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Community Technology Needs Ascertainment Report

Part of

YOUR VOICE

communications technology

An initiative of the Mt. Hood Cable Regulatory Commission

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EXECUTIVE SUMMARY

The Mt. Hood Cable Regulatory Commission (MHCRC or “Commission”), in conjunction with CBG Communications, Inc. (CBG) and its team partners, Riley Research Associates, Dr. Constance Book of Telecommunications Research Corporation and Carson Hamlin, Media Integration Specialist, has conducted an extensive Community Technology, including cable-related, Needs and Interests Ascertainment (“Needs Ascertainment” or “Study”) covering a wide variety of Sectors, Stakeholders and Demographic Populations within the jurisdictions that are members of the MHCRC (Cities of Fairview, Gresham, Portland, Troutdale and Wood Village and Multnomah County, Oregon).

A primary focus of the Needs Ascertainment, was on community needs and interests regarding “Communications Technology”, which means the tools, methods, services, and support infrastructure that people and organizations use to communicate. An emphasis was also placed on cable communications-related needs and interests, since the MHCRC is currently engaged in the cable franchise renewal process, which requires an understanding of such needs and interests as part of the overall ascertainment.

The MHCRC also recognized the need to understand barriers more deeply for known disparities in technology access and adoption for people of color, people living with disabilities and seniors. MHCRC hired a local consultant, Esper House, to design and implement in-person data collection activities to engage these target populations in the Needs Ascertainment. In this regard, the Needs Ascertainment reflected the MHCRC’s long-standing commitment to digital equity and inclusion.

The Sectors and Stakeholders ascertained were broad-based and covered a variety of components of the overall community, such as residential, government, education, non-profits, community media, healthcare, business, and others.

A variety of ascertainment methodologies were utilized, including a statistically-valid, scientific residential telephone survey, a qualitative public online survey, a community online media producers/users survey, focused discussions (from small groups to workshop), interviews and review of a wealth of related studies, technology plans, activity reports and other materials and research.

At a high level, the MHCRC wanted to gather information that would help answer six key community technology-related questions, as they pertained to the Sectors, Stakeholders, and Demographic Populations in Multnomah County. These questions were:

- 1) What is the level of communications technology and services in our communities today?
- 2) What barriers are creating inequalities for underserved communities?
- 3) What are our communities' communication technology future needs and interests (two-ten years)?
- 4) What is the role of local government in meeting the communications technology-related needs of our communities?

- 5) What has been the impact within our communities of the existing public benefit requirements of the cable franchise agreement?
- 6) How have our communities' access to communications technology changed in the past 10 years?

Sixty-six lead research questions were developed and then mapped to the ascertainment methodologies in order to best answer the key questions.

Below is a listing of the Findings from the Needs Ascertainment.

Key Question #1: What is the level of communications technology and services in our communities today?

Finding 1.1: Approximately two in ten Multnomah County residents do not have wireline internet service in the home.

Finding 1.2: Residents increasingly access the Internet at places outside the home and increasingly use their own portable devices to do so.

Finding 1.3: Stakeholders and Sectors access content and information through multiple platforms and through multiple devices for every aspect of daily life.

Finding 1.4: Hyperlocal community media programming is seen by residents as important and is significantly viewed.

Finding 1.5: The most trusted sources for local news and neighborhood content vary, but non-commercial and culturally-connected entities appear to garner substantial trust.

Finding 1.6: Communities are creating and sharing an increasing amount of local content through multiple platforms.

Finding 1.7: The primary factors in the adoption of communications technology are necessity, comprehension, utility, and accessibility.

Finding 1.8: The value and benefit of free WiFi outside of the home is high.

Finding 1.9: People communicate with local government and civically engage in a variety of ways increasingly supported by communications technology.

Finding 1.10: The technology level of the community has a tremendous influence on the local economy.

Finding 1.11: Home Broadband Internet availability substantially affects the community's economic prosperity and opportunity.

Finding 1.12: The majority of residents and businesses view the Internet as an essential utility.

Finding 1.13: Cable companies have made some strides in the last ten years in developing better and more responsive customer service, but still are not well-regarded in this area.

Finding 1.14: The ability to contact a cable company by phone to resolve an issue remains important to customers.

Finding 1.15: The users of community media facilities, at MetroEast and Open Signal are well satisfied with the centers' operations and use centers' resources to produce and distribute diverse content.

Finding 1.16: The single biggest driver of network bandwidth growth and higher speeds, as was emerging 10 years ago, is video and graphic communications.

Finding 1.17: The current level of communications network infrastructure in Multnomah County communities today is high, but also adds to the digital divide.

Key Question #2: What barriers are creating inequities for underserved communities?

Finding 2.1: People are less likely to have Internet at home due to lack of perceived need, cost, and the relationship between the two.

Finding 2.2: An affordable monthly cost for home Internet service is "free" for many, and a "reasonable" cost is lower than most pay now.

Finding 2.3: Besides cost, a primary factor in non-adoption of communications technology is a lack of understanding and training regarding the uses of such technology.

Finding 2.4: Online security and privacy is a substantial concern.

Finding 2.5: There are many trusted entities to assist with education and training on Internet and/or multimedia technology.

Finding 2.6: Support for promotional efforts regarding multimedia and digital literacy training, as well as access to low or no-cost access to the Internet, needs to be increased. Although organizations are working to promote awareness of low-cost and free Internet services, organizational capacity, and resources to do this work is limiting those efforts.

Finding 2.7: Persons with disabilities are very aware of assistive technologies and use them continually, but have multiple issues with using them successfully.

Finding 2.8: The lack of home Internet service and digital literacy will negatively impact a person's employment opportunities.

Key Question #3: What are our communities' communication technology future needs and interests (two-ten years)?

Finding 3.1: Cost must be removed as a barrier for residents to have access to and effectively use the communications technologies they need.

Finding 3.2: As communications technology becomes more integral to many facets of life, new iterations will benefit those who can continually invest in them, but could also further exasperate the digital divide.

Finding 3.3: Video, geospatial technologies, and artificial intelligence are critical technologies that local governments will need to support transparency, sharing information, and effective service provision.

Finding 3.4: To achieve digital equity, the most important characteristics of communications technology going forward are Universal Design and affordability.

Finding 3.5: Fiber broadband infrastructure must continually expand to keep pace with residential and business demand.

Finding 3.6: Digital literacy, and the ability to adapt those skills to new technologies, is a primary employment skill most relevant for future prosperity and opportunity in the digital-age economy.

Finding 3.7: Future technologies will enhance relevant, local, diverse content by engaging the recipient (viewer, reader, listener, etc.) in more meaningful, intuitive and targeted ways.

Finding 3.8: Public institutions anticipate a high level of participation and engagement with new communications technologies, but not by all residents.

Finding 3.9: Emerging and new technologies will need to use the public right-of-way and assets to perform effectively.

Key Question #4: What is the role of local government in meeting the communications technology-related needs of our communities?

Finding 4.1: The community strongly supports local government working to ensure Internet services and devices are affordable and available to all, but for digital and multimedia literacy training, the supported approach is through partnerships with trusted community organizations and entities.

Finding 4.2: As the public and businesses increasingly view Internet service as an essential utility, local governments may need to develop a higher level of involvement.

Finding 4.3: Pursuit of local public policies that protect security and privacy of an individual's information from being shared or monitored by communications service providers is well supported by the universal importance placed on these issues by residents.

Finding 4.4: People with disabilities believe government should lead in accessibility inclusion, as well as compliance with ADA standards.

Finding 4.5: Local governments need to ensure public safety, neighborhood aesthetics, and overall quality of life are not negatively impacted by new technologies that use public right-of-way and assets.

Key Question #5: What has been the impact within our communities of the existing public benefit requirements of the cable franchise agreement?

Finding 5.1: PEG/I-Net fees, provided via requirements of the cable franchise agreements, have been integral in funding technology used to produce local video content and expand use of the I-Net.

Finding 5.2: The Community Technology Grants, funded by cable franchise provisions, have substantially contributed to expanding local participation in digital society.

Finding 5.3: The TechSmart Initiative for Student Success, funded through public benefit requirements of the cable franchise agreements, has provided critical teaching and learning technology for public schools and the students they serve.

Finding 5.4: The community media centers and associated community access channels, enabled and funded in part by cable franchise agreement provisions, continue to foster the development of hyperlocal programming by and for residents throughout Multnomah County.

Finding 5.5: The Institutional Network (I-Net), a private-public partnership required under the Comcast franchise agreement, has provided long-standing reliable and affordable network connectivity for hundreds of public facilities.

Finding 5.6: Franchise fees, paid by cable companies as part of the compensation for their private business use of the public right-of-way, continue to have a high value for the MHCRC member jurisdictions.

Finding 5.7: The cable franchise public benefit requirements have supported efforts to expand digital inclusion.

Key Question #6: How have our communities' access to communications technology changed in the past 10 years?

Finding 6.1: Network capacity is substantially higher today than it was 10 years ago.

Finding 6.2: People continue to access content in more, new, and different ways, while maintaining the need, because of the diversity of the population, to provide content in traditional ways.

Finding 6.3: More people are creating video content on their own, but are still using the low-cost training and higher capability equipment and facilities provided by the community media centers.

Finding 6.4: A smaller percentage of households have cable TV and more households have broadband and Internet services in comparison to 10 years ago.

Finding 6.5: Residents' views about a local government role for protection of privacy, security, and consumer issues and regulation of the public right-of-way have not changed since 10 years ago, although concerns about these issues have increased.

STUDY PROCESS AND METHODOLOGY

Background

The Mt. Hood Cable Regulatory Commission (‘MHCRC’ or ‘Commission’) contracted with CBG Communications Inc. (‘CBG’) in April 2019 to conduct a Study of local community use of and needs for communications technology. The Study followed up on similar work completed in 2010 under the MHCRC’s Your Voice, Our Communications Technology initiative¹. The current Study, also referred to as a “Community Technology Needs Ascertainment,” (hereinafter “Study” or “MHCRC Study”) provided an opportunity to document changes in communications technology over the past 10 years, assess present technology use and availability, and project future needs of local communities. The geographic area for the Study reflects the MHCRC service area, which includes the cities of Portland, Gresham, Fairview, Troutdale and Wood Village, and unincorporated Multnomah County (MHCRC Jurisdictions).

Specifically, the Study explored the following key questions:

- 1) What is the level of communications technology and services in our communities today?
- 2) What barriers are creating inequities for underserved communities?
- 3) What are our communities’ communication technology future needs and interests (2-10 years)?
- 4) What is the role of local government in meeting the communications technology-related needs of our communities?
- 5) What has been the impact within our communities of existing public benefit requirements of the cable franchise agreement?
- 6) How have our communities’ access to communications technology changed in the past 10 years?

The MHCRC also recognized the need to more deeply understand barriers for known disparities in technology access and adoption for people of color, people living with disabilities, and seniors. The MHCRC hired a local consultant, Esper House, to design and implement in-person data collection activities, in partnership with local, culture-specific organizations, to engage these target populations in the Study. Esper House also advised on issues of cultural inclusivity for the broader study methods to assist in representative participation in data collection.

In this regard, the Study reflected the MHCRC’s long-standing commitment to digital equity and inclusion. For the purposes of this Study, digital equity means everyone has sufficient access to, and understanding of, information and communications technologies, regardless of socioeconomic status, physical ability, language, race, gender, or any other characteristics that have been linked with unequal treatment and/or outcomes. Digital inclusion refers to the processes, strategies and activities undertaken to reach the goal of equity.

¹ For purposes of promoting participation in the current Study, it was branded similarly as “Your Voice, Communications Technology”

Although the Study's local data and related trend and data analysis will help inform decision-making by elected officials, public agencies, community organizations, and others on local communications technology policy, initiatives and services, the primary known uses are to inform:

- Public benefits for cable services franchise renewals (MHCRC, MHCRC Jurisdictions);
- Phase II of the Digital Equity Action Plan of the City of Portland, Multnomah County, and Multnomah County Library;
- Status and potential update to the Portland Broadband Strategic Plan, led by the City of Portland, Office for Community Technology; and
- Community media and digital inclusion services provided by Open Signal and MetroEast Community Media.

For purposes of this Study, the term *communications technology* primarily means the tools, methods, services, and support infrastructure that people and organizations use to communicate. This can encompass a variety of components including:

- Network infrastructure and services, that carry data, voice, and video signals (i.e. Fiber or wireless networks)
- Services, such as cable television, video streaming, cellular, Internet
- Physical devices/equipment that people use to communicate, such as smart phones, computers, tablets, etc.
- Equipment people use to produce video and multi-media communications
- Software-based applications “apps” downloadable on communications devices

Many of these are interrelated. Depending on the population segment responding to the ascertainment, all can be thought of as a part of communications technologies.

Study Design

Prior to contracting with CBG and Esper House, the MHCRC developed the Study's key questions (listed above), categories, and elements for each category, which provided the framework and focus for the ascertainment design. The full framework, including the categories and elements, can be found in Attachment 6 - Project Planning Materials. As an example, one of the identified categories, “Access to Technology”, included the following elements: geographic accessibility; affordability; adoption/utilization; multimedia literacy; capacity/speed; and mobility.

In addition, the Commission identified key sectors, stakeholders, and demographic populations for inclusion in the Study².

As examples, key sectors included education, non-profits, and healthcare; stakeholders included cable subscribers, MHCRC Community Grants recipients, and MHCRC Jurisdictions; and, as noted above, target demographic populations included communities of color, people living with disabilities, and seniors.³

² See Attachment 6 – Project Planning Materials.

³ For purposes of the Study, “seniors” are defined as persons age 65 and older.

In May through early October 2019, CBG, MHCRC staff, and Esper House undertook in-depth planning to design the ascertainment lead research questions and corresponding data collection methods for data sets that would produce Study findings for each key question. This design planning process included seeking input and vetting initial drafts of lead research questions to better understand what information and data would be useful to the primary ascertainment constituencies about the communities' needs for and use of communications technologies.

Those constituents included, among others: Open Signal and MetroEast Community Media; the Digital Inclusion Network; Multnomah County Library; City of Portland staff living with disabilities; the Portland Smart Cities Steering Committee; and elected officials and staff of the MHCRC Jurisdictions. The full list of people that were part of the vetting process is included in Attachment 6 – Project Planning Materials.

This process led to the final set of 66 lead research questions grouped under the Study's key questions. CBG developed a data map to show the relationships and interrelationships among the key questions, lead research questions, categories, and elements. The list of lead research questions and the data map graphic can be found in Attachment 6 – Project Planning Materials.

Once the lead research questions were finalized, CBG and Esper House developed local data collection methods to produce data sets that would inform the lead research questions. CBG further mapped the lead research questions and data collection methods to the stakeholders, sectors, and demographic populations to be assessed. This was a detailed process that involved CBG (including our research team partners Telecommunications Research Corporation, Riley Research Associates, and Carson Hamlin, Media Integration Specialist), MHCRC staff, and Esper House. As the data map spreadsheet was refined, it became evident that not every lead research question would potentially be informed by the ascertainment's locally-gathered data. Accordingly, CBG and MHCRC staff identified other local, state, and national data that could inform certain lead research questions or portions of questions as part of developing the Study's findings.

The data map spreadsheet also enabled Esper House to design their data collection activities with their community partners to obtain relevant qualitative data from people of color, seniors, and people living with disabilities.

As an example, the lead research question “What are the primary factors in how and where people access the Internet?” was mapped to multiple data collection methods across multiple sector and stakeholder groups, including:

- The Scientifically-valid Residential Telephone Survey,
- The Qualitative Public Online Survey,
- The Esper House focus groups and interviews,
- The local government/MHCRC jurisdictions focus groups/meetings, and
- Data gathered as part of surveys and a study conducted in Multnomah County.

All data collection methods are discussed in further detail in the next section.

Data Collection

The MHCRC Study data collection was completed primarily between October 2019 and March 2020, with the Community Media Survey remaining open through April 2020.

It's important to note that, except for one survey noted above, nearly all the data was gathered prior to the COVID-19 pandemic emergency stay-at-home order issued for Multnomah County in mid-March 2020. A substantial amount of research between March 2020 and the date of this report shows that communications technology is integral to the functioning of our society, especially related to education and telework. CBG has reviewed a portion of that research and, wherever applicable (i.e. where CBG believes the new data has impacted, augmented, or reinforced a finding), the research is described and footnoted as part of the finding.

Both CBG and Esper House conducted activities to collect local data for the Study. MHCRC staff also provided existing data related to several programs they oversee. Further data was gathered as part of independent surveys and a study conducted in Multnomah County. To supplement the local data collected through the activities outlined below, CBG reviewed a wealth of local, state and national studies and other research. Data sources are noted throughout the report and a list of other research utilized is compiled in Attachment 7 - Data Resources Bibliography

CBG Data Collection

➤ Scientifically-Valid Community Technology Residential Telephone Survey

A 52-question, random-sample, scientifically-valid telephone survey of 630 area residents, including a sampling of cable subscribers, was conducted by CBG Communications' partner, Riley Research Associates (RRA) and included both landline and cell phones. Spanish language interviewers were made available as needed. The survey employed a methodology for respondents to best reflect the Study's demographic groups of age, ethnicity, persons with disabilities, geographic location, and home ownership for Multnomah County based on US Census Bureau data. Detailed findings and analysis from this survey are reported in Attachment 2. – hereinafter “Scientific Residential Survey Report”. Full survey results can be found in Attachment 2.A – hereinafter “Scientific Residential Survey Results”. Survey results from the Study's target populations are provided in Attachment 2.B – hereinafter “Scientific Residential Survey Underserved Community Results”.

➤ Qualitative Community Technology Public Online Survey

CBG developed a qualitative community technology public survey, conducted primarily online in English and Spanish, to assist with more deeply understanding community members' current and future communications technology needs and barriers to connectivity. For example, respondents who identified as a person or household living with a disability or, those without Internet access at home, answered some specific questions along with the overall survey questions. Respondents, who lived and/or worked in Multnomah County completed 442 surveys. Detailed findings and analysis for this survey can be found in Attachment 3. – hereinafter “Qualitative Public Survey Report”. The full Qualitative Public Survey results can

be found in Attachment 3.A - hereinafter “Qualitative Public Survey Results”. Specific Study target population results and Open Coded responses can be found in Attachment 3.B – hereinafter “Qualitative Public Survey Open Codes/Underserved Community Results”.

MHCRC staff and Esper House employed several outreach methods to encourage participation in the Qualitative Public Survey by the Study’s target populations, including outreach materials available in Spanish, paper surveys available in English and Spanish, the ability to take the survey by phone in Spanish and English, newsletter postings by community organizations, and Twitter posts. Although the overall number of responses was less than anticipated, the survey successfully hit Census data benchmarks for participation by people living with disabilities, seniors, and people within geographic areas. Survey participation from people of color was underrepresented (27% participation vs. 32% Census population), primarily attributable to lack of successful engagement for people who identified as Hispanic/Latino (8% participation vs. 12% Census population).

➤ **Community Online Media Producer/User Survey**

An online survey was designed for people involved with community media (hereinafter “Community Media Survey”) through Open Signal and/or MetroEast Community Media. The community media centers promoted survey participation through their member newsletters and emails, individual phone calls, and social media. The survey included 33 community media-specific questions and a total of 274 responses were collected. Detailed findings and analysis of the Community Media Survey can be found in Attachment 4 - hereinafter referred to as “Community Media Survey Report”. The full Community Media Survey results can be found in Attachment 4.A - hereinafter “Community Media Survey Results”. The full set of Community Media Survey Open Codes can be found in Attachment 4.B - hereinafter “Community Media Survey Open Codes”.

➤ **I-Net Stakeholders**

A significant amount of documentation was reviewed related to the use of the Institutional Network (I-Net) a fiber-based communications network, to assess current and future I-Net needs. This included: I-Net survey results from 2005 and 2009 (to obtain baseline information for ten-year comparative purposes); I-Net site documentation provided by MHCRC staff; and the CTC Fiber Optic Needs Assessment Report (2018). The I-Net data review is summarized in Attachment 1.B – hereinafter referred to as I-Net Review Summary.

➤ **MHCRC Grant Recipients’ Reports**

As part of the Study planning, a survey was designed for MHCRC Community Technology Grant and TechSmart Initiative grant recipients. However, it was timed for March 2020 and ultimately could not be implemented because of the impact of COVID-19 on grantees’ abilities and capacity to participate. Accordingly, MHCRC staff provided qualitative and quantitative data from an analysis of grant applications and Final Reports from MHCRC Community Technology Grant recipients, for grants awarded between 2012 and 2019. Additionally, a spreadsheet delineating TechSmart Initiative grants awarded between 2014-2019 was also

provided by MHCRC staff. The spreadsheet provided information on the public school districts receiving the grants, the projects that were funded and the amount of funding provided in each case. This information was evaluated and is referenced at certain points in the Study findings.

