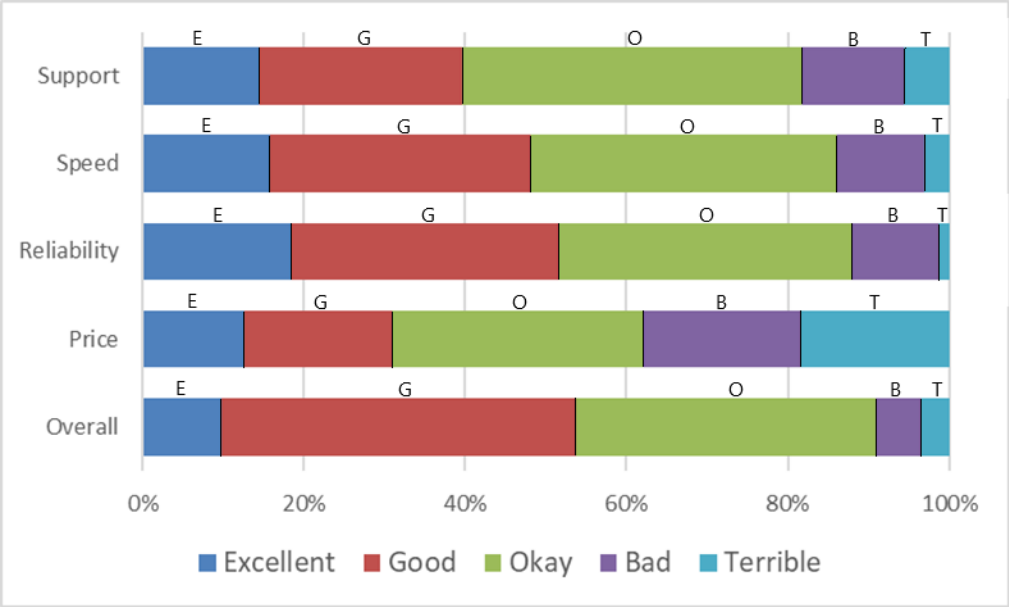

Figure 78 - MHA Ratings of Satisfaction with Internet Service

When respondents were asked what devices are connected to their home internet service, 173 respondents reported a total of 443 devices. A 2020 study regarding consumer electronics found that U.S. households on average have 10 connected devices in the home. At less than three (3) per household, survey respondents fell well below that level. While part of the reason may be under-reporting, especially of Internet of Things (IoT) devices such as security systems, TVs, personal assistants, streaming devices, smart devices, etc., even a more accurate count would most likely still fall well short of the U.S. average of 10, and even the ORS average of 8.5 per household.

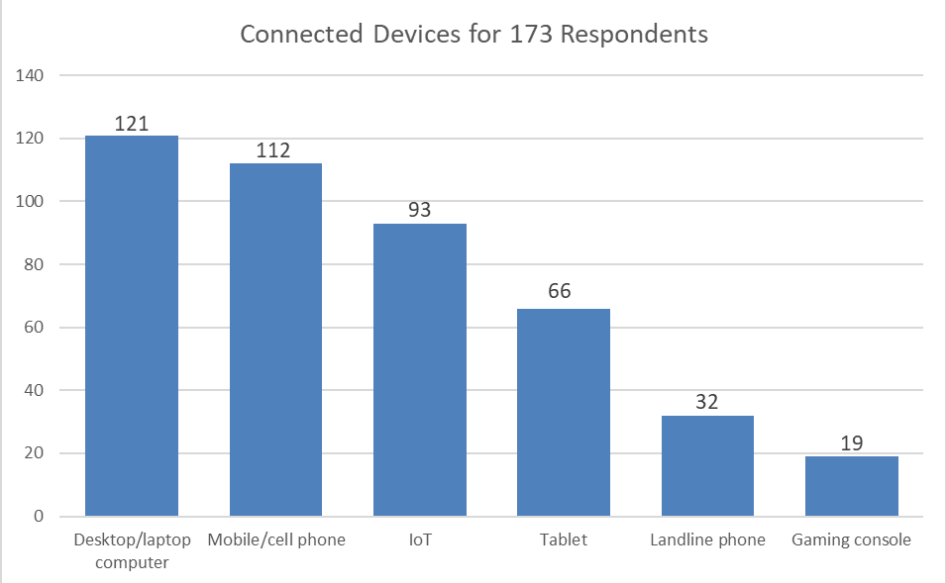

Figure 79 - MHA Respondents' Devices Connected to the Internet

While the same 2020 study found that the average household has two computers, these survey respondents averaged less than one. With nearly 19% of households having landline phone service, these Respondents are also well below the U.S. average of 37% found in two 2020 studies.

Next Steps

Thank you to everyone who participated in the Needs Assessment process and supported development of this Report. The next step in the process is to draft the Strategic Plan and seek adoption and endorsement by as many organizations across all Marin's communities and sectors as possible. Additionally, the Digital Marin project team, with assistance from the ESC and Community Work Group members, is identifying funding sources to both create an operating entity to implement the Strategic Plan and pursue projects that meet Marin's digital needs.