➤ **Focus Groups/Workshops/Interviews – Sectors and MHCRC Stakeholders**

A substantial amount of data was gathered through focus groups, a workshop, and interviews, focusing on sectors and MHCRC stakeholders (further described in Attachment 6 - Project Planning Materials). Focus group discussion guides, related PowerPoint guide materials, interview guides and, in some instances as noted below, companion surveys, were developed to obtain qualitative data from these sectors and stakeholders. The method used and the representatives engaged in the group discussions and interviews are described below.

Detailed Notes from each group discussion and interview can be found in Attachment 1, Workshop, Focus Group, and interview Discussion Notes (hereinafter “Discussion Notes”).

- City of Portland: Three communications and community outreach representatives from the Fire Bureau, Development Services, and the Office of Management and Finance participated in a focused discussion. Surveys regarding communications technology use for internal operations were also received from the three participating bureaus.
- City of Gresham: A focused discussion was held with seven representatives from multiple agencies including executive administration, technology, communications, community engagement, and digital media production.
- Cities of Troutdale, Fairview, and Wood Village: A focused discussion was held with five city employees representing communications, executive administration, and information technology functions of the cities. Supplemental surveys and additional information were received from each City.
- Multnomah County: Six County employees who manage technology and network services and infrastructure for the County and Multnomah County Library engaged in a focused discussion. A supplemental survey was also received.
- Multnomah County Library: Nine branch librarians and related staff from libraries that serve high poverty areas throughout the County participated in a focused discussion.
- Community Media Centers and Access Channel Providers: Focused discussions and interviews were held with five organizations whose mission includes media and technology training and hyperlocal content production. These included:
 - Open Signal: CBG conducted a focus group with 14 Open Signal staff, including the executive director and personnel from production services, media education, equity and inclusion, information technology, and facilities.

- MetroEast Community Media (MetroEast): CBG held a focused discussion with four staff, which included the CEO, the Operations Coordinator, the head of Production and the Digital Equity and Inclusion Program Manager.
- Portland Community College Media Services: A focused discussion was held with the Director of Marketing and five staff of the Media Services Department, which programs its Access Channel.
- Portland Community College Multimedia/Video Production Curriculum Department: CBG conducted an interview and site visit with the Department Chair/Instructor at the Cascade Campus.
- Portland Public Schools Access Channel: CBG conducted an interview and site visit with the Manager of Multimedia Services and the Communications Department where the production facilities are located.
- Digital Inclusion Network (DIN): A focused discussion was held with 20 DIN participants, including non-profits, governmental agencies, and others working on digital inclusion, multimedia literacy, and other Internet adoption issues surrounding equitable access to communications technology. Four follow-up surveys were also received from DIN members.
- Public School Districts: A two-hour workshop engaged approximately 30 public school staff members, including school-based principals, technology innovation/integration coaches, district-level curriculum and instruction directors, and technology managers. Participants were from five public school districts within Multnomah County.
- Oregon Health & Science University (OHSU): CBG conducted a long interview with the OHSU Medical Director of Telehealth Services and professor of Pediatrics & Anesthesiology, Division of Critical Care Medicine; and the OHSU Manager of Network Architecture and Engineering.
- Smart City PDX (City of Portland): CBG interviewed an Equity Advisor to the City of Portland Smart Cities Steering Committee and the Smart City PDX staff within the Bureau of Planning & Sustainability.

➤ **Community Media Review**

Because of the importance of localism for media and communications technology, a focus was placed on ascertainment of local needs and interests related to community media services and access channels provided on the cable systems. As indicated above, this included a survey of community media producers and users, a review of viewers' perceptions concerning community media, and focused discussions and interviews with community media center and community access channel staff.

CBG also analyzed data from the four organizations that program the local access channels. These included Open Signal (OS), MetroEast Community Media (MetroEast), Portland Public Schools (PPS) Channel 28, and Portland Community College Channel 27 (PCC-TV). The analysis included site visits to review facilities and equipment and review of the following:

- Annual production statistics for the channels, including original and imported programming, for the current, preceding, and projected years (including semi-annual reports where available).
- Online streaming and on-demand access usage statistics, including unique visitors and hits for on-demand, streaming and other relevant web information.
- A description of existing facilities and equipment and any planned upgrades.
- Staffing levels and descriptions.
- Operating budgets and projections.
- Program schedule for the channel, including any planned additions or changes (or links to pertinent web URLs).

➤ **Esper House Data Collection**

Esper House conducted qualitative data collection activities, focusing on participation by people of color, persons living with disabilities, and seniors (the Study “target populations”). Esper House, beginning at the end of 2019 and continuing through March 2020, performed a variety of community engagement activities concerning these underserved communities. Esper House built on established relationships with individuals and community partners to outreach to more than 20 community leaders to gauge their interest and capacity for partnering on data collection activities. This resulted in: One engagement session with community leaders who are people of color; three discussion sessions hosted by trusted community-based organizations that engaged people of color and people with disabilities; and nine interviews with individuals who identify as a person of color, person living with a disability, and/or a senior.

The full findings and analysis from the Esper House data collection are included in Attachment 5 - “Underserved Communities Engagement Report Mt Hood Cable Regulatory Commission Community Technology Needs Ascertainment” (May 2020) (hereinafter “Esper House Report”).

➤ **Business Sector**

For local business sector data, CBG relied on a study conducted by CTC in early 2020, on behalf of Multnomah County and the cities that make up the MHCRC Jurisdictions, which resulted in data collected on the communications technology-related needs and interests of the business community. Due to the business sector data being gathered during the same timeframe as the ascertainment data collection that was consistent with the ascertainment data needs, there was no need to duplicate efforts. This data gathered is part of independent surveys and the study conducted in Multnomah County (hereinafter “County Data”).

FINDINGS

The following Study Findings were identified by CBG based on deep analysis of the data gathered through ascertainment activities and obtained from other sources. The Findings are organized under the six Key Ascertainment Questions to provide a comprehensive picture of the communications technology environment for communities and residents in Multnomah County.

Key Question #1: What is the level of communications technology and services in our communities today?

Finding 1.1: Approximately two in ten Multnomah County residents do not have wireline internet service in the home – According to the Scientific Residential Survey Report, over the last ten years, wireline Internet access at home has increased from 72% in 2010⁴ to 82% by the end of 2019⁵; an increase of 10% of the total population or a proportional jump of 14%. The Scientific Residential Survey results further indicate that access at home is primarily broadband via a cable provider: Comcast at 66% of home Internet subscribers; CenturyLink at 22%; and Frontier (now “Ziplay”) at 5%⁶. Respondents to the Qualitative Public Survey showed similar percentages for service provider breakdown. However, 91% of the Qualitative Public Survey’s respondents reported having Internet access at home⁷.

For purposes of this Study, **home Internet “service” or “access”** (adopted “in the home” or “at home”) always **refers to a wireline connection to the home.**

While **most wireline connections are “broadband”** (defined by the Federal Communications Commission [FCC] as being at least 3 Megabits per second upload/25 Megabits per second download), some are not, and instead are slower speed DSL (Digital Subscriber Line) or dial-up connections. The term **“broadband”** will be used in the text when discussing **Internet service that meets or exceeds FCC minimum speeds.**

When discussing **“smartphone” access** to the Internet **at home** as the sole way of accessing the Internet at home, specific reference is made to the use of a smartphone because there is **no wireline Internet connection to the home.**

Of the 18% that don’t have wireline access, as reported in the Scientific Residential Survey, cost remains the most substantial barrier. For example, 43% of those that did not have Internet at home used to and 4 in 10 of those stopped subscribing because of the cost.⁸ Slightly more respondents (42%) indicated no need or no desire⁹, but qualitative studies that have drilled down on this question, pointed to cost as sometimes being the underlying rationale for “no need or no desire”.

⁴ See MHCRC Communications Technology Needs Ascertainment Report (April 21st, 2010)(“2010 Report”), pg. 32.

⁵ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-4.

⁶ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-4. Of the remaining survey respondents with Internet at home, 6% declined to name their home Internet provider and 1% indicated another ISP (Internet Service Provider).

⁷ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-7.

⁸ See Attachment 2.A - Scientific Residential Survey Results, pgs. 2.A-4, and 2.A-5.

⁹ Ibid.

For those that never had Internet at home, 55% reported no need/no desire as an inhibitor to Internet service at home, and 29% reported cost as a reason or barrier.¹⁰

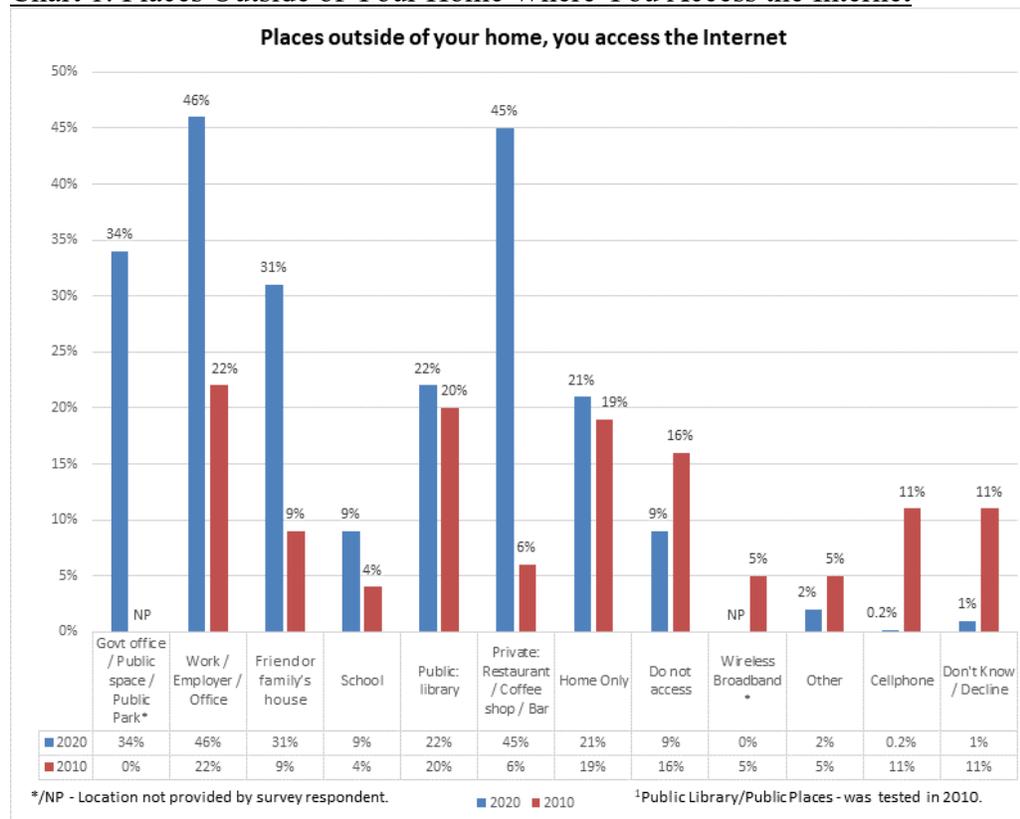
Respondents who answered “no need/no desire” show a significant relationship overall to age (seniors), low income for those that have never had Internet at home, and age (seniors) for those that used to have Internet in the home.

The Scientific Residential Survey question specifically excluded smartphone use in order to determine wireline Internet connectivity at home. Then, respondents who didn’t have home Internet were allowed to give a range of answers as to why.

Only 7% of the Scientific Residential Survey respondents who did not have wireline Internet at home indicated total reliance on a smartphone as the primary reason.¹¹ A slightly smaller percentage of respondents in the Qualitative Public Survey indicated only using their smartphone at home as the reason they do not have wireline home Internet service (5%).¹²

Finding 1.2: Residents increasingly access the Internet at places outside the home and increasingly use their own portable devices to do so – The following chart shows a comparison of 2010 and 2019 data regarding places outside the home where people access the Internet.

Chart 1: Places Outside of Your Home Where You Access the Internet



¹⁰ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-5.

¹¹ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-5.

¹² See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-8.

The number one place continues to be work related. It's also evident that use of publicly available Internet access, typically provided via WiFi, has substantially grown since 2010. The biggest change has been at a restaurant/coffee shop/bar, now at 45%¹³ and in the 2010 Report at only 6%, showing the substantial rise in accessible WiFi at retail business locations. Another notable increase is at public places. At first glance, it appeared access at public libraries has stayed relatively constant, now at 22% vs. 20% in the 2010 Report. However, the 2010 survey combined libraries with other public places. Asked separately during the 2019 Scientific Residential Survey, government office/public space/public park logged a separate response rate of 34% of overall respondents¹⁴.

The comparison overall shows a dramatic rise in use of portable Internet access outside the home, indicating that easy, convenient, access anywhere Internet is increasingly a community need.

Qualitative Public Survey respondents were also asked what devices they use mostly to connect to the Internet outside of their home. Here the smartphone was the biggest single device at 89% of respondents. Many respondents had multiple answers, including 61% who also indicated their computer/laptop and 30% who indicated their I-Pad/tablet.¹⁵

People also access the Internet at community media facilities. Roughly half of the respondents to the Community Media Survey utilized the publicly accessible WiFi and Internet connections at Open Signal (52%) and at MetroEast (46%)¹⁶. Staff at the community media centers indicate that this occurs primarily through clients' portable devices and for the following primary reasons: access is free and reliable; assistance is always available to help navigate the world wide web and get to desired online content; and the centers provide a welcoming environment so clients feel comfortable accessing the Internet at their locations¹⁷. A focus group with staff members from various Multnomah County Library branches (hereinafter "library branch representatives") indicated similar reasons for accessing the Internet at their facilities: free, reliable, and assistance is available when needed¹⁸.

Qualitative findings from the Esper House Report indicate a high reliance on mobile technologies by seniors, communities of color, and persons living with disabilities. Part of this reliance on mobile technologies relates to lack of access through other non-portable devices or a wireline connection at home; part is related to the need for portability in order to "navigate daily life and to meet daily needs"; and part is related to the convenience of utilizing a portable vs. a non-portable device, including the apps that are readily available on non-portable devices¹⁹.

Students, at the Pre-K through 12 level benefit substantially from the access available through their schools. At the Public School Districts workshop, educators noted the importance of having a device available for every student due to the substantial disconnect between the technology some

¹³ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-5.

¹⁴ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-5.

¹⁵ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-10.

¹⁶ See Attachment 4.A - Community Media Survey Results, pg. 4.A-7.

¹⁷ See Attachment 1 - Discussion Notes, pgs. 1-63, 1-65, 1-68, and 1-69.

¹⁸ See Attachment 1 - Discussion Notes, pgs. 1-54 and 1-55.

¹⁹ Esper House Report, pg. 4.

students have available in the classroom versus their much lower capabilities at home, both in type of device and speed and reliability of the Internet connection (or a useable connection at home at all)²⁰.

Review of information gathered from TechSmart grantees, after the workshop and during the COVID-19 pandemic occurring during the writing of this Report, indicates that this gap is exacerbated by students now being in an environment where only online teaching is available and those students who lack technology resources at home are at even more of a disadvantage than under normal circumstances.²¹

Finding 1.3: Stakeholders and Sectors access content and information through multiple platforms and through multiple devices for every aspect of daily life - Continual, seamless access to content through the Internet and other media is highly important to many aspects of life, including work, education, health, entertainment, shopping and a variety of other personal tasks.

Residents

In the Scientific Residential Survey, 50% of respondents indicated that access to the Internet was as essential to them as access to electricity (in other words an essential utility)²². Not surprisingly that number jumped to 87% in the Qualitative Public Survey conducted primarily online²³. According to the Qualitative Public Survey, access to the worldwide web through the Internet as well as to online gaming, social media, an abundance of video and other content, is critical to the news, information, education, and entertainment needs of the general population.²⁴ On the work front, in the Scientific Residential Survey nearly 2/3 of those employed telecommuted at least occasionally with 35% indicating frequently or always²⁵. This was consistent with results from the Qualitative Public Survey with over 2/3 of respondents indicating they telecommuted at least occasionally, with 40% saying always or frequently²⁶ (current national and global data would indicate that this is much higher at the writing of this Report due to the COVID-19 pandemic)²⁷.

Businesses

Findings from the data gathered as part of independent surveys and a study conducted in Multnomah County (“County Data”)²⁸, indicated that many businesses enabled employees to telecommute (with many now more focused on telecommuting based on the current COVID-19

²⁰ See Attachment 1 – Discussion Notes, pgs. 1-6 to 1-9.

²¹ Follow-up interviews with Gresham-Barlow School District TechSmart participants conducted by Pacific Research and Evaluation; April/May 2020.

²² See Attachment 2. – Scientific Residential Survey Report, pg. 2-5.

²³ See Attachment 3.A Qualitative Public Survey Results, pg. 3.A-11.

²⁴ See Attachment 3.B - Qualitative Public Survey Open Codes/Underserved Community Results, generally.

²⁵ See Attachment 2 - Scientific Residential Survey Report, pg. 2-6.

²⁶ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-17.

²⁷ See Attachment 7 - Bibliography, #15.

²⁸ County Data, business survey spreadsheets.

pandemic)²⁹. Businesses also rely heavily on the Internet for access to research, competitive information, and marketing of their own products.³⁰

Educators

School districts within Multnomah County utilize their networks, such as the I-Net, to access multiple applications for internal operations including email, Google Chat and other Google apps, a variety of websites, including the school districts' own websites, training modules for staff, Slack (a chat program), and Microsoft Teams³¹ (online video conferencing and document sharing – now used substantially during the COVID-19 pandemic).

Equally important, if not more, according to educators in the Public School District workshop³², is accessing content in the classroom for curriculum purposes and creating and sharing content using applications like SeeSaw, Google Classroom, Konstella, MailChimp, and WeChat (an App, which has a specific use in Chinese culture).³³

Underserved Communities

Underserved communities access video programming through on-demand, web-based streaming services for entertainment and information purposes, to gather information and news, do research for both personal and professional reasons, way-finding, and for monitoring and communicating about health.³⁴ In fact, health and wellness is a substantial use of the Internet for seniors and people living with a disability.³⁵

Seniors and persons living with disabilities also access content and information to maintain and nurture connections to their families, friends, and social networks. Esper House reports, that “especially in the senior and disabled communities, this connection is important to maintain mental health and alleviate feelings of depression and isolation”.³⁶

Communities of color access content and information connecting them with their ancestral culture.³⁷

Cable Television and Multichannel Video Services Subscribers

Scientific Residential Survey results indicate that the majority (60%) of the general population³⁸ accesses content and information through traditional multi-channel video services, primarily cable

²⁹ See Attachment 7 - Bibliography, #15.

³⁰ County Data, business survey spreadsheets and Attachment 7 - Bibliography, #12.

³¹ See Attachment 1 – Discussion Notes, pgs. 1-1 to 1-2.

³² See Attachment 1 - Discussion Notes, generally from the K-12 Educators Workshop, beginning on pg. 1-4.

³³ See Attachment 1 - Discussion Notes, pgs. 1-4 to 1-6.

³⁴ See Esper House Report, pg. 4.

³⁵ See Esper House Study, pg. 6.

³⁶ See Esper House Study, pg. 6.

³⁷ See Esper House Study, pg. 6.

³⁸ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-1.

television with some satellite service as well (although this was not evidenced in the Qualitative Public Survey, where it was less than the majority, at 40% of the respondents). For both Scientific Residential Survey and the Qualitative Public Survey, the majority of multi-channel video subscribers were Comcast customers.³⁹

Finding 1.4: Hyperlocal community media programming is seen by residents as important and is significantly viewed – Even with the preponderance of video content and information sources, both online and through cable TV and satellite TV program providers, 46% of all respondents to the Scientific Residential Survey were aware of the local community access channel programming available on the cable systems as well as online (57% of cable subscribers were aware, while 34% of non-cable subscribers were aware).⁴⁰

The viewership of the local community access channels, compared to the tremendous wealth of other video offerings and national daily viewing statistics for those offerings,⁴¹ was strong among those that were aware, with 5% watching local community access channel programming daily, 8% weekly, 17% once or twice a month and 34% less often than that. Only a little more than 1/3 had never watched local community access channel programming.⁴²

The majority of those who watch at least once a month (65% of respondents), watch on cable, meaning that cable television continues to be a relevant and predominant way to watch local community access channel programming. This was followed by 21% who reported watching online and 7% who watch both on cable and online, while 7% didn't remember.⁴³

Qualitative Public Survey respondents were asked what types of local programs and content they consider most relevant and important to them. Responses indicate that hyperlocal information is extremely important to them, with 72% indicating “community or neighborhood news” as the most important, followed closely by “local government information and services” at 71%. Educational and arts and cultural information were also highly ranked as important and relevant at 62% and 63% respectively.⁴⁴

As far as how they would like to access local community access channel programs, the answers in the Qualitative Public Survey varied but the top preferred choice was via on-demand streaming video online followed closely by live streaming online based on percentages of use, for every device listed (from TVs, smartphones and tablets, to desktops/laptops and game consoles). The top device preferred for viewing was desktop/laptop followed closely by the television and the smartphone. This information indicates that people want to be able to access local community access channel programs wherever they are, on whatever device they are utilizing.⁴⁵

³⁹ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-1 and Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-3.

⁴⁰ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-3.

⁴¹ See Attachment 7 - Bibliography, #28.

⁴² See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-3.

⁴³ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-3.

⁴⁴ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-6.

⁴⁵ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-6.

It is also important to note that regardless of how often a survey respondent reported watching the local community access channel programming, they considered it important. In the Scientific Residential Survey, cable subscribers provided the highest importance rating at over three-quarters indicating some level of importance (76%), with 40% indicating essential and very important. Non-subscribers gave it a slightly lower importance level (70%),⁴⁶ but overall, respondents indicate that local community access channel programming available through multiple platforms continues to be important.

Finding 1.5: The most trusted sources for local news and neighborhood content vary, but non-commercial and culturally-connected entities appear to garner substantial trust – Although Qualitative Public Survey respondents, named a variety of entities for local news and neighborhood content and information. The number one most trusted source identified was Oregon Public Broadcasting (OPB) and OPB Radio at 28%. Local commercial TV stations and the Oregonian newspaper were reported by a combined 46% of Qualitative Public Survey respondents as a trusted source; and the Willamette Week newspaper and Next Door (a neighborhood app) each came in at 5%.⁴⁷

Community media center staff and producers believe that their programs are trusted sources of content due to the community-centric focus of the media centers, and that the majority of the feedback they receive affirms their belief.⁴⁸ Likewise, educational access channel personnel and governmental communications representatives indicate that they are trusted sources, because they focus on transparency and the provision of critical information. They also indicate the feedback they receive largely concurs.⁴⁹

Esper House notes that communities of color find trusted sources of content in cultural connections where lived experience and language is common.⁵⁰

Finding 1.6: Communities are creating and sharing an increasing amount of local content through multiple platforms - With the hectic pace of daily life (and national and global data suggests also under the stay at home environment during the COVID-19 pandemic), people are less inclined to pursue in-person communications, but instead are using electronic communications means, especially video, to share information and content.⁵¹

Esper House reports that seniors, communities of color, and persons living with disabilities regularly use their communications technology devices and Internet access to create videos and photos for sharing purposes.⁵² This includes sharing with family, friends, and community members. Such media is also used to develop content that advocates and promotes a specific cause or agenda.

⁴⁶ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-4.

⁴⁷ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-7.

⁴⁸ See Attachment 1- Discussion Notes, pgs. 1-64, 1-65, 1-68 and 1-69 and Attachment 4.B - Community Media Survey Open Codes, generally.

⁴⁹ See Attachment 1 – Discussion Notes, generally, Public School Districts Workshop, Public Agency Focus Groups and Educational Access Discussion/Interviews.

⁵⁰ See Esper House Study at pg.5.

⁵¹ See Attachment 7 – Bibliography, #35.

⁵² Esper House Report, pg.5.

For school districts, content is developed and shared among students, teachers, classrooms and district-wide, as well as for outreach purposes to parents and the community-at large. Much of this content is delivered online and through mobile devices. With the typical portability of the population, information created has to be shared on such platforms to be widely available.⁵³

Many entities create video for multiplatform use. This is true of Open Signal, MetroEast Community Media, Portland Public Schools, and Portland Community College that each program access channels of the cable systems.⁵⁴ Portland Community College, for example, while producing video centrally through its Media Services operation, distributes different types of video through its cable and online platforms (e.g., online video for students, and programming of a general community interest via the cable system), seeking to reach different audiences in different viewing environments.⁵⁵

Community access channel programming runs the gamut of content of hyperlocal interest. This includes all types of public affairs, information, live local meeting coverage, coverage of local special events, sports programming, music, dance and theater, arts, and other types of performance video - essentially a wide arc of programming covering a multitude of interests, consistent with the Multnomah County Community at large.⁵⁶

A review of recent activity reports (pre-pandemic) from Open Signal and MetroEast illustrates the diversity of programming produced at the media centers. For example, at MetroEast, the long running show *Community Hotline*, now in its 22nd year, spotlighted over 60 local nonprofits annually in both its English and Spanish language versions. There was also programming produced in conjunction with the League of Women Voters of Portland; programming produced for the East County local governments; live coverage of City Council and County Commission meetings, and coverage of the school board meetings of Gresham-Barlow and Reynolds School Districts; coverage of the Gresham area Chamber of Commerce “Business and Leaders Luncheons” covering multiple community-centric and business-related topics; *Stride for Seniors* covering the work of Meals on Wheels; *Converge 45* focusing on the mission and value of arts non-profits; and *Tucker Maxon* focusing on the parents’ perspective concerning their students at the School for the Deaf and Hard of Hearing.

The programming produced at Open Signal also reflects the diversity of the Portland community. For example, programs covering a variety of community perspectives includes: *Ghetto Rise Media* focusing on community self-improvement; *Flying Focus Video Bus*, which advocates video as a tool for social change; *My Iran*, which is an Iranian variety show in the Persian language; and *AK entre nos*, which is a weekly talk show about Hispanic community issues. Open Signal also supports the production and distribution of Portland City Council meeting and Metro Council meetings. Open Signal further works with local partners such as the Northwest Film Center to

⁵³ See Attachment 1 – Discussion Notes, pgs. 1-1 to 1-11.

⁵⁴ See Attachment 1 – Discussion Notes, generally, Community Media Center Focus Groups and Educational Access Discussion/Interviews.

⁵⁵ See Attachment 1 – Discussion Notes, pgs. 1-72 to 1-74.

⁵⁶ See Attachment 4.B – Community Media Survey Results, pgs. 4.B-5 to 20.

provide films and videos focusing on education and information for residents in Multnomah County and throughout the Pacific Northwest.

Non-profits also indicate the need to deliver content over a wide range of platforms. They work with entities such as Open Signal and MetroEast to create programming that provides information both generally about their organization and services, as well as specific topics.

Nonprofits work collaboratively to leverage available resources to create content in the most cost-effective manner. Capacity issues, including both financial and human resources, are identified by non-profits as the largest challenge in creating content.⁵⁷

People are receiving training to produce a variety of local multimedia content, especially from nonprofits and educational institutions that have specific training components and provide those services at no or low cost. For example, the community media centers and Portland Community College offer digital and multimedia literacy training and education not only in traditional video production, but also graphic arts, performance arts, audio production, virtual and augmented reality, and 3D modeling.⁵⁸ Public schools train students in various forms of content creation, some of which is shared collaboratively for educational purposes.⁵⁹

Much of the multimedia content developed is still delivered in a one-way, downstream fashion from the content producer to the content consumer. However, the rise of social media and services like Instagram and others, and now with the COVID-19 pandemic, the explosion in video conferencing services (such as Zoom)⁶⁰ have enabled content to be more interactive than in the past.

Finding 1.7: The primary factors in the adoption of communications technology are necessity, comprehension, utility, and accessibility -

Necessity

To paraphrase, during the COVID-19 pandemic, “necessity has become the mother of adoption”, as teleworking, telehealth and telelearning have literally expanded beyond anyone’s previous projections. When mobility is not possible because of pandemic-related stay-at-home orders, electronic communication becomes critical. If the form of electronic communication was already well known and well utilized by a person or organization, then those people and organizations were well positioned to carry on with such activities during the COVID-19 pandemic. However, when it was not known but absolutely necessary to continue activities, entities had to become adept at teleworking, telehealth and telelearning in order to continue and carry on necessary activities.⁶¹

⁵⁷ See Attachments 1 – Discussion Notes, Community Media Focus Groups and Digital Inclusion Network Focus Group, generally and 1.A – Grantee Report Summary, concerning the Cable System Technology Use of Community Access Channels.

⁵⁸ See Attachment 1 – Discussion Notes, Community Media Center Focus Groups generally, and pgs. 1-76 and 1-77.

⁵⁹ See Attachment 1 – Discussion Notes, pgs. 1-4 to 1-6.

⁶⁰ See Attachment 7 - Bibliography, #9.

⁶¹ See Attachment 7 - Bibliography, # 15, 29 and 36.

Necessity is a driver of adoption and was noted by every Sector and Stakeholder (lack of perceived necessity is a factor in non-adoption, as explored under Key Question #2). For example, Esper House notes that seniors, communities of color, and persons living with disabilities rely on mobile technologies and applications to navigate daily life and to meet daily needs.⁶² These technologies are necessary for them to participate in basic functions, such as staying connected with their family and friends and information networks through social media platforms, talking on cell phones and smartphones and texting. In fact, maintaining important daily connections was seen as critical to aspects of both mental and physical health by these groups and was a theme throughout the Esper House research results.⁶³

In the Qualitative Public Survey, people living with disabilities noted the critical importance of the use of smartphones and cellphones and related applications (80% of respondents), high-speed Internet/access to the Internet (82% of respondents) and tablets and computers (67% of respondents). Communications technology assistive devices, such as speech to text software, real time captioning, wearables, and other devices, are necessary to support them in living with their disability.⁶⁴

A common theme in the Public School District workshop was the substantial need to ensure all students throughout their educational career have access to modern technology and applications in order to succeed in life. One educator noted, for example, “Teaching them the skills of how to interact with these things will benefit them now and carry on into adulthood”.⁶⁵

The COVID-19 pandemic, according to early national data,⁶⁶ has made it necessary to rely and improve upon telehealth and telemedical systems and applications. The interview with OHSU’s Telehealth Director and IT Manager of Network Architecture and Engineering just prior to the COVID-19 pandemic indicated how far these systems have come in the past ten years. These systems and technologies are crucial to ensure that immediate, necessary, critical care can be provided to those who previously needed transport (sometimes within urgent time windows) to larger more sophisticated medical facilities, but now their care can be handled remotely.⁶⁷

DIN focus group participants, who work with a variety of underserved communities, noted the high need for adoption of technology in order for their constituents to successfully participate in modern society, have employable job skills, engage with their local governments and others in the community, and receive necessary services.⁶⁸

Local governments also talked about the challenges of reaching out to a diverse population and providing consistent, comprehensible news and information that was important to their residents and businesses. Accordingly, it has been important for them to adopt a number of information distribution technologies, such as a variety of social media platforms, translation services,

⁶² See Esper House Report at pg. 4.

⁶³ See Esper House Report, pg. 6 and 7.

⁶⁴ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-2.

⁶⁵ See Attachment 1 – Discussion Notes, pg.1-15.

⁶⁶ See Attachment 7 - Bibliography, # 29.

⁶⁷ See Attachment 1 – Discussion Notes, pg. 1-80 and 1-81.

⁶⁸ See Attachment 1 – Discussion Notes, pg. 1-49 to 1-53.

expanded video communications, 360 video for site planning presentations, and a higher level of geospatial technology use.⁶⁹

Comprehension

Comprehension of how to most effectively utilize communications technology to meet a necessary need is central to being able to adopt, and thus becomes a substantial supporting factor in technology adoption.

For any communications technology that is considered a necessity, comprehending its full capabilities and usefulness is critical for its effective use. This requires education and training. The Public School District workshop participants discussed that students from early ages, if properly trained in the use of modern technologies and applications, were very adept in comprehending the capabilities of the technologies and applications and applying them to their classroom tasks. They noted that this builds a foundation for increased use of communications technology as a student's educational career progresses.⁷⁰

Seventy-five percent (75%) of Community Media Survey respondents that use the Open Signal facility said they take advantage of the training/media/digital literacy education services provided by Open Signal, and 65% indicate the training was excellent or good. Over two thirds also receive assistance during their actual program production to effectively use the video and audio production technologies, and nearly all rate that assistance as excellent or good.⁷¹

The findings are similar for MetroEast Community Media facility users, with 73% utilizing the training/media/digital literacy education services provided at MetroEast, and nearly all of those finding it to be excellent or good. Similar to Open Signal, 66% receive assistance during actual program production and nearly all of those rated that assistance as excellent or good.⁷²

Nearly all respondents in the Community Media Survey indicated they access other sources as well to advance their media training: 64% used free services online, 26% had education at a college or university, 21% accessed paid services online, and 25% indicated using a variety of other training resources, including the library, other community media centers, and other producers and peers.⁷³

The library branch representatives noted that they are often asked by patrons to assist with accessing websites, job applications and other forms, and navigating the worldwide web. They note that frequent users become more accomplished at performing Internet-based activities at the library based on such assistance, training, and education.⁷⁴

⁶⁹ Ibid, Public Agency Focus Groups, generally.

⁷⁰ Ibid, pgs. 1-11 to 16.

⁷¹ See Attachment 4.A – Community Media Survey Results, pg. 4.A-2.

⁷² Ibid, pg. 4.A-3.

⁷³ Ibid.

⁷⁴ See Attachment 1 – Discussion Notes, pgs. 1-54 and 1-55.

The OHSU telehealth interviewees noted that telehealth services were far more successful once both the medical professional and the patient were “comfortable” with the interactive video application. This, in turn, increases satisfaction with the results of the consultation. They found that the more accomplished the medical professionals are at both the hospital and remote clinic ends of the telehealth link and the more the patient and their families have experienced telehealth services, the more efficient and effective those services are for all concerned.⁷⁵

Portland Community College’s multimedia curriculum representative said students who finish the two-year curriculum, are exposed to a wide variety of multimedia, and have a solid understanding of the technology and applications to apply to a career and to creatively use the technologies in the future.⁷⁶

Utility

Utility is an important factor for two primary reasons. First, the usefulness of a technology will be dependent upon how it is able to, for example, access services needed to obtain desired content, whether it be news, entertainment, etc. If, for example, a wireline broadband connection is not available, then a device that can access another type of broadband or sub-broadband network to get to the Internet (such as a smartphone for access to cellular data systems) may be the most useful device of choice. The second primary reason is specifically related to the function that is needed from the technology. For example, if the technology is a medical monitoring device, then there may be a very limited set of devices or set of applications that a person needs to adopt for that particular function.

Accessibility

Accessibility can be broken into three parts: availability of the service or technology - for example, based on build-out of a broadband network; a person has an appropriate device to connect; and, affordability of the service or technology that is needed.

A key part of a communications technology being adopted is availability. In the Scientific Residential Survey, only 1% of those that didn't have Internet at home indicated it was because it wasn't available.⁷⁷ In the Qualitative Public Survey, 10% of those without Internet at home listed lack of availability as a primary reason for not having Internet service.⁷⁸ The Report authors would like to make a distinction between Internet service generally and broadband Internet service. Internet service could include any speed of service including dial-up services, whereas broadband service is commonly defined by the FCC’s minimum requirement of 25 Mbps download and 3 Mbps upload. Accordingly, the number of residents who don’t have broadband service (instead of not having just Internet) could be greater because of lack of broadband system build-out in certain areas of Multnomah County.⁷⁹ Even if Internet service is available, it may not be at the capacity and speed needed for all necessary applications.

⁷⁵ See Attachment 1 – Discussion Notes, pgs. 1-81 and 1-82.

⁷⁶ Ibid, pgs. 1-76 and 1-77.

⁷⁷ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-5.

⁷⁸ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-8.

⁷⁹ See Attachment 7 - Bibliography, #22.

The next requirement for accessibility is having a device to connect. As indicated in Finding 2.3, this varies substantially based on the device and function needed, and the abilities of the person to understand how to use it, feel comfortable and be adept at using it, and be able to evolve their skills consistent with evolution of the device.

That brings us to the last component of accessibility: affordability of Internet services, devices, applications, content, and other communications technology. As discussed under Key Question #2, affordability is a significant determinant in whether someone can and will adopt communications technology (i.e., national data suggests that some of those that express a lack of need or desire for Internet access, especially broadband, may actually be inhibited by affordability, but do not desire to provide that as an answer)⁸⁰

Finding 1.8: The value and benefit of free WiFi outside of the home is high. - Eighty-five percent (85%) of respondents to the Scientific Residential Survey indicated that free public access to the Internet is important, including 61% saying it is essential or very important (24% said somewhat important).⁸¹ Seniors are the least likely to access the Internet outside their home.⁸² It is notable that WiFi is the dominant technology used to provide free access to the Internet because of its ease of deployment and use. While less sought after than free WiFi at restaurants, coffee shops, bars, or work places, free WiFi at public parks, public spaces and governmental offices is accessed by 34% of respondents, and at the public library by 22% of respondents.⁸³

In the Qualitative Public Survey, the responses were similar for the types of locations listed as far as rank order. Free public access to the Internet scored even higher than in the Scientific Residential Survey, at 94% importance level with 79% being very important or essential. In the Qualitative Public Survey, respondents were given an opportunity to note whether they ever had any problems with Internet services provided at the various non-home locations. Slightly more than half (51%) said that they had, with the top problem being with the connection, followed by slow service and lack of access.⁸⁴ Those that provide public Wi-Fi indicate that these problems typically have to do with the speed and capacity limitations of the WiFi connection depending on the number of people trying to access it at any given time.⁸⁵

As an alternative to using public WiFi, Qualitative Public Survey respondents were also given the opportunity to indicate how often they use the data plan on their mobile device to access the Internet. Sixty-one percent (61%) of respondents said daily (the highest use outside of the home), followed by 12% at several times a week, 6% at once a week, 3% at monthly, and 6% at rarely. Only 7% of respondents indicated that they never use the data plan on their device.⁸⁶

Library branch representatives, community media center users, local governments, and DIN members also reinforced the value of free public access to the Internet.

⁸⁰ See Attachment 7 - Bibliography, #31.

⁸¹ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-6.

⁸² See Attachment 2, Scientific Residential Survey Report, pg. 2-8.

⁸³ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-5.

⁸⁴ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-10.

⁸⁵ See Attachment 7 – Bibliography, #5.

⁸⁶ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-10.

Finding 1.9: People communicate with local government and civically engage in a variety of ways increasingly supported by communications technology - Respondents to the Scientific Residential Survey, as did others, reported multiple ways of preferring to communicate with and receive information from their local government.⁸⁷ While the number one way to communicate was the US mail (34%), showing the continued viability of hard-copy, written communications, the increasing importance of electronic communications is evident in that the number two way was through email (29%), followed by the Internet or online (20%), and telephone at 18% of respondents. Television was listed by 7% and communicating by text was preferred by 2% of respondents. In person attendance at a public meeting was the least reported preferred method at 0.5% of respondents.⁸⁸

As can be expected, Qualitative Public Survey respondents, using a self-selected choice of options, chose Internet/online as the number one preferred method for communicating with and receiving information from their local government (73%), followed closely by email (65%). It is notable though, that respondents chose US mail as their third choice for communicating with and receiving information from their local government, tied with text on a cellphone, at 45%. Attendance at a public meeting was higher for this group at 22%, as was going to a government office and in-person communication at 18%. Using the telephone for communicating with or receiving information from their local government was similar reported in the Scientific Residential Survey by 22% of respondents. Qualitative Public Survey respondents reported Television at 21% as a preferred method of communicating with or receiving information from their local government.⁸⁹

As further described in Finding 6.2, a City of Gresham representative indicated that a survey conducted by the City showed that 80% of their residents access the content the City provides on their smartphones.

Regarding the most effective way to receive local emergency information, respondents to the Scientific Residential Survey reported text alerts the highest at 41%, followed by television at 36% and the Internet at 21%. Notably, only 4% of Scientific Residential Survey respondents reported social media as an effective way for receiving emergency information.⁹⁰

The Qualitative Public Survey respondents, self-selecting from a list of ways to effectively receive local emergency information, also reported text alerts on their cell phone as the most effective way at 89% of respondents, followed by the Internet at 47% and television at 45%. Here, the Qualitative Public Survey respondents placed social media at a much higher effectiveness for receiving local emergency information at 45%.⁹¹

Finding 1.10: The technology level of the community has a tremendous influence on the local economy - In the DIN focus group, participants noted that small businesses, especially those in underserved communities, need basic training in many aspects of communications technology to

⁸⁷ Multiple responses were allowed from each respondent to this question in an open-ended question (i.e., respondents were not prompted from a list of options).

⁸⁸ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-7.

⁸⁹ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-13.

⁹⁰ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-7.

⁹¹ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-12.

obtain economic advancement. For example, they noted small businesses that have adopted “Square” © technology have become more efficient, increased sales, and can participate better in the “digital economy”. The critical factors here are the connectivity, training, and affordability to be able to implement such a technology. One participant noted that for some small business owners, education is needed to “just be able to log on” to online databases.⁹²

Participants also noted that youth from the earliest ages would see their economic opportunity gap widen if they were not able to keep up with others’ capabilities to use communications technology.

Businesses and their employees are clearly affected by the reliance of today’s economy on communications technology. For example, County Data was reviewed concerning a wide range of County businesses that responded to an early 2020 survey.⁹³ Nearly half of them indicated that communication services and technology were extremely important to improving an employee’s productivity and an additional 18% indicated “very important”. Businesses also said it was important to utilize such services to provide training opportunities for employees (29% indicating “extremely important”, 18% “very important”, and 21% “moderately important.” The same survey asked whether “the availability of a technically skilled, Internet-savvy workforce is critical to the success of their business”. More than half (56%) agreed or strongly agreed with that premise.⁹⁴

Local governments increasingly understand that communications technology is critical to economic development. For example, City of Gresham representatives indicated that many of their businesses in underserved communities experience problems with access to and affordability of communications technologies and services. For that reason, sometimes City information is provided for such businesses through outreach that in turn fosters “word of mouth” dissemination in the business community rather than being distributed electronically like for other businesses.⁹⁵

In order to help the community, the City of Gresham has partnered with entities such as the Multnomah County Library, especially as they have implemented urban renewal activities in working to bolster economic development. With the Library and MetroEast, they developed the Rockwood DIY location which has a Makerspace. Between 600-800 people have been trained in this facility on various technologies and applications. They continue to pursue ways and partnerships to provide low cost access to the Internet and digital literacy training, because in both the business and residential communities, as adoption and utilization of communications technology increases, so does Gresham’s ability to efficiently and effectively provide government information and access to government services.