Table of Figures

Appendix A: Select Survey Data

Figure 13 Data

Aspect	No Opinion/Don't Care	Not Important	Somewhat Important	Very Important	Critical
Internet Service Overall	1	0	1	14	27
Performance/speed	0	0	4	21	18
Price	0	1	12	20	10
Reliability	0	0	0	10	33
Technical/Customer Support	0	2	10	18	13

Figure 14 Data

Aspect	Very Bad/Terrible	Bad	Neutral	Good	Very Good/Excellent
Technical/Customer Support	4	7	17	9	4
Reliability	4	5	10	18	6
Price	2	12	15	11	3
Performance/speed	1	11	7	18	5
Internet Service Overall	2	7	7	23	5

Figure 16 Data

Item	Overall Rank	Score
Available services are too expensive	1	21
High speed internet is not available to this location	2	18
Available services are too slow or unreliable	3	16
Access internet elsewhere (work, school, library, public/free Wi-Fi, etc.)	4	15
Smartphone meets internet access needs	5	15
Do not need internet services	6	0

Figure 19 Data

Aspect	Excellent %	Good %	Neutral %	Bad %	Terrible %	Total
Reliability (up time)	40.91%	45.45%	6.82%	3.41%	3.41%	88
Speed	29.76%	42.86%	14.29%	11.90%	1.19%	84
Technical Support	39.53%	32.56%	23.26%	2.33%	2.33%	86

Figure 32 Data

Aspect	None/NA	Poor	Fair	Good	Excellent	Total
Internet access speeds/quality	0	0	3	7	2	12
Applications/systems that you use routinely	0	0	3	9	0	12
Applications to deliver services online	1	0	6	4	1	12
Data-sharing with other programs/organizations	1	1	4	6	0	12
Your level of digital literacy	0	0	3	9	0	12
Your organization's overall level of digital literacy	0	0	8	4	0	12
Your recipients' level of digital literacy	0	4	6	2	0	12

Figure 37 Data

Aspect	None/NA	Poor	Fair	Good	Excellent	Total
Internet access speeds/quality	0	0	2	10	4	16
Applications/systems that you use routinely	0	1	4	9	3	17
Applications to deliver services online	2	3	5	7	0	17
Data-sharing with other programs/organizations	0	9	3	3	1	16
Your level of digital literacy	0	0	3	11	3	17
Your program teams' overall level of digital literacy	0	0	7	8	2	17
Your program recipients' level of digital literacy	1	5	9	2	0	17

Figure 44 Data

Value	Percent	Responses
Home	45.40%	394
Library	16.40%	142
Mobile/cell phone; no specific location	81.20%	705
Restaurant or coffee shop	26.00%	226
School	6.70%	58
Work	33.30%	289
Other - Write In	9.90%	86

Figure 50 Data

Value	Percent	Responses
Basic television channels	40.90%	219
Premium television channels (HBO, sports packages, etc.)	32.80%	176
HDTV high definition television	39.40%	211
Telephone (plain-old local/long distance, VoIP, virtual PBX, etc.)	43.80%	235
Surveillance, security, or other monitoring	8.60%	46
Cloud services (computing, storage, etc.)	20.10%	108
Data archiving or backup	9.00%	48
Website or email hosting	15.10%	81
Other - Write In	3.20%	17
None of the above; internet access only	25.70%	138

Figure 51 Data

Aspect	Terrible	Bad	Neutral	Good	Excellent	Responses
Service overall	31	65	142	240	61	539
Price	72	170	162	100	32	536
Reliability (up time)	29	73	137	223	76	538
Speed	35	80	153	208	63	539
Customer Service & Technical Support	65	110	172	123	51	521

Figure 52 Data

Internet Access	Never	About once a year	Several times a year	About once a month	About once a week	Every day	Responses
Slowdown	52	67	128	83	106	89	525
Outage	59	126	191	58	49	28	511

Figure 54 Data

Item	Overall Rank	Score
Available services are too expensive	1	169
High speed internet is not available to this location	2	117
Available services are too slow or unreliable	3	102
Access internet elsewhere (work, school, library, public/free Wi-Fi, etc.)	4	52
Smartphone meets internet access needs	5	44
Other reason not listed here	6	44
Do not need internet services	7	8

Figure 55 Data

Services	Would not want	Not important	Somewhat important	Important	Very important	Responses
Just internet access	0	0	2	11	31	44
Basic television channels	1	8	11	12	12	44
Premium television channels (HBO, sports packages, etc.)	8	11	7	12	6	44
Telephone service (not mobile)	4	4	9	11	17	45
Surveillance, security, or other monitoring	12	8	7	3	11	41
Website or email hosting	7	7	7	9	10	40
Cloud services (computing, storage, etc.)	3	5	8	14	12	42
Data archiving or backup	3	8	7	10	13	41

Figure 57 Data

Aspect	Terrible	Bad	Neutral	Good	Excellent	Responses
Internet access overall	21	59	144	247	86	557
Price	35	105	190	160	67	557
Reliability (up time)	19	52	137	244	109	561
Speed	24	60	183	221	70	558
Customer Service & Technical Support	37	75	222	156	53	543

Figure 60 Data

Category	None or Never	Rarely (once a month or less)	Occasionally (2-3 times per month)	Regularly (once per week or more)	All the time (daily or more)	Responses
Email, social media, and surfing the web	5	1	2	24	537	569
Gaming	284	41	43	70	93	531
Online school (K-12 and Higher Education)	331	25	15	62	91	524
Other online learning and education	120	73	90	159	96	538
Shopping	12	46	124	261	125	568
Reading or watching the news	12	15	37	119	376	559
Selling items online	260	174	55	28	22	539
Teleworking or working from home	150	23	28	61	290	552
Entertainment, music, movies	23	30	54	141	309	557
Interpersonal communications: email, social media	4	2	7	74	469	556

Figure 71 Data

Type	Bad	Poor	Okay	Good	Excellent
Devices	0%	11%	5%	63%	21%
Internet	5%	16%	5%	58%	16%