Multnomah County focus group participants noted that a big part of economic development-related activities’ success depends on businesses having the skills to succeed in the digital economy. They said training for employers was critical, including businesses being able to integrate technology into their businesses, understanding information technology and applications and everything that goes with it (i.e. cyber-security). They noted that the County works with non-profits (including the

⁹² See Attachment 1 – Discussion Notes, pg. 1-51.

⁹³ See County Data, business survey spreadsheets.

⁹⁴ Ibid.

⁹⁵ See Attachment 1 – Discussion Notes, pgs. 1-39 and 40.

Library working with Free Geek to provide technical support), on pilot projects and even volunteer time to assist in employee and employer training.⁹⁶

Outside of cost, having not only basic digital literacy skills but the ability to progress and have proper ongoing tech support are important components of initial and continuing adoption. There are many organizations working to increase digital literacy, but the biggest issue is capacity and the associated funding to increase capacity and provide a wider outreach into the non-digital literate community.

Educators in the Public School Districts workshop noted the importance of engaging youth in technology at an early age and enabling them throughout their academic career; however, organizational capacity and associated funding would continue to be critical to support such a progression.⁹⁷ MetroEast staff talked about the critical nature of progression to ensure that someone who desired to continue, could build upon the basics and learn more.⁹⁸

Finding 1.11: Home Broadband Internet availability substantially affects the community's economic prosperity and opportunity - For example, County Data from an early 2020 residential survey, indicates that nearly one-fourth of County residents frequently run their business from home (22% of respondents); over half require Internet access at home for their job (52% of respondents); and over one-third have someone in their household who teleworks (33% of respondents)⁹⁹ (these numbers are likely to be much higher now since the County Data was gathered prior to the stay-at-home order as a result of the COVID-19 pandemic). The Scientific Residential Survey also shows a high frequency of teleworking with 35% of residents indicating they always or frequently telework and an additional 30% indicating they occasionally telework.¹⁰⁰ The Qualitative Public Survey had similar results concerning teleworking from home.¹⁰¹ (these numbers are likely to be substantially higher as a result of the COVID-19 pandemic). These two surveys represent a significant change from the 2010 Report which indicated that 22% of respondents telecommuted on a frequent basis.¹⁰²

Businesses also affirmed the importance of having a broadband connection at home to telework or telecommute. For example, over two-thirds of business respondents to the County Data survey agreed or strongly agreed that “mobile (outside the office) access to the Internet is important to our business operations” and 52% permit employees to telecommute (work remotely)¹⁰³ National estimates are that the result of the current COVID-19 pandemic may change the office/work landscape forever, meaning that teleworking may have a greater emphasis going forward.¹⁰⁴

⁹⁶ See Attachment 1 - Discussion Notes, pgs. 1-35 and 36.

⁹⁷ See Attachment 1 – Discussion Notes, pgs. 1-11 to 16.

⁹⁸ See Attachment 1 – Discussion Notes, pg. 1-68.

⁹⁹ See County Data, residential survey spreadsheets.

¹⁰⁰ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-11.

¹⁰¹ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-17.

¹⁰² 2010 Report, Attachment 2.A, pg. 2.A-86.

¹⁰³ County Data, business survey spreadsheets

¹⁰⁴ See Attachment 7 - Bibliography, #15.

Overall, without broadband access at home (or the ability to get useful connections in a mobile environment), employees and their employers are at a substantial disadvantage when it comes to their prosperity.

Esper House found that “those who have home based businesses or work from home for larger employers rely on digital services and connectivity to do paid work”.¹⁰⁵ This included representatives from the senior community, communities of color, and persons living with disabilities. For example, a disabled interviewee said “digital devices are pretty much my life. I wouldn’t be able to do my job, 90% of what I need on a daily basis.”¹⁰⁶

Finding 1.12: The majority of residents and businesses view the Internet as an essential utility

- In the Scientific Residential Survey, 50% of respondents indicated that the Internet was as essential to them as access to electricity (in other words an essential utility).¹⁰⁷ In the Qualitative Public Survey, the response, as can be expected, was markedly higher at 87% of respondents.¹⁰⁸ County Data shows that the majority of business respondents indicated that the Internet was essential as well.¹⁰⁹ The stay-at-home orders issued during the COVID-19 pandemic have served to further elevate the essential nature of home Internet service.

Table 1: *Is access to the Internet as essential to you as access to electricity (in other words an essential utility)?*

	Yes	No	Don’t Know/NA
Scientific Survey	50%	48%	2%
Qualitative Survey	87%	11%	2%

Finding 1.13: Cable companies have made some strides in the last ten years in developing better and more responsive customer service, but still are not well- regarded in this area -

The most recent American Consumer Satisfaction Index (ACSI) survey still ranks cable providers, although improving, well below most service industries rated.¹¹⁰ The Scientific Residential Survey asked cable subscribers to rate certain key customer service issues for their cable company (90% of cable subscribers being Comcast, 4% Frontier, and 6% CenturyLink). While 70% of subscribers rated billing statement accuracy and understanding as good or excellent, nearly 1 in 4 (23%) rated this fair or poor.¹¹¹ This was similar with the ease of use of automated telephone menu options with approximately two-thirds rating it as good or excellent, but over 1 in 5 rating it as fair or poor.¹¹² This rating is particularly impactful due to 93% of cable subscribers that contacted their company in the past year utilized the telephone to do so – see Finding 1.14.

¹⁰⁵ Esper House Report at pg. 12.

¹⁰⁶ Ibid.

¹⁰⁷ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-6.

¹⁰⁸ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-11.

¹⁰⁹ County Data, business survey spreadsheets

¹¹⁰ See Attachment 7, #3.

¹¹¹ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-3.

¹¹² See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-3.

Table 2: *Using a scale of excellent, good, fair, or poor, how would you rate your cable company in terms of the following?*

	Excellent	Good	Fair	Poor	Don't Know/NA
Convenient local office hours	14%	57%	13%	3%	13%
Accurate and understanding billing statements	14%	56%	19%	4%	7%
Easy to use automated telephone menu options	11%	53%	14%	8%	15%

Qualitative Public Survey respondents were more critical of the cable company’s customer service, with no tested customer service area receiving a majority of respondents for good and excellent and the highest negative response was 68% fair or poor for overall satisfaction with their cable company.¹¹³

Table 3: *How would you rate the following over the last year?*

	Excellent	Good	Fair	Poor	Don't Know/NA
The convenience of the location of the local cable company office	9%	22%	20%	19%	29%
The hours the local cable company office is open	8%	25%	19%	10%	38%
The helpfulness of the cable company’s employees	12%	30%	35%	14%	9%
The accuracy and understanding of your monthly cable bill	13%	27%	37%	22%	1%
The ease of use of the automated telephone menu options when calling your cable company	7%	11%	25%	38%	20%
Overall satisfaction with your cable company	8%	23%	43%	25%	1%

Finding 1.14: The ability to contact a cable company by phone to resolve an issue remains important to customers - Ninety-three percent (93%) of the Scientific Residential Survey respondents who had contacted their cable company did so through telephone (6% also made contact online and through the website, 5% through email, 5%, through online chat, 4% by visit to a retail store and 1% through a virtual assistant). In all of those cases, 85% of respondents indicated the contact method they used allowed them to successfully resolve the issue, while 13% indicated it was not successful. A contributing factor to the heavy reliance on contact by telephone may be that cable subscribership skews older, so this more traditional means may be preferred.¹¹⁴

Finding 1.15: The users of community media facilities at MetroEast and Open Signal are well satisfied with the centers’ operations and use the centers’ resources to produce and distribute diverse content - Respondents to the Community Media Survey indicated a 97%

¹¹³ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-5.

¹¹⁴ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-2 and 2.A-3.

satisfaction level for Open Signal (70% very satisfied, 21% satisfied, and 6% somewhat satisfied) and an even higher level for MetroEast at 99% (81% very satisfied, 16% satisfied, and 2% somewhat satisfied).¹¹⁵

The production and provision of content at both community media centers is highly diverse, ranging from sports coverage at 11% of facility users, up to arts and entertainment at 57%, with multiple categories in between.¹¹⁶ The facilities also got high ratings for nearly all characteristics including media and digital literacy education and training, facilitation and assistance during production and post-production, the availability and use of facilities and equipment, and the location of the facilities.

Table 4: *Open Signal Facility Characteristics Ratings*

Open Signal	Excellent	Good	Fair	Poor	No Opinion/Don't Know/Don't Use
Training/Media/Digital Literacy Education	49%	16%	7%	2%	25%
Assistance During Actual Production	44%	18%	4%	1%	32%
Editing Equipment Availability	38%	13%	5%	2%	42%
Editing Assistance	32%	14%	6%	1%	46%
Program Playback/Scheduling	51%	15%	4%	1%	30%
Community Media Facilities Staff	58%	15%	3%	1%	23%
Hours of Operation	28%	28%	16%	5%	22%
Portable Field Equipment Availability	34%	18%	8%	2%	38%
Mobile Production Unit Availability	25%	12%	7%	4%	52%
Studio Availability	31%	26%	6%	2%	35%
Community Media Facility Location	48%	23%	7%	1%	22%
Community Media Program/Facilities Promotion	32%	25%	7%	2%	33%

Table 5: *MetroEast Facility Characteristics Ratings*

MetroEast	Excellent	Good	Fair	Poor	No Opinion/Don't Know/Don't Use
Training/Media/Digital Literacy Education	57%	14%	0%	1%	27%
Assistance During Actual Production	50%	12%	2%	1%	34%
Editing Equipment Availability	37%	17%	0%	0%	45%
Editing Assistance	38%	14%	2%	0%	45%

¹¹⁵ See Attachment 4.A – Community Media Survey Results, pg. 4.A-1.

¹¹⁶ Ibid, pg. 4.A-2.

MetroEast	Excellent	Good	Fair	Poor	No Opinion/Don't Know/Don't Use
Program Playback/Scheduling	41%	16%	2%	1%	39%
Community Media Facilities Staff	63%	9%	1%	1%	26%
Hours of Operation	39%	28%	5%	1%	28%
Portable Field Equipment Availability	38%	13%	3%	0%	46%
Mobile Production Unit Availability	30%	16%	2%	0%	51%
Studio Availability	35%	22%	3%	0%	41%
Community Media Facility Location	45%	21%	8%	1%	25%
Community Media Program/Facilities Promotion	44%	18%	5%	1%	33%

Overall, producers and users saw very few problems, with 86% indicating that they never encountered any problems in obtaining necessary fully functional facilities and equipment. Nearly all open coded comments were favorable including “MetroEast has been providing really superb services to groups in Multnomah County”, “MetroEast community media has been a wonderful partner and invaluable in the visibility they provided my charitable non-profit in fulfilling our mission of civic education and engagement and improving the administration of the legal system”, and “MetroEast community media provides exceptional service and value for my community”.¹¹⁷

For Open Signal, respondents had similar comments such “the staff is really what makes Open Signal great. They are helpful to every member of the community”, “Open Signal has been a life altering experience and a benefit that has lent meaning to my life in countless fulfilling ways, thank you” and “Open Signal is an amazing resource and I’ve had nothing but positive experiences with their staff”.¹¹⁸

Finding 1.16: The single biggest driver of network bandwidth growth and higher speeds, as was emerging 10 years ago, is video and graphic communications. Although video compression technologies continue to advance, so does the push for HD4K which is now common in the consumer electronics marketplace (not as much yet in the video programming development marketplace) and higher resolutions continue to be developed. Teleworking, telelearning, and telemedicine were already driving the demand for symmetrical bandwidth use (equivalent upload and download speeds) and networks and the COVID-19 pandemic has vastly accelerated that need. This will require deployment of more fiber-to-the-premise networks (easily enabling high capacity symmetrical residential service levels such as symmetrical 1 Gbps) and new cable communications technologies (such as “Fiber Deep”, which allows high capacity, symmetrical applications from the node to the hub or headend, and higher upload capacity asymmetrical communications from the node, to and from the residence or business) to meet demand over time.

Depending on the intended use of video, its resolution and utility has become acceptable in different formats. For example, watching a movie on a large screen may only be acceptable in high

¹¹⁷ Ibid, pg. 4.A-8.

¹¹⁸ Ibid, pg. 4.A-7.

resolution HD or HD4K, while watching YouTube video on a small screen may be acceptable in a lower resolution (therefore requiring less bandwidth capacity and speed).¹¹⁹

The community media centers have transitioned into providing high definition video over the cable access channels and higher resolution videos online, as well as beginning to use 360 video, augmented reality (AR) and virtual reality (VR) technologies. These will continue to require more bandwidth within the media centers' internal networks and externally for video transport to the cable headends, as well as online.

The community media centers also note that current and emerging video formats will require much more storage capacity. For example, MetroEast notes that ultimately, they want to move all equipment and production to HD4K and this will require substantial upgrades in their storage capability to 360 terabytes.¹²⁰ Open Signal indicates an even greater need in that they have moved to a cloud-based storage with the capacity of 750 terabytes, already at 75% utilization. This is opposed to the 64 terabytes of video storage that they had prior to 2015. All of Open Signal's production is currently in 1080p HD and moving continually to HD4K. A review of their increase in storage needs and capability shows a rapid progression in just 5 years.¹²¹

Public agencies note the same need for ever-expanding storage capability, both locally and through the use of cloud-based storage. For example, the City of Gresham indicates that it is recording a lot of video, so it needs to continually increase its storage capabilities along with its overall increase in data storage and archiving systems. Some of this is based on developing a number of GIS-based, open data applications as well.¹²² Multnomah County indicates that its video applications are growing overtime and this will continue to drive storage needs. They indicate as well that they are working on a road map for making more open data available to the public and are using both on-premise and cloud-based storage systems. All of these, as well as an increasing number of Smart Cities and telelearning applications will drive public agencies' and public school districts' needs for more connectivity with higher network capacity and speeds.¹²³

Finding 1.17: The current level of communications network infrastructure in Multnomah County communities today is high, but also adds to the digital divide - The state of the communications networks, both broadband and cellular, from those in place a decade ago has substantially advanced, as far as the capacity of services provided and the expanded capabilities for those who have those services (enhanced speed, mobility, applications, devices and utility, more capabilities for simultaneous users, businesses households, etc.)

While the cost per Megabit of accessing these high capacity, high capability technologies and services has come down, the number of Megabits needed to effectively utilize today's technologies has expanded exponentially, and the net effect adds to the digital divide.¹²⁴ In the Scientific Residential Survey 82% of respondents have a home Internet connection (not including those who

¹¹⁹ See Attachment 7 - Bibliography, #8.

¹²⁰ See Attachment 1 – Discussion Notes, pg. 1-70.

¹²¹ See Attachment 1 – Discussion Notes, pg. 1-62.

¹²² Ibid, pgs. 1-40 to 1-42.

¹²³ Ibid, pgs. 1-34 to 1-37, and Attachment 1.B, pg. 1.B-2.

¹²⁴ See www.ncta.com/industry-data.

only use a smartphone), which is up from ten years ago, and the vast majority of those connections equal or well exceed broadband speeds as commonly defined by the FCC. However, that still leaves 18% without Internet access at home, with 7% of those without Internet in the home indicating that they access the Internet only via smartphone through cellular data, because that is all they need. As discussed elsewhere in the Report, some of the gap has to do with cost, and availability, as well as a lack of perceived need and other inhibitors.

Key Question #2: What barriers are creating inequities for underserved communities?

Finding 2.1: People are less likely to have Internet at home due to lack of perceived need, cost, and the relationship between the two - Of the 18% of respondents in the Scientific Residential Survey who did not have wireline Internet service at home, 43% of these previously had Internet service at home, but stopped subscribing because they either perceived it was not needed or it was too costly. Other reasons included service issues and the speed of service. For those who never had Internet at home, the ranking was essentially the same, with 55% indicating no need/no desire, 29% indicating that it was too costly and 11% indicating that the smartphone was all that they needed. An analysis of variance (ANOVA) showed that lack of Internet at home is significantly related to being older, retired or having a lower income.¹²⁵

National data suggests that some of those that express a lack of need or desire for Internet access, especially broadband, may actually be inhibited by affordability, but do not desire to provide that as an answer.¹²⁶ This data indicates a significant relationship between people's expression of need and the cost to acquire and use technology.

Esper House notes the cost issues as well, indicating in its report that "reliable, quality Internet access and Internet capable devices are cost prohibitive to many in the three target communities".¹²⁷ For example, one of the persons with disabilities said "it's quite expensive. My phone bill with access to the Internet, and data and you have to have up to date technology, \$600-\$800.... I have to have the highest plan and they keep getting updated so the text to speech won't work properly. I have to replace it at least every two years".¹²⁸

People who identified with either themselves or a household member as living with a disability in the Qualitative Public Survey and in the Scientific Residential Survey indicated that cost was the number one frustration or barrier in using or accessing assistive and non-assistive technology.

Qualitative Public Survey respondents without Internet at home, excluding a data plan through a smartphone, were asked additional questions. Respondents identified a variety of barriers, but cost/expense of service (at 95% of those that did not have Internet) and cost/expense of equipment (at 65% of those without Internet) were the top two.¹²⁹ They also indicated service issues and speed of service, service plans that were confusing, and service that's frustrating to use. These respondents were also asked a question concerning issues they had experienced that prevented them from subscribing to Internet in the home. This group indicated that required contract terms (32%) and no ability to pay as you go (26%) were inhibitors to subscribing to Internet at home.¹³⁰

¹²⁵ See Attachment 2 – Scientific Residential Survey Report, pg. 2-10 and Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-5.

¹²⁶ See Attachment 7 - Bibliography, #31.

¹²⁷ Esper House Report, pg. 8.

¹²⁸ Ibid.

¹²⁹ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-8.

¹³⁰ Ibid.

Interestingly, for this response group, no need/no desire was only indicated by 10%. Notably 80% of those without Internet at home said they “most likely would sign up for Internet service at home if it cost less”.

Finding 2.2: An affordable monthly cost for home Internet service is “free” for many, and a “reasonable” cost is lower than most pay now – Sixty-three percent (63%) of respondents to the Scientific Residential Survey gave a range of between \$1 and \$200 per month that they would consider reasonable for home Internet service. The average reasonable cost was \$37.51 per month. However, 19% of respondents indicated that it should be free.¹³¹ People of color and seniors were more likely than others (67% of seniors over 75) to indicate that “free” was an affordable cost to them for Internet service”.¹³²

Qualitative Public Survey respondents without Internet at home tended to indicate that “free is a reasonable price to pay”. Those with Internet at home are willing to pay something.¹³³

Persons living with disabilities responding to the Qualitative Public Survey currently pay primarily between \$51 and \$75 per month for Internet. Seniors currently pay on average between \$76 and \$100 per month for home Internet. People of color indicated that they pay more than \$50 for their home Internet on average, per month. All of these underserved groups believe that \$41-\$50 is a reasonable amount to pay. People of color who have trouble, have delayed, or have avoided paying other bills due to the cost of Internet, overwhelmingly pay more than \$50 for home Internet and feel that either \$20 or \$25 is a reasonable amount to pay for home Internet.¹³⁴

In the Qualitative Public Survey, 15% of respondents with Internet at home indicated the amount they paid for Internet service has caused them to delay or avoid other important bills or purchases. The top four things that they’ve done without or delayed purchasing includes food/groceries at 49%, utilities at 21%, clothing at 19%, and gas at 7%. Twenty-five percent (25%) of all respondents with Internet indicated that they have had trouble paying their Internet bill.¹³⁵

In the County Data survey, 7 out of 10 businesses indicated that affordability was an issue concerning their Internet service (nearly 60% of business respondents indicated that the price they pay for Internet service is not very affordable and an additional 10% indicated not at all affordable). The majority of those businesses now pay between \$100 and \$249 per month per service.¹³⁶

Finding 2.3: Besides cost, a primary factor in non-adoption of communications technology is a lack of understanding and training regarding the uses of such technology - Esper House noted that “particularly in the senior community, there is a need for better education and skill building with communications technologies tools and services”. Many in Esper House’s focus groups indicated that they acquired devices and tools but did not know how to use them or understand the cost involved. Seniors expressed this in a variety of ways: “I can take pictures but

¹³¹ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-6.

¹³² See Attachment 2.B – Scientific Residential Survey Underserved Community Results, pg. 2.B-14 and 2.B-24.

¹³³ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-9.

¹³⁴ See Attachment 3.B - Qualitative Public Survey Open Codes/Underserved Community Results, pgs. 3.B-24 and 3.B-25, 3.B-36 and 3.B-37, and 3.B-47 and 3.B-48, and Attachment 3 – Qualitative Public Survey Report, pg. 3-11.

¹³⁵ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-9.

¹³⁶ County Data, business survey spreadsheets.

can't get pictures out"; "sometimes I open my laptop and it says you're not connected and I don't understand why... it's an area of frustration"; "I don't stream anything. I don't know what that means"; "I bought this desktop about three years ago but I have too many registration errors".¹³⁷

For people of color respondents to the Scientific Survey, 19% did not have Internet in the home. The main barrier to home Internet was they did not know how to use it, which indicates that education is an issue for them.¹³⁸

Esper House noted that education and training needed to be geared to each particular community. For example, for seniors they found workshops and training should be slower paced, methodical and start with basics. For communities of color, they found workshops and training should be culturally relevant.¹³⁹ For example, MetroEast's work with the Library and Free Geek to overcome barriers through a six week "Welcome to Computers" class specifically focused on teaching immigrants and refugees digital and multimedia literacy.¹⁴⁰

MetroEast staff also noted that once people are trained on the use of computers and similar devices, they often need ongoing technical and other support, which is a challenge to provide. The library branch representatives also talked about how education, training and assistance are continuously needed by library patrons in order to use the publicly-accessible Internet at the libraries.¹⁴¹ Participants in the Multnomah County focused discussion also talked about the need for education and training, as well as ongoing support for community members. Many rely on groups such as Free Geek to help support those that need ongoing tech support.¹⁴² Esper House noted this for persons with disabilities as well, indicating that "communications technology remains inaccessible to many in the disabled community because of cost and difficulty in receiving support". A disabled interviewee said "we have a lot of a students that have adaptive software but they don't have the skills to use it".¹⁴³

Respondents to the Qualitative Public Survey who live with disabilities indicated that one frustration of using communications technology was keeping up with the changes in technology. For example, one indicated that lack of getting help, lack of getting information, lack of accurate current information, and assistance was a substantial problem. Another wrote "complexity of installing/maintaining tech and communicating with providers" was a substantial frustration in the use of communications technology.¹⁴⁴

Finding 2.4: Online security and privacy is a substantial concern - In both the Scientific Survey and the Qualitative Public Survey, concerns about privacy and security were clearly evident (see data and discussion under Finding 4.3).

¹³⁷ Esper House Report, pg. 9.

¹³⁸ See Attachment 2 – Scientific Residential Survey Report, pg. 2-7.

¹³⁹ Esper House Report, pg. 10.

¹⁴⁰ See Attachment 1 – Discussion Notes, pg. 1-68.

¹⁴¹ See Attachment 1 – Discussion Notes, pgs. 1-55 and 1-57.

¹⁴² Ibid, pg. 1-50.

¹⁴³ Esper House Report at pgs. 11 and 12.

¹⁴⁴ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-3.

Esper House found that “concerns about online security is a barrier for seniors to participate in daily activities and services online”. One senior said “I’m still not comfortable banking online... my kids tell me how safe it is but I don’t know, I’m not there”.¹⁴⁵

Finding 2.5 There are many trusted entities to assist with education and training on Internet and/or multimedia technology use - One of the greatest apparent strides from the 2010 Study is that multiple entities, working either with the general population or specific target populations, were identified as trusted entities for education and training related to Internet and multimedia technology. For example, Esper House found that public libraries, non-profits that work with specific communities, and known community members are seen as trusted entities to educate and train about communications technology.¹⁴⁶ Esper House found that some communities of color experience cultural and language barriers, that lead to “inequitable access to communications technologies services”.¹⁴⁷ These can also be barriers to becoming digitally literate. They note that “in response, some communities build their own skills and capacity”.¹⁴⁸ For example, one interviewee, indicated that “people will get information from APANO from the (Chinese Parents We Chat). Yesterday talking about wireless, people already created a group of over 500 to train other people [community members training each other]”.¹⁴⁹ Esper House notes that specifically-mentioned community organizations include APANO (Asian Pacific American Network of Oregon), the Immigrant and Refugee Community Organization, Open School East, and AARP (NE Portland Chapter).

Multnomah County Library was mentioned multiple times by partner entities (such as the City of Gresham), by Qualitative Public Survey respondents, by the community media centers, by the participants of the Esper House focus groups, and by the library branch representatives themselves. Public schools as well as higher education institutions in Multnomah County are mentioned as trusted entities for receiving training. This includes public school districts involved in the MHCRC TechSmart Initiative and PCC’s Cascade Campus, specifically related to its multimedia curriculum.

DIN workshop participants noted that many of their organizations provide, either themselves or in partnership with other non-profits and or government agencies, various training on the use of communications technologies. They also partner with the community media centers to provide multimedia education. Collaboration was noted as important for training due to the capacity of any one organization and the trust needed with a particular constituency to effectively provide education services for technology use.¹⁵⁰

¹⁴⁵ Esper House Report, at pg. 10.

¹⁴⁶ Esper House Report at pg. 10.

¹⁴⁷ Esper House Report at pg. 11.

¹⁴⁸ Ibid., at pg. 11.

¹⁴⁹ Ibid., at pg. 11.

¹⁵⁰ See Attachment 1 – Discussion Notes, generally.

Finding 2.6: Support for promotional efforts regarding multimedia and digital literacy training, as well as access to low or no-cost access to the Internet, needs to be increased. Although organizations are working to promote awareness of low-cost and free Internet services, organizational capacity and resources to do this work is limiting those efforts - For example, in the Qualitative Public Community Media Survey, 40% of respondents indicated that they did not believe that current awareness and promotion of the local community media center services and programming are adequate. Multiple methods were listed by respondents for increasing awareness.¹⁵¹ The MetroEast staff indicates that they continually promote awareness of their services, but they have to scale their efforts based on their available capacity. They develop partnerships to help expand services to more members of the community.¹⁵² Open Signal staff also indicates they have developed multiple partnerships in order to spread the word about their facilities and services. They know from past and current users of Open Signal that many hear about Open Signal through networking with their peers. They know they are limited in time and capacity based on current resources, but would like to obtain additional funding so they can provide more no and low-cost teaching and education.¹⁵³

the public schools note that they work with providers to promote and leverage low cost Internet programs such as Comcast's "Internet Essentials". A number of respondents to both the Scientific Residential Survey and Qualitative Public Survey noted that they have either had or currently have Internet Essentials as their method of Internet access.¹⁵⁴

Library branch representatives noted that they go out into the community to promote the free access to the Internet at the library and the digital literacy services that they provide, but that this is often done in ad hoc way by individual branches, rather than centrally as a function of the entire Multnomah County Library system. They would like to see this developed as a centralized outreach service and promoted throughout the system.¹⁵⁵

Finding 2.7: Persons with disabilities are very aware of assistive technologies and use them continually, but have multiple issues with using them successfully – In the Scientific Residential Survey, 12% of respondents identified as living with a disability or indicated that someone in their household lived with a disability. This group of respondents was similar to overall respondents in: their high ratings of Internet as an essential utility; identifying free public access to the Internet as very important; they have a substantial amount of access to the Internet outside the home; and they have the same high level of capabilities as a majority of respondents concerning their home Internet access.¹⁵⁶ In the Qualitative Public Survey, this group, percentage-wise, was higher, with 23% indicating that they lived with a disability or indicated this circumstance for another household member (nearly one-fourth of all Survey respondents). In the Qualitative Public Survey, respondents were asked what communications technology assistive devices they consider of critical importance and they indicated Internet access/high speed Internet, as the number one technology (82%), followed by devices and applications (cellphones, smartphones, apps) at 80%,

¹⁵¹ See Attachment 4.A – Community Media Survey Results, pg. 4.A-6, and Attachment 4.B – Community Media Survey Open-Codes, pgs. 4.B-26 to 29.

¹⁵² See Attachment 1 – Discussion Notes, pgs. 1-67 and 1-69.

¹⁵³ See Attachment 1 – Discussion Notes, pg. 1-64.

¹⁵⁴ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-4 and 2.A-5 and Attachment 3.A, pg. 3.A-7.

¹⁵⁵ See Attachment 1 – Discussion Notes, pgs. 1-58 and 59.

¹⁵⁶ See Attachment 2 – Scientific Residential Survey Report, pg. 2-7 to 2-8.

and then tablets/computers at 67%.¹⁵⁷ Other types of devices were listed as well, including: captioning, optical character recognition (OCR), Bluetooth-connected devices, smart watches, and other devices. They were asked what frustrations they had in using communications technology, including both assistive and non-assistive devices and as noted in Finding 2.1, the number one frustration was with high prices and cost (similar to the number one barrier to accessing technology for this group in the Scientific Residential Survey). Other frustrations included robocalls at 53%, keeping up with changing technologies at 40%, information hackers at 37%, and the lack of inclusion of assistive technologies or devices or apps at 29%.¹⁵⁸ In fact, nearly every frustration listed was noted by 1 in 5 or more respondents.

Esper House also found that cost and receiving support are problems in accessing and utilizing adaptive and assistive technologies. One disabled interviewee indicated that at his higher education institution, students have adaptive software but they don't have the skills to use it. Moreover, the college is not required to provide the skills training to access these adaptive technologies. Rather, the college provides other accommodations instead.¹⁵⁹

Finding 2.8: The lack of home Internet service and digital literacy will negatively impact a person's employment opportunities - Many employers and jobs require employees to telework, have digital technology skills, and be able to effectively navigate technology changes (during the COVID-19 pandemic it has been a necessity for many more, because of stay-at-home orders) (see Finding 1.10 and Finding 1.11 for data and discussion about economic opportunity and impact).

¹⁵⁷ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-2.

¹⁵⁸ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-3.

¹⁵⁹ Esper House Report at pgs. 11 and 12.

Key Question #3: What are our communities' communication technology future needs and interests (two-ten years)?

Finding 3.1: – Cost must be removed as a barrier for residents to have access to and effectively use the communications technologies they need - As discussed under Key Question #2, affordability is a significant determinant in whether someone can and will adopt communications technology.

In the Scientific Residential Survey, when asked what are the one or two communications products or services that they don't have but really need, 82% of respondents indicated that they had everything they needed. The remaining 18% indicated a variety of communications technologies they would like to have now or in the near future, including affordable Internet, higher speed Internet/broadband, basic Internet service, and a cell/mobile phone.¹⁶⁰ Households in this group earned less than \$35,000 a year.

In the Qualitative Public Survey, far more respondents (at 54%) indicated they did not have what they need, with the highest being affordable Internet (28%), high/higher speed Internet/broadband (16%) and connections to home security/heat/ac/" nest" at 10%. This was followed by television/cable TV service at 7% and the need for a variety of devices from cell/mobile phones to other wireless device/smartphone/tablet ranging from 2% to 4% of the respondents. Six percent (6%) of respondents said "Other" and responses ranged from choices in service providers to needs for services, applications, and content availability.¹⁶¹

Adding to the findings under Key Question #2 concerning cost as the primary barrier to technology use and adoption, for respondents who identified they needed a technology they didn't have, in both the Scientific Residential Survey and the Qualitative Public Survey, cost/affordability was the number one barrier to obtaining those technologies (49% of Scientific Survey respondents identified cost, followed by lack of available options/choices at 8%).¹⁶² For the Qualitative Public Survey respondents, cost again was the number one barrier (50%). For those who specified a technology they really needed, cost was even a higher barrier at 76%.¹⁶³

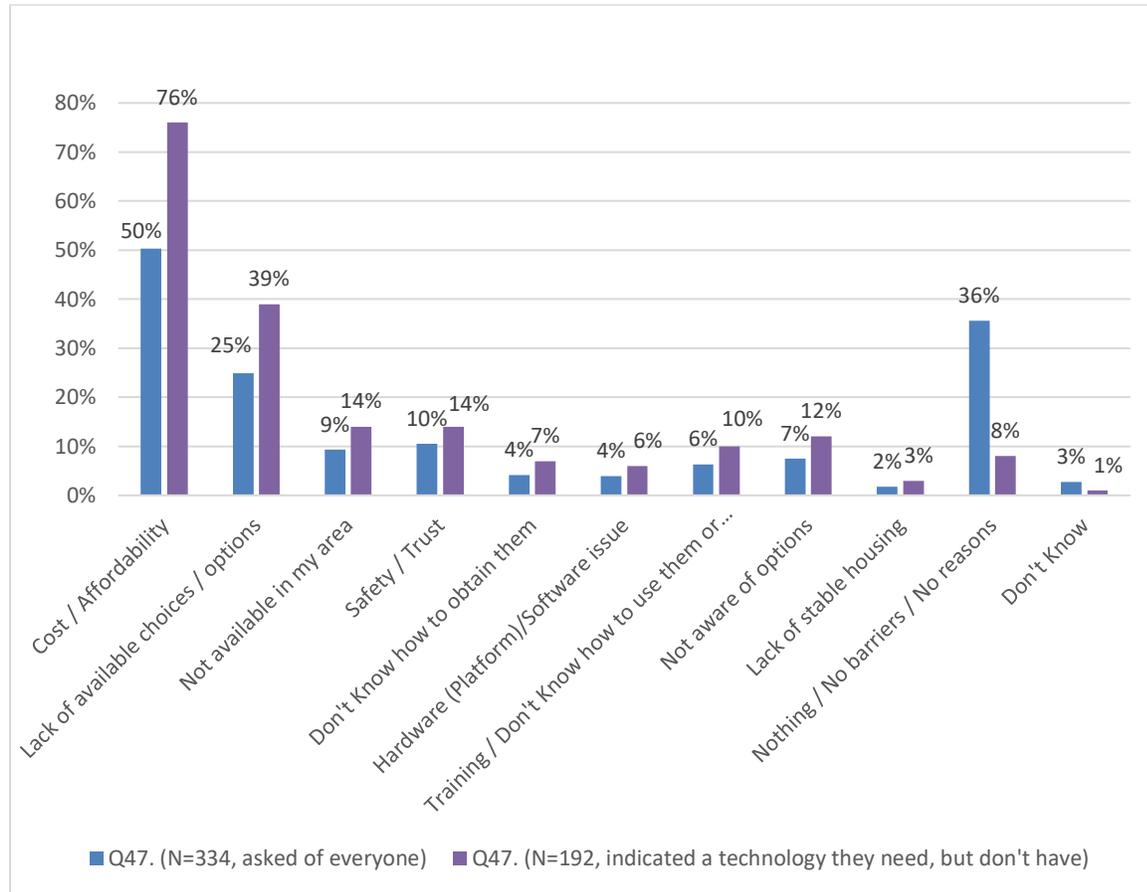
¹⁶⁰ See Attachment 2.A – Scientific Residential Survey Results, pg. 2.A-8.

¹⁶¹ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-13.

¹⁶² See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-8.

¹⁶³ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-15.

Chart 2: *Reasons or Barriers Keeping You from Getting or Using Technologies You Don't Have Now.*



Finding 3.2: As communications technology becomes more integral to many facets of life, new iterations will benefit those who can continually invest in them but could also further exasperate the digital divide - For example, while teleworking does not require high levels of competency, it does require technology tools and software, a broadband Internet connection, training, and a productive work space at home. As teleworking rapidly expands (as is the case due to the COVID-19 stay-at-home order), technology will evolve and become more sophisticated. The burden to “keep up” may fall to the individual. While these capabilities will be attainable for much of the population, keeping up will be a significant burden for those who indicate cost/affordability is their number one inhibitor to having necessary technology. Even when necessary technology can be obtained, associated training, a critical factor to technology adoption, must be sought after and provided.

For example, abilitynet.org, an organization that supports people living with disabilities in using technologies at home, at work, and in education, lists seven key areas where virtual reality can prove useful to people living with disabilities. This includes everything from trying “out of reach” experiences, such as climbing a mountain, to wayfaring in new locations, help improving motor

skills and giving caregivers and others close to the person living with a disability a better idea of what that person might be going through by simulating their experience in a virtual world.¹⁶⁴

One rapidly advancing technology, Artificial Intelligence (A.I.), has the capability to benefit underserved communities. Key sector representatives including local government officials from the City of Gresham and Multnomah County, school district representatives, and non-profit DIN members, talked about advances in A.I. and the Internet of Things (IoT) being especially helpful to augment human capacity, such as: assisting persons with disabilities; translating information into multiple languages; providing residents multiple ways to receive information through a Kiosk; and the like.¹⁶⁵ A.I. has substantial potential to remove barriers for those that provide services to and support underserved and diverse communities. It also has the ability to assist entrepreneurs in more cost-effective and efficient development of new products and services and enable wider and more comprehensible outreach to the community at large.¹⁶⁶

Advanced technologies require an investment cost, which may be easily affordable to the “haves”, but may not be achievable for the “have-nots”. Unless such technology is designed and applied through a creative, user-centered design process, especially in the personal-use environment, it could serve to widen the digital inclusion gap.¹⁶⁷

Finding 3.3: Video, geospatial technologies, and artificial intelligence are critical technologies that local governments will need to support transparency, sharing information, and effective service provision – Although data indicates local governments will need a variety of communications technologies going forward, those most likely to support transparency, effective service provision, and sharing information are weighted heavily towards video, geospatial technologies, sensors and other artificial intelligence (A.I.)-based Smart Cities technologies.

All the local governments in Multnomah County are providing information by video either over the cable access channels or through YouTube, Facebook, and other social media outlets. As video continues to be the number one source for news and information for nearly all demographic groups,¹⁶⁸ local governments will need to increasingly cover public meetings, press conferences, and other public events as well as provide information on a host of their services via video; especially video that is viewable on everything from a large screen to a small format smartphone.

The City of Gresham is a good example as they have a digital media producer and small studio and work with MetroEast to develop video programming. They noted video is used for both external and internal purposes, and it is growing in importance as a way not only to communicate to residences and businesses, but also communicate within the City. They also noted that audio podcasting was an increasingly useful way to deliver information because of its popularity, the number of available distribution outlets, the small amount of network bandwidth used versus

¹⁶⁴ See www.abilitynet.org.uk/news-blogs/8-ways-virtual-reality-could-transform-lives-disabled-people

¹⁶⁵ See Attachment 1 – Discussion Notes, pgs. 1-35, 1-38, 1-40, 1-41, 1-52 and Public School District Workshop, generally.

¹⁶⁶ See Attachment 7 - Bibliography, #27.

¹⁶⁷ See Attachment 1 – Discussion Notes, pg. 1-52.

¹⁶⁸ See McCue, T.J., “The State of Online Video for 2020“. Forbes.com, February 5, 2020.

video, and the ability to quickly and effectively focus on a particular topic, including in multiple languages.¹⁶⁹

Gresham also discussed the importance of geospatial technologies, including developing open data applications and planning information that is more easily displayed and discernable by a wide range of the community. For example, they discussed use of 3-D modeling based on geospatial technologies for planning projects which allows “story-maps” to be created that show both the past and the future chronology of a particular site, from groundbreaking to full development. They noted that this allows connections with the community “in a very graphic intensive way”.¹⁷⁰ This information can then be provided electronically as a download from the City’s website or used in presentations and in-person meeting spaces where online communication for information that is data intensive would not be easily accessible. Portland Public Agencies talked about the importance of video communications as well, including, for tutorials, training, video blogs, and other social media uses of video.¹⁷¹

A.I. and sensor-based technologies for Smart Cities applications are clearly “the wave of the future”. These technologies allow for providing real-time information for parking, traffic flow, utility usage, environmental indicators, and other information, and utilize a small amount of bandwidth, so data can be direct from the sensor to a resident’s device. A.I. can also provide information in multiple languages, non-real time when City representatives are not available, and intuitively for those accessing an A.I. database.¹⁷²

A.I. will allow everything from obtaining a building permit to finding out about parks and recreational activities to quantifying large data sets to a single address (such as economic development data for a particular block or neighborhood). East County City representatives noted that in order for someone to feel comfortable dealing with an A.I. database, it should ideally provide information and respond to inquiries in a “human-like” fashion, such that residents would feel as if they were dealing with a real person.¹⁷³

Finding 3.4: To achieve digital equity, the most important characteristics of communications technology going forward are Universal Design and affordability - According to the Center for Universal Design (CUD) at North Carolina State University, universal design (UD) is “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” and is a goal and process that places a high value on equality and inclusiveness.

The application of UD Principles when developing new technology was identified by the DIN focus group, is incorporated in the City of Portland Smart City PDX Priorities Framework, and has been advocated by many who seek to eliminate the digital divide.

¹⁶⁹ See Attachment 1 – Discussion Notes, pgs. 1-39 to 1-42.

¹⁷⁰ See Attachment 1 – Discussion Notes, pg. 1-41.

¹⁷¹ Ibid, pgs. 1-26 and 27.

¹⁷² See Attachment 7 - Bibliography, #7 and #27.

¹⁷³ See Attachment 1 – Discussion Notes, pgs. 1-45 and 1-47.

UD Principles include: Equitable use; Flexibility in use; Simple and intuitive; Perceptible information; Tolerance for error; Low physical effort; and Size and space for approach and use.¹⁷⁴ Participants in the DIN Focus group noted that if these principles could be applied as a systemic change in the way that technology is developed, it could facilitate devices and applications that enable the easy exchange of data for all different types of uses and users. This is key to improving adoption and digital literacy.¹⁷⁵

Today's smartphones, for example, take advantage of UD. While they are focused on a mass audience, smartphones have the ability to shape many basic functions instrument for all types of users. Building on smartphone functionality, smartphone apps also further enable universal functionality, for example, as health monitors and sensors, fitness trackers, and geospatial orientation and way-finding.

UD goes directly to address multiple factors for adoption of technology.¹⁷⁶

Ease of use goes squarely to being comfortable with using the technology and being able to either self-train or train in a non-complicated way so that the technology can be easily adopted. As an example, Kiosks have been popular because of their ease of use and advances with speech recognition, touch screens, multiple language choices, and other attributes make Kiosk functions more easily accessible to all.

UD Principles also support the ability for technology to continually evolve but in a seamless fashion for all users. For example, in the Qualitative Public Survey, 23% of respondents identified as living with a disability or that someone in their household lived with a disability. This group of survey respondents identified frustrations they had in using communications technology, including both assistive and non-assistive devices. Two frustrations noted, among others, were keeping up with changing technologies at 40% and the lack of inclusion of assistive technologies or devices or apps at 29%.¹⁷⁷ In the Scientific Residential Survey, 12% of respondents identified as living with a disability or that someone in their household lived with a disability. They also noted frustrations with the use of communications technologies, including keeping up with new technologies and that updates in technology happen faster than technology training classes.¹⁷⁸ When UD Principles of simple, intuitive, and flexible in use are applied to technology updates, the updates would be easily accomplished when technology changes so quickly for some types of adaptive and assistive devices addressing these expressed frustrations.

Technology also needs to be universally affordable. This is especially a challenge for new technologies that have high development costs due to developers and service providers seeking to recover their costs and make a profit. Sometimes, as in consumer electronics, early adopters are willing to "pay the freight" to procure technologies at high cost in order to be the "first on the block" to have these capabilities, thus ultimately lowering the cost for mass market introduction. However, this may not occur for all technologies and "affordability" varies depending on

¹⁷⁴ See www.washington.edu/doit/universal-design-process-principles-applications

¹⁷⁵ See Attachment 1 - Discussion Notes, pg. 1-52.

¹⁷⁶ See Attachment 1 – Discussion Notes, pgs. 1-50.

¹⁷⁷ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-3.

¹⁷⁸ See Attachment 2.B – Scientific Residential Survey Underserved Community Results, pg. 2.B-17.

individual circumstances (See Findings 1.7 and 3.1). The burden to make necessary technology affordable, and thus provide equitable access, may fall to public entities, nonprofits, or public-private partnerships, or may require public policy to ensure affordability for all.

Finding 3.5: Fiber broadband infrastructure must continually expand to keep pace with residential and business demand – Many technologies are driving the need to continually improve on fiber broadband networks, such as increased use of video, Smart Cities applications, and other technologies. Both residents and businesses view Internet access as essential and this has elevated the importance of network infrastructure for the community’s economic vitality and resiliency (See findings under Key Question #1 for data and discussion on these topics). All the local governments in Multnomah County are now embarked on a municipal broadband feasibility study to determine how they may cost effectively expand broadband reach and capabilities. They also must continue to expand the institutional network capacity per connection for many of the sites (See Finding 5.5).¹⁷⁹

Private companies must continue to expand and enhance their networks as well. All cellular wireless carriers are moving forward with 5G implementation. Its initial impact will be in denser areas, where a number of communications technologies, infrastructure and services are already available, in order to provide “densification” and higher capacity for 4G networks and emerging 5G applications. However, eventually, much like 4G, as initial capital investments are recouped, 5G-enabled applications will move further into less dense portions of the network. Wireline providers continue to look at driving fiber deeper into their systems in order to provide higher capacity, more reliability, and more symmetrical communications. In fact, some, like Frontier’s new owner Northwest Fiber, LLC, known currently through the brand name “Ziply”, are at least at this point, looking to upgrade Frontier’s infrastructure by developing more fiber-to-the-premise implementation.

Finding 3.6: Digital literacy, and the ability to adapt those skills to new technologies, is a primary employment skill most relevant for future prosperity and opportunity in the digital-age economy - The pace of technology is moving so rapidly that having only basic digital literacy will leave workers far behind in their ability to advance along a career path or find employment. Even entry level and middle-skill jobs require workers to use digital tools, applications, and networks to access and manage information. Since the beginning of the COVID-19 pandemic, skills in video conferencing, online graphic presentations, and communicating over multiple platforms also became more of a necessity. And the ability to create and share information via video has exploded in our social media driven society. Data indicates that the workplace will accelerate toward increasing reliance on using communications technology and digital-skilled workers to achieve the same, if not a higher, levels of productivity. Even prior to the COVID-19 pandemic, digital and multimedia literacy as a key component for not only work skills, but also life skills, was described by Esper House and every Sector and Stakeholder group (See Finding 1.10 and Finding 1.11 for data and discussion about economic opportunity and impact).

Finding 3.7: Future technologies will enhance relevant, local, diverse content by engaging the recipient (viewer, reader, listener, etc.) in more meaningful, intuitive and targeted ways - As noted by both local government producers of content, as well as the community media centers’

¹⁷⁹ See Attachment 1.B – I-Net Review Summary, pg. 1.B-2.

staff, producers and users, one of the challenges, even with a single topic, subject area or focus of a message, is to reach the diversity of people in the community and have that message have the same meaning. This is where new and emerging technologies will provide some tremendous capabilities. For example, local governments and community media representatives discussed virtual reality (VR), augmented reality (AR) and X-reality (XR) as having the capability to immerse the content recipient in the same message in different ways. For example, VR and/or A.I. could provide virtual tours of Parks, museums, or historic neighborhoods responsive to an individual such as in different languages, with additional information depending upon how long the virtual user stops in a given location, or with functionality that supports differently-abled people. As indicated in Finding 3.2, Kiosks combined with A.I. have the power to provide information, in a way which supports better comprehension by people with differing abilities and needs.

Interactive content has largely focused on social media, online gaming, and other activities, but will be increasingly used to provide other types of relevant, local, and diverse content. For example, the 360-video site development 3D model discussed in Finding 3.3 can be architected such that the community can actually make adjustments to the model and submit those back to the Planning department for a very graphic representation of any ideas they have for changes.

As with any new technology, the challenge will be to make the content available in forms from the most basic to the most complex, accessible by a diverse audience, and through multiple platforms.

Finding 3.8: Public institutions anticipate a high level of participation and engagement with new communications technologies, but not by all residents - Local governments note that they must keep pace with technology, both internally and for delivering services, based on the volume of services they provide and the level at which their residents and businesses are adept at using communications technology to access these services. Multnomah County focus group participants noted they can't be on the "bleeding edge" of technology but must be at or near the "leading edge" while providing services online, in-person and through written materials. Their perception, expressed also by the City of Portland and the City of Gresham focus group participants, is that they must keep up with new technology, including Smart Cities technologies, in order to serve their diverse population.¹⁸⁰ The smaller cities of Troutdale, Fairview and Wood Village expressed the need for similar capabilities and to invest in new technology because they perceive that some residents and businesses will demand that. However, they also have to be prepared to provide services in-person for those that aren't online or digitally literate.¹⁸¹

Telemedicine applications are certainly more commonplace now due to the COVID-19 pandemic than in the past. Even prior to the pandemic, two interviewees from Oregon Health Sciences University said their field anticipates telemedicine will continue to increase to better serve an aging population, with not only remote telehealth service, but monitoring services related to "aging in place".¹⁸² Since more people have now experienced telehealth and telemedicine services because of stay-at-home order and the focus of the medical community largely on response to COVID-19, it's more likely both patients and health professionals have become more comfortable and that for

¹⁸⁰ See Attachment 1 – Discussion Notes, pgs. 1-27 to 1-32, 1-35 to 1-37, 1-38 to 1-42.

¹⁸¹ Ibid., pgs. 1-45 to 47.

¹⁸² See Attachment 1 – Discussion Notes, pgs. 1-87 to 1-89.

many telemedicine and telehealth service use will rise based on convenience, lower cost, and a high degree of accessibility. However, for those that lack Internet access and/or appropriate devices, telehealth services will remain a challenge.

Esper House notes that many underserved populations already experience issues with current communications technologies and are likely to experience as much or more difficulty with new technologies, and don't necessarily see themselves taking advantage of them. For example, "schools and organizations that serve communities of color see communication technology challenges among families, which can affect educational and later professional growth and development. These challenges include prohibitive cost of accessing tools, unstable life circumstances, lack of knowledge about support and services, and lack of role models or leaders of color in technology industries".¹⁸³ Accordingly, these types of challenges need to be overcome first for current communications technologies. At least in some part, new communications technologies will only exacerbate the problem and expand the list of non-adopted technologies.

Finding 3.9: Emerging and new technologies will need to use the public right-of-way and assets to perform effectively - The public policy debates over local authority for cellular wireless companies to use of the local public right of way for 5G technology demonstrates the value of public assets in the roll-out of new technologies. A myriad of Smart Cities applications will need to access public right of way and assets as well. Most of these applications will rely on sensors located on assets such as streetlights, utility poles, and other vertical structures to, for example, count, monitor and control traffic flow or measure air particulates at multiple locations. Sensors, in conjunction with geospatial technologies and A.I. will also allow, for example, automated, driverless vehicles, or access directly to local government services without necessarily accessing the Internet.

As wireline providers upgrade their networks, such networks largely use the public right of way (rather than private property) to deploy communications technology services. This will require an expansion of infrastructure, as well as above-ground devices for communications network switching, network powering, service drop connections, and other system components.

Overall, this infrastructure, both wireless and wireline, is the backbone of the applications and services that will drive the future use of end-user devices for any particular communications technology.

¹⁸³ Esper House Report at pg. 13.

Key Question #4: What is the role of local government in meeting the communications technology-related needs of our communities?

Finding 4.1: - The community strongly supports local government working to ensure Internet services and devices are affordable and available to all, but for digital and multimedia literacy training, the supported approach is through partnerships with trusted community organizations and entities - Respondents in both the Scientific Residential Survey and the Qualitative Public Survey indicated overwhelmingly that it is important for the local government to work to ensure that all persons have affordable access to the Internet at home (see Table 6 below).¹⁸⁴ Those who have adopted broadband services are willing to pay for it, despite thinking it is more costly than it should be. They have also developed skills in the utilization of the Internet and other services delivered via broadband, for example telelearning from educational institutions or used for telework. They see more of the role of local government as ensuring that there are a lot of options available and that access is affordable.

Table 6: *How important is it that your local government works to ensure all persons have affordable access to the Internet at home?*

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
Scientific Survey	25%	36%	24%	13%	2%
Qualitative Survey	55%	28%	10%	5%	2%

Affordability is defined by individuals based on their specific circumstances as discussed in Study Finding 2.2. Esper House noted that “in all target communities, there is broad belief that government should provide or subsidize Internet devices and access”.¹⁸⁵ The library branch representatives echoed this sentiment, discussing the importance of the public access computers and publicly available Internet in the libraries.¹⁸⁶ Qualitative Public Survey respondents also confirmed the importance of availability of free public access to the Internet with 43% deeming it essential and 36% deeming it very important.¹⁸⁷

Although the Qualitative Public Survey showed, and others affirmed, the importance for there to be free computers and classes to learn how to use the Internet, with 31% saying it was essential and 32% saying it was very important,¹⁸⁸ the effective provision of those types of services focused more on trusted community entities and public-private partnerships.

For those that work with underserved populations, it is clear they believe it’s very important for local governments to be involved in efforts to educate and increase adoption, and that it benefits the local population overall. For example, DIN focus group participants talked about the importance of local government listening to the community, building trust, and continuing to be involved with public-private partnerships on initiatives related to adoption, low cost or no cost

¹⁸⁴ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-6.

¹⁸⁵ Esper House Report at pg. 14.

¹⁸⁶ See Attachment 1 – Discussion Notes, pgs. 1-54 and 55.

¹⁸⁷ See Attachment 3.A - Qualitative Residential Survey Results, pg. 3.A-11.

¹⁸⁸ See Attachment 3.A – Qualitative Residential Survey Results, pg. 3.A-11.

Internet services, and equipment availability.¹⁸⁹ Local governments universally echoed the belief that it was important for them to be engaged in these public-private efforts and many examples were given.¹⁹⁰

Esper House found that communities of color, seniors, and persons living with disabilities understood that local government was involved in education about issues related to digital equity and inclusion. However, Esper House also noted that “in all the target communities, individuals expressed apprehension and suspicion of government involvement regarding education and assistance with digital tools and access.” One community of color interviewee affirmed that “its mixed. Some folks don’t want the government to be involved. I don’t think the general public wants the government to be involved”. One senior interviewee indicated “I think it would come with some apprehensions here. Fear of Portland becoming “big brother’ watching”.¹⁹¹

Underserved community members did not express that same fear about non-profits and other community organizations that work with them. MetroEast Community Media, for example, noted they have successfully engaged underserved community members, both directly and through partnerships, who feel comfortable in participating in trainings and classes at MetroEast.¹⁹² Community organizations and other trusted entities can also better address barriers to accessing training as discussed in Study Finding 2.3 and Finding 2.5.

For those that don’t have access, local governments noted how difficult it would be to provide devices to everyone, so they work to develop sharable devices. The City of Gresham, indicated that they work with the libraries and others to help increase the number of locations equipped with everything needed, not just WiFi access to the Internet.¹⁹³ The East County cities are looking to develop a mobile access center staffed by volunteers who would provide access to Kiosks, cellphones and notebook computers, as well as access to the Internet.¹⁹⁴ With the increasing need to provide information in multiple forms and formats, it will be a challenge for local governments to help provide the public access to the technology that is needed.

Finding 4.2: As the public and businesses increasingly view Internet service as an essential utility, local governments may need to develop a higher level of involvement - In the study ten years ago, consumers indicated that a more competitive environment was a significant need.¹⁹⁵ Residential and business consumers still see this as a need for local government to ensure a level of competition. Qualitative Public Survey respondents indicated overwhelmingly (58% essential, 25% very important and 11% somewhat important) that their local government ensures that they have a choice of Internet service providers.¹⁹⁶

¹⁸⁹ See Attachment 1 – Discussion Notes, pgs. 1-51 to 53.

¹⁹⁰ See Attachment 1 – Discussion Notes, Public Agency Focus Group Notes, generally.

¹⁹¹ See Esper House Report at pg. 14.

¹⁹² See Attachment 1 – Discussion Notes, pgs. 1-69 to 70.

¹⁹³ See Attachment 1 – Discussion Notes, pg. 1-40.

¹⁹⁴ Ibid, pg. 1-46.

¹⁹⁵ 2010 Report, 3.B – Open codes, generally.

¹⁹⁶ See Attachment 3.A - Qualitative Residential Survey Results, pg. 3.A-11.

Table 7: *Importance of choice of more than one Internet service provider*

How important are the following to you?	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
Your local government ensures that you have a choice of more than one Internet service provider	58%	25%	11%	4%	2%

County Data indicates that business consumers feel the same way.¹⁹⁷

But in addition to an interest in competitive services, the majority of residents and businesses view the Internet as an essential utility (see data and discussion in Finding 1.12). It is notable that the question concerning the essential, utility-like nature of Internet service was framed such that it was compared with the essential nature of electricity, or power, which the population typically has seen as an essential utility. Electricity, at least at the transmission level, is a regulated utility due to its essential nature and the use of the public right-of-way to provide service, it will be important for local governments to look not only at its policy making responsibilities, but also at its regulatory authority. This would help ensure all residents and businesses have affordable access to the reliable, high-capacity, Internet service.

Finding 4.3: Pursuit of local public policies that protect security and privacy of an individual’s information from being shared or monitored by communications service providers is well supported by the universal importance placed on these issues by residents - Scientific Residential Survey, respondents overwhelmingly indicated (44% essential, 44% very important) that there were protections against their service providers selling or sharing their personal information. A similar response 41% essential, 46% very important, was given concerning their service providers do not monitor their services without authorization.¹⁹⁸

Table 8: *Importance of privacy protections – Scientific Survey*

How important are the following to you?	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
There are protections against your service provider selling or sharing your personal information	44%	44%	7%	3%	2%
That your service providers do not monitor your service without your authorization	41%	46%	7%	3%	3%

The Qualitative Public Survey registered those same concerns by indicating 96% essential and very important for protections against their service provider selling or sharing their personal

¹⁹⁷ County Data, business survey spreadsheets

¹⁹⁸ See Attachment 2.A - Scientific Residential Survey Results, pg. 2.A-7.

information and 95% essential or very important for their service providers not monitoring their services without authorization.¹⁹⁹

Table 9: *Importance of privacy protections – Qualitative Survey*

How important are the following to you?	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
There are protections against your service provider selling or sharing your personal information	76%	20%	3%	1%	1%
That your service providers do not monitor your service without your authorization	79%	16%	4%	0%	1%

Qualitative Public respondents also indicated other issues such as having reliable connections (76% essential and 24% very important), ensuring net neutrality, and ensuring enforceable rights.

Finding 4.4: People with disabilities believe government should lead in accessibility inclusion, as well as compliance with ADA standards - Esper House noted that a disabled interviewee indicated that local government should be the leaders but “they are one of the least accessible to people using assistive technology. They should be hiring more people with disabilities”.²⁰⁰ Another disabled person indicated that it took them several weeks to apply for women’s small business certification. They figured out how to do it with sighted help and an advanced screen reader. She indicated that “the design of it would have made it better, people knowing what they are doing for compatibility with assistive technology”.²⁰¹

Finding 4.5: Local governments need to ensure public safety, neighborhood aesthetics, and overall quality of life are not negatively impacted by new technologies that use public right-of-way and assets - Respondents to the Qualitative Public Survey indicated overwhelmingly that their local government ensures that public safety is not negatively impacted by new technology in their neighborhood (55% essential; 26% very important)²⁰² and that aesthetics and overall quality of life are not negatively impacted by new technology in their neighborhood (37% essential and 26% very important). A few respondents also raised concerns about environmental impact including one who indicated that “accountability to the environment (5G possible disruption to wildlife based on frequencies) is important; I’d rather have a less fast Internet than destroy ecosystems”.²⁰³

¹⁹⁹ See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-11.

²⁰⁰ Esper House Report at pg. 16.

²⁰¹ Esper House Report at pg. 16.

²⁰² See Attachment 3.A – Qualitative Public Survey Results, pg. 3.A-11.

²⁰³ Ibid.

Table 10: Q40. Importance of local government oversight of technology in the public right-of-way

How important are the following to you?	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
Your local government ensures that public safety is not negatively impacted by new technology in your neighborhood	55%	26%	14%	3%	3%
Your local government ensures that aesthetics and overall quality of life are not negatively impacted by new technology in your neighborhood	37%	26%	26%	7%	3%

Key Question #5: What has been the impact within our communities of the existing public benefit requirements of the cable franchise agreement?

Finding 5.1: PEG/I-Net fees, provided via requirements of the cable franchise agreements, have been integral in funding technology used to produce local video content and expand use of the I-Net – PEG/I-Net fees have been a substantial funding source for all of the public benefits further described below Community Technology Grants, TechSmart Initiative Grants, community media facilities and equipment, and I-Net facilities and bandwidth expansion and utilization. The funding totals \$49,302,729 over the last 10 years and has been an important resource to many community-based nonprofits, hundreds of public agencies and schools, and the diverse constituencies they serve. A continuation of this type of funding source is critical for these public benefits to not only continue, but to evolve to meet the MHCRC jurisdictions’ and the community’s needs in the future.

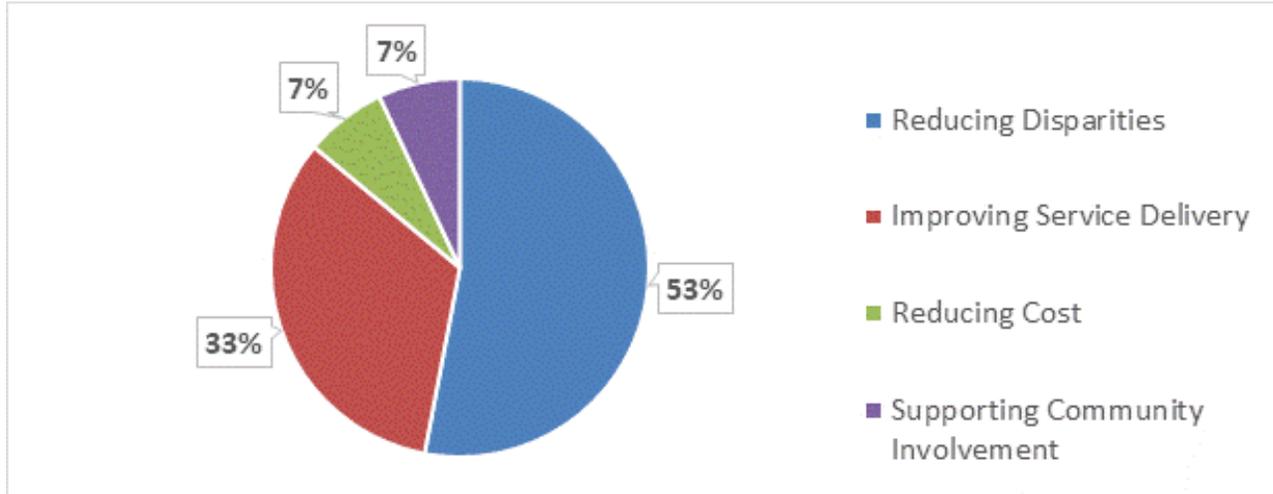
Finding 5.2: The Community Technology Grants, funded by cable franchise provisions, have substantially contributed to expanding local participation in digital society - In the last ten years, 90 Community Technology Grants totaling \$ 9,325,474 have been awarded to a diversity of non-profits, local governments, and educational organizations. Some of these include Friends of the Children, The Boys and Girls Club of the Portland Metro Area, Wisdom of the Elders, the Northwest Film Center, public schools, Portland Community College, Mount Hood Community College, and the Multnomah County Library.²⁰⁴

These grants have well supported multimedia and digital literacy and the development of programming for the community access channels, as well as expanded uses for the Institutional Network (I-Net).

The Community Technology Grants support projects in the four public benefit areas shown in the Chart below. The chart reflects the percentage of grant funds that have supported each of the public benefit areas over the last 10 years.

²⁰⁴ See Attachment 1.A – Grantee Report Summary, generally.

Chart 3: *Community Technology Grant Public Benefit Type Breakdown*



Each of the four public benefit areas is described in more detail below followed by examples of grants in each area:

- Reducing Disparities for Underserved Communities: Forty-seven grants in this area supported the development of equipment and related training and education for underserved communities, such that they can better participate in the digital society. The Rockwood Innovation Station, funded in part by a grant with matching funds from Multnomah County Library, provided a “Makerspace”, located at the Rockwood library in a low-income area. It was developed as a collaborative learning environment for underserved youth in East Multnomah County to explore STEAM (Science, Technology, Engineering, Arts and Math), utilize technology and develop interactive data communications over the I-Net.²⁰⁵

Outside the Frame, supported youth transitioning out of homelessness and was designed to change how these youth see themselves and are seen by the public. As a result of this grant, more than 100 youth participated in workshops and became fully trained on how to use film and other video production equipment.²⁰⁶

- Improving Service Delivery: Twenty-eight grants in this area helped improve the delivery or increased the effectiveness, of public or non-profit services. IFARA used a grant for digital video production equipment in order to expand their productions, distributed on the community access channels, related to health issues for individuals in all levels of education, gender/sexual orientation, ethnicity, and culture. They conducted trainings with multiple organizations to use the equipment and worked with their partners to not only be part of the content, but also part of the technical program production for training purposes.²⁰⁷

²⁰⁵ Ibid, pgs. 1.A-11 and 1.A-12.

²⁰⁶ Ibid, pgs. 1.A-17 and 1.A-18.

²⁰⁷ Ibid, pgs. 1.A-8 and 1.A-9.

Film Action Oregon/Hollywood Theater created a media lab with its grant together with Portland Community Media (now Open Signal) at Open School North (OSN) where at-risk youth gain access to technology and media arts instruction. They produced 141 animated and live action media projects, including 31 programs submitted for community access channels.²⁰⁸

- Improving Community Involvement: Twelve grants in this area were for projects that supported or encourage involvement in issues of importance to the community. The Slavic Communities Center of Northwest leveraged its grant with matching funds to create a video platform that gave local Slavic leaders the opportunity to express themselves, as well as help their community members to be more involved and engaged in the city. They developed 12 programs that were submitted to Open Signal as well as a number of videos utilized on social media and YouTube. All focused on the Russian and Ukrainian specific community.²⁰⁹

XRAY.FM gained their own production equipment, and collaborated with MetroEast, to record their radio programs on video to expand distribution on community access channels and other video platforms. They developed over 160 programs and trained volunteers to operate the video equipment. They indicated having this type of video content also opens up new avenues of sponsorship for their station.²¹⁰

- Reducing the Cost of a Service or Function: Three grants in this area supported the provision of non-profit or public services or functions less expensively. MetroEast Community Media used such a grant for development of their program scheduling, asset management and interactive video systems.

Many times, these initial grants lead to sustainability of the initiative so that the program can continue.²¹¹

Finding 5.3: The TechSmart Initiative for Student Success, funded through public benefit requirements of the cable franchise agreements, has provided critical teaching and learning technology for public schools and the students they serve - The Mt. Hood Cable Regulatory Commission launched The TechSmart Initiative for Student Success in 2014 as a way to strategically invest in local public K-12 schools to positively impact academic outcomes for all students in Multnomah County. The Initiative leverages the use of the I-Net (see Finding 5.4) by all schools throughout the County and the nearly \$17 million for initiative funding was derived from the cable franchises' PEG/I-Net Fee (see Finding 5.1). The Initiative supports teaching and learning technology in classrooms and assists school districts' efforts to close the achievement gap. The Initiative funded projects in six public school districts and supported 268 classroom teachers through school year 2019-20 (Initiative funded projects end in school year 2021-22).

²⁰⁸ Ibid, pgs. 1.A-9 and 1.A-10.

²⁰⁹ Ibid, pg. 1.A-14 and 1.A-15.

²¹⁰ Ibid, pg. 1.A-16 and 1.A-17.

²¹¹ Ibid., generally.

During the workshop with Public School Districts, participants discussed the impact of the TechSmart Initiative grants on their ability to teach, train, and educate, and their students’ ability to learn and participate in a digital society. For example, they talked about how they communicate externally to engage parents and the community at large utilizing social media such as Facebook, Twitter, the districts’ websites, and culturally specific apps such as WeChat. Through applications such as Google Classroom, a variety of activities can occur such as getting real time feedback from students as well as being able to extend the learning day, and connect with students at home, as well as their parents.²¹²

In middle school, public school districts have been going for a 1:1 device to student ratio so that each student has a device, and then higher-grade level students are able to take them home. One district has also been looking within their community at partnering with other entities to develop community computer labs, which would be staffed by school district faculty and staff and the schools would become hubs, where these labs would open up for use well beyond the school day.²¹³

TechSmart Initiative grantees overwhelmingly indicated that communications technology and media technology literacy are very important to their students’ ability to have a successful career in the future. They indicated that “students need 21st century skills of problem solving, creativity and collaboration”. These are agnostic of tech, but they have to have tech in order to participate in digital society.²¹⁴ They noted that “early access and exposure can help to reverse the traditionally underserved groups in tech careers”.²¹⁵ Although the workshop was held before the stay-at-home orders caused by the COVID-19 pandemic, it’s clear that the skills gained by the district staff, teachers, and students through TechSmart funded technology are extremely important to the abilities of teachers and students to participate in tele-learning from home.

Finding 5.4: The community media centers and associated community access channels, enabled and funded in part by cable franchise agreement provisions, continue to foster the development of hyperlocal programming by and for residents throughout Multnomah County – As the data in Finding 1.4 demonstrates, hyperlocal community media programming is seen by residents as important and is significantly viewed. Respondents to the Scientific Residential Survey indicated a 46% overall awareness of the local cable PEG access channels, with awareness at 57% among cable subscribers. For those that were aware, viewership was significant when compared against all the other viewership options available.

Table 11: *About how frequently, would you say your household views any local community access channel programming?*

Daily	Weekly	Once or twice a month	Less often than once or twice a month	Never
5%	8%	17%	34%	36%

²¹² Attachment 1 – Discussion Notes, pgs. 1-4 to 1-6.

²¹³ Ibid, pgs. 1-6 to 1-9.

²¹⁴ Ibid, pg. 1-11.

²¹⁵ Ibid, pg. 1-12.

The majority of viewers utilized cable at 65%, 21% online, and 7% both via cable and online.²¹⁶ The Scientific Residential Survey also tested the importance of hyperlocal community access channel programming. Regardless of how often someone may watch it themselves, nearly three quarters of all respondents to the Survey (cable subscribers and non-cable subscribers, cable viewers and online viewers, and non-viewers) indicated a level of importance. This shows the significant impact of community media in Multnomah County.²¹⁷

Table 12: *Regardless of how often you may watch, how important is it that local community access channel programming be available? Would you say it's...*

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
All Respondents	8%	30%	36%	23%	4%
All Cable Subscribers	9%	31%	36%	20%	4%
All Non-cable Subscribers	7%	28%	35%	26%	4%

A review of recent activity reports (pre-pandemic) shows that both Open Signal and MetroEast are very active in supporting multimedia and digital literacy. Specifically, Open Signal in a one-year period, provided a total of 96 classes and workshops focusing on everything from introduction to film and video production and post-production (editing), to training on motion graphics, stop motion animation, and sound-stage studio and screening. 601 community members were trained.

Open Signal’s media literacy programs also included those provided through partnerships and special workshops with the Oregon Center for Public Policy, the Alliance for Media, Arts and Culture, the MEChA Conference and Grant High School. Open Signal also continues to support its Black Filmmaker Fellowship program focused on support and development for people of color in professional filmmaking.

MetroEast over one year offered a total of 89 training classes and workshops attended by 522 community members. This included everything from basic video production classes (camera, studio, field production and editing) to use of DSLRs for both photography and videography, and iPads and Go Pros for point-and-shoot video production. They also partnered with groups such as Rockwood DIY, the City of Gresham’s Pathways to Employment Program, Free Geek, IRCO, Africa House, and Portland Youth Builders to expand digital literacy concerning use of computers and smartphones.

Both MetroEast and Open Signal work with local governments to produce public meetings and distribute other outreach and service-oriented programming. Together, the community media centers in 2019 covered 274 government meetings as part of 1,505 hours of government programming. All the local governments indicated that the assistance was beneficial and an important part of their provision of information to the community.

Portland Public Schools continues to provide local meeting coverage and other programming by and about the school district and its schools and sees its community access channel as a valuable

²¹⁶ See Attachment 2.A – Scientific Residential Survey Results, pg.2.A-3.

²¹⁷ See Attachment 2.A – Scientific Residential Survey Results, pg.2.A-4.

part of its overall provision of communications and outreach services.²¹⁸ Portland Community College continues to provide a substantial amount of evergreen²¹⁹ programming to the community and its Media Services department is working on future strategies concerning its overall production and distribution of content, including for its community access channel.²²⁰

Finding 5.5: The Institutional Network (I-Net), a private-public partnership required under the Comcast franchise agreement, has provided long-standing reliable and affordable network connectivity for hundreds of public facilities - The I-Net was constructed and has been expanded and upgraded as a public benefit under the Comcast cable franchise to provide affordable network bandwidth to schools, libraries, and public agencies. The PEG/I-Net Fee (see Finding 5.1) pays Comcast to build new I-Net connections and funds equipment to upgrade and expand I-Net use by public agency customers. In 2019, 18 public institutions were using the I-Net with 310 connections.

Proof of the I-Net's value is the expansion since 2010 of 65 new locations and circuits for numerous public entities including, sheriff and police facilities, fire stations, public libraries, courts locations, community centers, public works facilities, schools, other city facilities such as the Troutdale City Hall, and public health facilities.

Public agencies, schools, and libraries continually need to increase network capacity and forecasts show this will not change for years to come. In 2010, I-Net users indicated bandwidth needs were doubling every 18 months.²²¹ In 2018, as reported in the CTC Fiber Optics Needs Assessment, the Multnomah Education Service District reported bandwidth needs increasing 60% to 80% compounding each year (90% to 120% per 18 months).²²²

Overall, the Institutional Network has provided the reliable, stable network connectivity and capacity that school districts and government locations need to facilitate both administrative operations and services to students, residents, businesses, and customers.²²³

Finding 5.6: Franchise fees, paid by cable companies as part of the compensation for their private business use of the public right of way, continue to have a high value for the MHCRC member jurisdictions - While cable subscribership overall has continued to decline, franchise fee revenues have not dropped as precipitously due to increased cable TV rates. Franchise fees for the MHCRC jurisdictions have totaled \$83,279,421 over the last 10 years showing that it is a substantial revenue resource for MHCRC members. Franchise fees can be utilized for any purpose and provide the MHCRC member jurisdictions with general fund support (which is an important resource at this time because of the drop in tax and fee-based revenues due to the pandemic). Also, while both Open Signal and MetroEast have made strides in developing alternative revenue

²¹⁸ See Attachment 1 – Discussion Notes, pg. 1-78.

²¹⁹ “Evergreen” programs are video productions that are considered timeless and have a long shelf-life, so have value to viewers over a number of years. This would include content such as films, documentaries, concerts and other performing arts, historical programs, etc.

²²⁰ See Attachment 1 – Discussion Notes, pg. 1-72.

²²¹ 2010 Report, pg. 67.

²²² See Attachment 1.B - I-Net Review Summary, pg. 1.B-3.

²²³ See Attachment 1.B - I-Net Review Summary, pg. 1.B-3.

resources, the lions' share of their operations is still funded, either directly or indirectly, through the cable franchise fees.

It is important to note that this franchise fee compensation is based on only a percentage of gross revenues for the video services portion of the services cable companies provide over their infrastructure. This infrastructure utilizes thousands of miles of public right-of-way throughout Multnomah County. Under Federal law, local governments do not receive any compensation for use of their public right of way by cable companies to deliver their profitable Internet service. Accordingly, franchise fees are a distinct benefit of local cable services franchises.

Finding 5.7: The cable franchise public benefit requirements have supported efforts to expand digital inclusion – As noted in Findings 5.2, 5.3, 5.4 and 5.5, implementation of the benefits derived from the cable franchise agreements have enabled and supported digital inclusion for the past ten years. For example, the community media centers have had the operations and capital support and distribution platforms to provide digital literacy and multimedia literacy services; the MHCRC community grants have supported digital technology for schools and nonprofits to provide digital inclusion services to their underserved communities; and the I-Net has assisted public agencies to provide robust Internet service to students, library users, and members of the public; many who would not otherwise have access to the Internet. All in all, evidence suggests that the past ten years would have looked starkly different for many of the communities included in this Study without the public benefits provided through the cable franchises.

Question #6: How have our communities' access to communications technology changed in the past 10 years?

Finding 6.1: Network capacity is substantially higher today than it was 10 years ago - For example, the I-Net (see Finding 5.5) has more sites connected and the available bandwidth and utilization has increased. Data communications with higher capacity requirements, such as geospatial files, video communications, and “big pipe” aggregated access to the Internet, have been the primary contributors to the need for higher network capacity on the I-Net for public agencies. Additionally, capacity for growth has been built into today’s networks, for increased video communications (e.g., video monitoring and surveillance, internal and external video communications, aggregating video from squad cars, fire apparatus, body cams, etc., for public safety purposes, etc.); a host of new “big data” applications to ultimately provide as open data for residential and business use (including 3D modeling, 360-video and other graphic intensive data); and Smart Cities applications driven by A.I.. Although a lot of Smart Cities applications are based on low capacity monitoring, control and telemetry types of data communications, the wealth of them added together will continue to push the need for higher bandwidth on public agency networks.

The demand on capacity for public WiFi has increased over the last 10 years which has pushed the need for, even if its segmented or partitioned on a public agency network, higher overall bandwidth, including higher overall back-haul and higher per site connection bandwidth.

Regarding private networks, consumer demand has escalated exponentially over the last 10 years. Some of the technologies facilitating today’s private networks, include new cellular broadband technologies through 5G (Fifth generation or Next Gen), higher capability portable computing devices (many smartphones today have more computing capacity than some desktops did ten years ago), and an increased level of sophistication in miniaturization of communications technology components as well as in all types of applications and ancillary devices (such as health monitoring devices and applications) that work in tandem with the smartphone. Paraphrasing one technology analyst, “there will never be enough bandwidth, but there will always be a push to develop more”.²²⁴

Finding 6.2: People continue to access content in more, new and different ways, while maintaining the need, because of the diversity of the population, to provide content in traditional ways - As noted in the 2010 Report, the “long tail” of media delivery was already long and is getting longer.²²⁵ The “long tail” is a characterization developed in the mid-2000’s to describe the need to continue to provide information through multiple traditional media, as well as new media, in order to reach all the population. Essentially this means people are accessing content in every way from traditional print materials to 280-character tweets and other forms of social media, video communications, and augmented reality; and those methods, most likely, won’t go away as new and different technologies continue to come onboard to access and deliver content.

²²⁴ See Attachment 7 - Bibliography, #4.

²²⁵ 2010 Report, pg. 53.

Sectors and Stakeholders noted in the Findings under Key Question #1 a substantial amount of content access is on smartphones, and most of it through apps. For example, the City of Gresham representatives indicated that information from a survey they conducted showed that 80% of their residents access the content the City provides on their smartphones.²²⁶ This is partly driven by the ease of use, the relatively affordable device and data plan (vs. a laptop and wireline broadband connection), apps continuing to expand in diversity and capability, and the high degree of capability for voice, video and data communications.

Streaming video (the number of services, the types of video that can be accessed and its optimization for multiple types of devices) has vastly increased in the last ten years. More than three quarters of cable television subscribers also have a streaming service in addition to their cable television service.²²⁷

While community media viewership, like all the channels on the cable system, is down in from ten years ago, (this is largely due to more channels available on the system, as well as more video outlets that, while they may not be on the cable system, are now available through a Smart TV and Smart Remote at the same monitoring location), in comparison to other channels, they are still highly viewed.²²⁸ This likely goes to the hyperlocal nature of the content. In the Qualitative Public Survey, community, and neighborhood news, is the highest desired type of local community access channel programming.²²⁹

Table 13: *Community Access Channel Viewership Comparison over 10 Years*²³⁰

	Daily	Weekly	Once or twice a month	Less often than once or twice a month	Never
2010	16%	19%	20%	17%	28%
2020	5%	8%	17%	34%	36%

Websites are still highly used but their mobile versions have become more important over the past ten years (again because of the preponderance of apps, increase in smartphone use, and the need for cost-effective portability).

Virtual reality/augmented reality/X-reality has risen substantially over the last 10 years, for everything from entertainment to gaming to provision of information in a “you are there” fashion, as well as A.I.. A.I. has taken substantial leaps in recent years.

Finding 6.3: More people are creating video content on their own, but are still using the low-cost training and higher capability equipment and facilities provided by the community media centers - The content produced at the community media centers now is much more than

²²⁶ See Attachment 1 – Discussion Notes, pg. 1-38.

²²⁷ See Attachment 7 - Bibliography, #17

²²⁸ See Attachment 7 -Bibliography, #2. In 2019, no commercial cable channel averaged more than 3% daily viewership (out of total television households).

²²⁹ See Attachment 3.A - Qualitative Public Survey Results, pg. 3.A-6.

²³⁰ In 2010, only viewership of community access channel programming by cable subscribers was tested. During the 2020 study, viewership was tested for both cable subscribers and non-cable subscribers combined, which provides a better comparison with national data concerning viewership of other channels.

the 30-minute or hour-long video shows, which was the predominant type of content a decade ago. It is increasingly short form video that can be distributed across multiple platforms.

Ten years ago, most video content producers who used the community media centers did so because they relied on the center for all their video production needs. However, the capabilities of DSLR cameras (Digital Single Lens Reflex – used for both high resolution photography and videography) and smartphones, especially for beginning video producers due to the ease of use while maintaining high quality video production, have enabled many to produce video programs without using an organizations’ resources. However, access to higher capability devices, including professional type HD4K cameras, as well as editing equipment and software with much higher capabilities and new technology are still in high demand and being used at both community media centers.

See additional data in Finding 5.4 related to media literacy training provided by both Open Signal and MetroEast concerning use of both producers’ personal devices, as well as the equipment available at the centers.

Esper House notes that “all target communities described increased community engagement through social media and media production over the past ten years”²³¹ using their own personal devices.

Ten years ago, Digital Equity had not yet come into focus as a need for a healthy community in our digital-age society. However, since that time, the community media centers have partnered with many groups that serve diverse populations in the community, focusing on a progression from basic to more sophisticated education around digital and multimedia literacy, and are enabling distribution of community media produced both outside and inside the facility.

Interactive content is also at a much higher level than it was 10 years ago, including a number of social media services that now have interactive video components.

Additionally, the business community is more focused on video and graphic communications, knowing that this is the primary way that all populations receive news and information. The City of Gresham notes for example, for small businesses, videos are becoming more important and as such, they need to be fluent in multimedia literacy in order to provide effective outreach.²³²

Finally, the COVID-19 pandemic has certainly changed the way everyone is creating and delivering content, because of the stay-at-home order, to meet the need for continual contact with families and friends, coworkers, employers, and others. Accordingly, video conferencing and video chat systems have seen a huge increase in use in the last several months and are forecast to continue at a high level even after the COVID-19 pandemic subsides.²³³

²³¹ Esper House Report at pg. 16-17.

²³² See Attachment 1 – Discussion Notes, pg. 1-42.

²³³ See Attachment 7 - Bibliography, #9.

Finding 6.4: A smaller percentage of households have cable TV and more households have broadband and Internet services in comparison to 10 years ago - Specifically, cable TV subscription in Multnomah County has dropped over 28% in just the last 5 years, while broadband and access to Internet at home, based on the Scientific Survey, has increased by about 10% of the overall population in the last 10 years. Differing from 10 years ago, cable TV is more expensive but also has a higher number of services, and broadband access to the Internet has much greater capacity. National data and this Study indicates that broadband, for those where it is available and who can afford it, reaches a diverse population, while cable TV tends to skew older with some adjustments age-wise based on households with parents and children, younger households that are heavily into sports (because there's more sports coverage on cable TV than there is through any other means), and some lower socioeconomic households where cable TV can continue to provide a beneficial price/value comparison versus other forms of entertainment.

Finding 6.5: Residents' views about a local government role for protection of privacy, security and consumer issues and regulation of the public right-of-way have not changed since 10 years ago, although concerns about these issues have increased - While 10 years ago there was a high level of concern related to information security, sale of personal information, invasion of privacy, and similar issues, it now is an overwhelming concern and one that people want their local governments to pay attention to (see Finding 4.3 and 4.6 for data and discussion on this topic). The one caveat, is that populations that have a large distrust of government overall, also do not trust them to intervene positively in these arenas, but rather are concerned about the government themselves invading their privacy.

Local government continues to be the main regulator for use of the public right-of-way and residents continue to want to ensure that public safety is maintained and that aesthetics are maintained (see Finding 4.5 for data and discussion on this topic).

Additionally, the need remains high for local governments to continue to be an effective force in consumer protection related to cable service because the local government (through the MHCRC) is the only level of government that directly assists cable customers with complaint resolution; tracks complaint trends and data to identify issues for further enforcement or legal action when necessary; and enforces local customer service standards. While there have been some strides in increasing positive ratings of customer service characteristics, it is not at the level of the most highly regarded service providers (see Findings 1.13 and 1.14 on this topic).

As it did 10 years ago, the MHCRC continues to have a critical oversight role in monitoring the cable companies' customer service response, and advocating for consumers when they have not been able to resolve complaints directly with the company. The fact that these complaints have dropped in 2019 from prior years (based on MHCRC annual complaint reports), which is consistent with the industry as a whole achieving a higher ACSI rating (see Finding 1.13), indicates that this active oversight role is having an impact on improving customer service.

ATTACHMENT 1

WORKSHOP, FOCUS GROUPS, AND INTERVIEW NOTES

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Attachment 1 Workshop, Focus Groups, and Interview Notes

Public School District Workshop

TechSmart Initiative - K-12 Educators Workshop February 25, 2020 8:00 a.m. - 10:00 a.m.

A workshop was held with representatives of multiple school districts, including a large number from the Portland Public Schools, as well as others from districts such as the David Douglas School District, the Parkrose School District, the Reynolds School District and the Gresham Barlow School District. These districts have been recipients of TechSmart Initiative grants, and the purpose of the workshop was to determine the current and future communications technology needs and interests of the school districts participating in the TechSmart Initiative, as well as how the grant funds have been utilized to improve and enhance the use of communications technologies for both internal operations as well as to provide services to students, parents and the Multnomah County community at large.

Because there were nearly 30 participants in the workshop, the group session was organized into opening and closing general session discussions, with five breakout sessions in between focused on the five topics listed below. A PowerPoint focused discussion guide was used for the general sessions, and each facilitator focused on different topics (described below) in each of the breakout sessions.

Key findings from the opening general session discussion related to the use of communications technology for internal operations were the following:

General Discussion on Internal Communications

What types of communications tech do you rely on for internal operations?

- The following applications/programs are being used:
 - Email
 - Moving towards cloud-based, iCloud
 - Google chat - multi-level, organizational participation
 - Among cohorts
 - IT, principals, administrators
 - Share updates on things in schools
 - With TechSmart people as well
 - Radios to communicate - two-way radio, walkie-talkies
 - OneNote collaborative notebooks
 - Slack - chat program
 - Shared drives
 - Share docs and information, fast
 - Teams
 - Has chat feature and project management, shared drive

- Text messages
 - Not everyone has a radio
 - Use for around the building
- Websites
 - Announcements
 - More pages linked to projects and updates
 - Creating on their own
- Intranet - less functional
- Via newsletters - online, with links
 - Usually PDF format
 - Hope schools are distributing them
- In-person meetings
- Google Classroom, Google Voice and other Google apps
- For training, use learning management systems
 - Pepper
 - Schoology
 - Staff training modules
 - Track proficiency standards

What do you not have access to? Missing, wish you had?

- More video presence and use
 - Would like to be able to do easily and quickly
 - If we do now, would take too much time
 - Would like to be able to use video communication in quick way
- In previous school, used video for morning announcements
- As a tech coach, want to know what's happening in other schools
 - From other tech coaches
 - Resources they are using
 - Some way to curate that information that is manageable
 - Tried sites and hype docs, but having one place would be better
- Screen Cloud is being set up
 - Upcoming events get displayed on a monitor

Concerns about security with cloud-based?

- Lots of nods yes
- Districts taking action? Hopefully.

Barriers to access to tech?

- Cost - K-12 most at risk due to lack of funds
- Compatibility issues - browsers, for example; also programs and devices
- Need someone who specializes in internal communication just like we have someone who specializes for external

- Need someone/resources for using technology for teaching and learning, deeper knowledge and expertise
- How to train staff/faculty without specific resources for training
- We use Remind with our families
 - Works pretty well
 - Teachers able to share assignments, upcoming events, with families, etc.

Internal communications - are there barriers that you run into? Cost?

- Yes, cost is the #1
 - Cost is time as well
- K-12 is at risk related to data security due to lack of funds
- Still running unsecured wireless in most of buildings
- Hardware tech issues

Is there emerging technology for internal operations that would improve networking within districts, and between TechSmart partners/coordinators?

- More robust information sharing/communications platforms
- Looked at Schoology for a bit
 - Liked that there was a social platform
 - Create something that is living and easy to update and easy to find things
- Would like a version of Google chat
 - To find something, could just ask someone
 - Don't have to send an email
 - Real time response - ways to pool everyone's knowledge
- Active and intelligent data warehousing
- Would like to be able to communicate across platforms more easily - flexible, that everyone can use
 - Use any device to access
 - Better tech integration
- Student use of tech and communicating among themselves or with teachers
- Limited for younger students but see it developing and being more sophisticated over time as they get older
- Need to be careful we're not putting too many ways to communicate, because then you lose time trying to figure out where to go and which resource is meant for which task
- Wonder how much time is wasted with people being unsure of what to use, or re-creating something because you can't find it

Key findings from the five breakout sessions are described below:

Breakout Discussion Topic 1: Communications technologies you rely on for externally engaging successfully with your constituencies, such as students, parents and the community at large

All Groups Combined

- IntegratED Conference workshop
 - Presented research around two-way communications; applicable to teacher communications with parents
- SeeSaw
 - Younger kids
 - Videos used for collaboration/comments on each other's work
- 2:1 device
 - Students
 - Use gets kids to collaborate
 - Best way for kids to see each other work and for parents to see
 - Chinese immersion program uses for verbal recording of kids and can send home
 - Most success for ongoing communication/documentation of student learning
 - Auto translates messages into parents'/students' language phone setting
- Remind
 - Students/families communications
 - Shows who has looked at it/collects/documents communications
 - Has an "office hour" function so teachers can let students/parents know when teachers are available to interact
 - Can send texted pictures
 - Parents notifications via text message
 - Discussions among students
- Google Classroom
 - Works well with 1:1 device
 - Middle school students
 - Teachers/students comments
 - Use for training for teachers/admin around use of technology
- Google Voice
- Shared Google docs/Gallery walk
 - Students real time feedback
 - Extend learning day and at-home
- Digital literacy/classroom management around technology
 - Teaching kids how to use tech for learning
- Start discussion around
 - Why started this way
 - Not about you
 - Tech is in-service to teaching
- Konstella
 - App/web platform announcement

- Can create subgroups
- PTA uses to organize/engagement/volunteers
- Paper Flyers/Newsletters
 - Send home with kids
 - Post on school bulletin boards
- S'more
 - Online newsletter-pamphlets
 - Paid subscriptions
 - Easy template
- MailChimp
 - Online newsletter - video, PDF, live links
 - Translation link
 - Send link through School Messenger
- School Messenger
 - Use for communication with parents
 - Phone messages
 - Auto phone and text messages
 - Individual text messages
- Recent PPS Pilot
 - Text messages
 - Short questions
 - Feedback loop from families
 - Helps keep families in loop and avoid miscommunications
 - Administration decided not to use this district-wide
- Class DoJo
 - Can take picture of attendance
 - Other data that sends text to parents
- Synergy
 - Group messages to parents
- Twitter
 - Recent push at PPS for administrators to communicate with parents
- PTAs
 - Facebook pages
- Phone calls
 - Voicemail for attendance/special events
 - Sometimes individual phone calls from teachers
- Auto-dialer/bulk phone app
 - Translates messages into different languages
- Instagram
 - Mostly students communicating with other kids
- Website
 - Parent notifications
 - Each school has website along with District
- Let's Talk
 - Accessed through website

- Parents/community stakeholders
- Key words distribution to who would address issue
- Tracks response rate of administrators
- We Chat app
 - Culturally-specific use
 - Part of Chinese culture - app used more by this community
 - School uses because of student population
- Culturally-specific
 - Principals communicate explicitly with Mosques in area
 - Email info
 - Post on physical bulletin board
 - Emails, etc., to families
- Classroom reps
 - Parent who communicates to classroom parents about activities/participation
 - Use email/texts/phone calls depending on school
 - Some in different languages
- Lexia
 - Has translator function

Breakout Discussion Topic 2: Overcoming the barriers to your students and parents accessing and adopting communications technologies

Group 1

- Our district has the digital Promise Grant which provides devices that have connectivity.
- Parent who communicates to classroom parents about activities/participation
 - Have this in 5 middle schools (PPS)
- We need more time and places where you can come and use devices and get your work done.
 - Beaverton doing after hours.
 - Staffing would be a barrier to this.
- Discussion about mapping of free WiFi near schools
- Our school does geek squad.
 - This is where students volunteer 25 hours and students can build a computer through free geek
 - Basic Linux systems
 - Training
 - It is their laptop after they build.
 - 20% of kids have done it at one of the PPS schools.
- Best five partnership grant.
 - Computer lab in the community and they would help staff it.
 - Idea that schools would become hubs where these would be open.
- Digital citizenship.
 - Educational entities are the go-to for any type of education
 - Families feel like they are out there on their own
 - Parents don't have the background to do that.
 - Schools are the trusted entities because they are the social default.

- Digital citizenship for parents feels like a really neglected after thought.
- Families need the education because of the devices at home
- We are trying to get it into the health curriculum at PPS and get it on the report card.
- National PTA is doing a push and funding schools to do digital information nights.
- Makes most sense to do it in context.
 - For example, teach kids about copyright laws during video making
- For students, it is the responsibility of the media specialist because that is their standard.
- It is school by school in PPS.

Group 2

- Barriers
 - Too many platforms
 - Cost
 - Time
- We are being intentional about the plan to shift to technology. We are going to pick 2 ways and distribute info that way
- We keep finding out that parents haven't been using apps
- Overcome
 - Went 1:1 for middle school so each student has a device. 7-8th graders are able to take them home.
 - Internet service can be a barrier.
 - We talk to them about low income option for Comcast \$10/month.
 - We provide 3 after school days a week where teachers provide support afterschool.
 - Homework club.
 - This works because we are mostly a walking school so this is accessible to more students.
 - I have been asking parents to bring computers in and let me trouble shoot the problem for them.
 - There hasn't been training for teachers on how to use a computer, bookmark items, etc.
 - Teachers haven't been given the ongoing PD to keep up with it.
 - TechSmart coaches are constantly posting issues on chat and solutions.
 - If we had a tech board for parents, that might help
- Digital Literacy
 - Role of school?
 - Yes, parents and families bring their kids to us every day.
 - Many parents don't have a clue.
 - We are talking about a shift in the way humans interact.

Group 3

- Barriers
 - There are some languages at my school that are only a spoken language, not a written language.
 - Have to call those families to communicate.

- At my school, we make sure to detail “this is how we communicate”.
- Families will come in and say I didn’t know. We share in 5 methods.
 - Board outside of school
 - Posters in hallway
 - Website
 - Weekly blurbs
 - Monthly newsletter
- One school is using Google forms as the newsletter to be interactive.
- We have some parents who are very anti-screen time.
 - Coming up with modifications and alternate activities for those families.
- As a district, we do not have a policy on screen time and we should have one.
- Digital Citizenship
 - Gray area
 - The library the curriculum...media specialists...it is on their curriculum to teach.
 - Beaverton shows the film “screenagers”.
 - There is a version shown to kids in school and at parent night for discussion.
 - Majority of parents who come to parent nights are white and the same who come to everything.
 - We need to connect with families that are hard to connect with.
 - The parents who come already know everything

Group 4

- Barriers
 - Parents who want to be using the technology at home and the process for signing in to access what the students are accessing at school.
 - Devices at home might not support what is happening at school.
 - Have had to meet with parents with their device.
 - Parents don’t even know who to come to for help.
 - With TechSmart, the biggest barriers are parent access at home and them understanding what we are doing with technology.
- Parents want to start a group on Internet and device safety.
- Equity of access
- Next year, not having a coach in the building, I know there are going to be teachers who won’t be able to support the parents through the process.
 - Do more education with staff and teachers about this.
- Trained office staff to have access to the technology.
 - It is an understanding that we shouldn’t leave parents with a question mark.
 - Need to equip office staff to answer questions
- Where do our parents hang out the most?
 - Sometimes I go to local church, grocery store. Be part of the community
 - Do it for them rather than give them instruction.
 - Use EAs, etc.
 - Sometimes support staff say, I can do a lot more than what I am asked to do.
 - EAs live in the community and know the parents.

Group 5

- We have had some parent nights.
- Tossed around the idea of having training for parents regarding what the kids are using at school, digital citizenship.
 - Pushing DC hard with kids, as early as kindergarten.
- Digital Citizenship needs to be pushed harder.
 - I am seeing it not being practiced.
 - How to bring students into it...carbon footprint.
 - Start practicing it now before you get into the real world.
- Parents should be controlling the use of devices.
- We had fights last week that stem from social media.
- Students lie about their age when they sign up for the account.
- Whose job is it?
 - We should be providing some level of educational support for parents
 - Libraries
 - Our regulators need to keep the billionaire corporations from exploiting our children.
 - If we can't trust FB to post real news as opposed to fake news, no regulation, nobody keeping track of kids under 13
 - Better for their company to suck them in and not regulate them.
- Talking about the saturation of communication schools.
 - We have struggled with different types of communication.
 - Balance how much responsibility as a school for creating an environment for asking questions, moderating conversation, welcome dialogue.
 - What is our responsibility for providing that space?

Breakout Discussion Topic 3: What do your students and parents do if they lack broadband or Internet access altogether? How does your school district address such a challenge?

All Groups Combined

- Use public libraries
- "Guest" network on school sites that they can access with their laptops at the school site
- Parents who show up early or stay later to use WiFi signals at schools
- Gave 20 families from 4 schools iPads in partnership with Verizon that they could connect to the Internet (w/ PPS filters).
 - Relatively successful but didn't continue due to leadership changes.
- SPRINT has grant program called "1 millionproject.com" which provides access for kids with WiFi hot spots - no affiliation required.
- Kids use parental or teacher hot spots
- One tech coordinator had made a map of business within a district with free WiFi.
 - He shared it via Google maps by word of mouth for kids who didn't have access.
- Comcast will give 1 hour of free access.

- Connection is slow but you don't need an account to access it
- Having homework assigned through digital platforms makes it difficult for these kids to get caught up when they are absent.
- Verizon Innovative Learning (VILs) grant program provides connected Chromebooks in selected schools.
 - Kids get the Chromebooks checked out to them for the year.
 - Involves parent education.
 - They also had additional devices for check-outs.
 - Some families said they didn't want the liability of the checked-out device and declined the option.
- Some parent concerns about student privacy/data using all these different platforms.
- Different students are handling the lack of access differently.
 - Some are very savvy and find a way to access the information, and some just don't do the work (with the excuse of lack of access).
- If you are using commercial WiFi, like at a Starbucks, you might need to buy something to use it.
 - This is a barrier for some students
- Some schools have teachers open their classrooms 3x/week for parents and students to use the Internet access
- Comcast has reduced Internet costs for families - the school connects them to the program.
- District high schools have hot spots
- There is a need to consider mobile applications of software.
 - For example, if a student is trying to type up a paper on Google drive, how does that look different when converted to a desktop (teacher)?
 - How easy is it for students to use tools like Google via a Smart Phone?
- Some teachers are reporting parents limiting access to Internet at home for philosophical rules
- Kids don't use email anymore - they use text or messenger or a social media platform
- Schools use analytics about who is using what to determine what tools to use
- Schools still send paper copies home with students as back-ups for information communicated digitally.
- One school reported doing a survey at the beginning of the year to ask parents if they needed a hard copy
 - Then those families are tracked through the school administration.
 - Some families actually need a phone call of important information (language barriers)
- There are computer rooms at low-income housing communities/complexes that youth can use
- One school doesn't assign homework because very few students have access at home.
- Districts are using multiple platforms: text, email, voicemail.
 - These can be used in different languages
- People are using cell data to access their information
- Some schools only have computers for check out at school, not at home due to liability issues.
- Centennial School used to have open WiFi but closed it down to prevent kids from accessing inappropriate information and just playing around on their phones.

- Have seen a reduction in cyber bullying.
- There is a need for awareness on how to access information via text (from PPS) so folks stay up to date with information.

Breakout Discussion Topic 4: How important is the use of communications technology and media and technology literacy and training to your students' ability to have a successful career in the future? How does the lack of home Internet service/digital literacy impact a person's educational/training/employment opportunities?

Group 1

- Students need to be able to continually teach themselves.
- Adaptability.
 - Less important is the ability to use specific tools, programs, or apps.
 - The important thing is the ability to overcome being intimidated to learn a new one.
- The experience gives students the ability to navigate digital media.
 - How do you read it differently?
 - How do you discern accuracy from that?
- It is important that students have the ability to be creative thinkers and problem solvers.
 - I Google and problem solve and that's something we need to instill in kids.
- These are all career-readiness skills (referring to the items listed above). Problem solving and collaboration.
- Students need the ability to collaborate and navigate socially online.
- In terms of connecting to careers, it's hard to know what specific tech skills they will need in a decade, but we do know they need to feel confident and adaptable to technology - being able to follow where the technology leads.
- Students need 21st century skills of problem solving, creativity, and collaboration.
 - All of those things are agnostic of tech but are important with innovation.
- Having enough familiarity that technology isn't limiting us.
- Kids are limited by teachers who are fearful of technology.
- It's a disservice for kids who go to high school who don't have the same experiences; puts you at a disadvantage.
- The idea that a lot of kids who may come from poverty and their families have phones but not computers or tablets.
 - We tell them to go home and continue working and they are typing on a phone.
- At my school, they have phones at home, but the programs don't work on a phone.
- Nothing works on an Amazon Fire.
- You have to have Flash at home.
- Lack of Internet service just perpetuates the social economic status.
- In a district I formerly worked at, kids went to the library to access computers but it's an imposition.
- Some kids go to work with their parents to use the phone.
- Teachers have their classroom open after school to use computers, but then someone needs to come and get you to pick you up.

- Aftercare has one laptop and 100 kids trying to cycle through one laptop.
- So much of getting into college or employment is done through technology.
 - You apply online so if you don't have access or experience with that you are at a disadvantage.
- The expectation is that you have a baseline of familiarity.
- It's interesting to see teachers who don't have 21st century skills.
 - They aren't willing to grow.
- Some schools and teachers will embrace the use of it and others won't, but the latter will be in the perpetual cycle.
- Ongoing, long-term support for teachers is needed.
 - I've had teachers who are super scared and combative of having Chromebooks in their room, but are bought in now because they had long-term, ongoing support.
- I was sitting with a teacher librarian yesterday who was having problems with an app, so I sent a chat and got a quick answer.
- With kids it can be scary and overwhelming and then two hours later they understand the technology.
 - Thinking about the importance of it is fostering, nurturing the ability to jump into it and figure it out.

Group 2

- I've often talked to teachers about the need to get experience with concepts, not products (spreadsheet, email, cloud storing, etc.).
 - Using it at an applied level.
 - Students need to learn how to use learning management system; if they pursue post-secondary training (college or trades), they'll use a learning management system.
 - We are doing a disservice to our kids if we're not getting them familiar with those concepts in middle school and high school.
- One of my pet peeves right now as technology teacher for 8th grade is that we had to switch from tablets to desktop.
 - I'm worried about the transition from the classroom environment to the real-world.
 - You won't see Chromebooks in a work environment.
- Growth mindset; if you can learn one thing, then you can learn another.
- Digital citizenship lessons early on are important, so they have a good foundation (i.e., using social media at work).
- Early access and exposure can help to reverse the traditionally underserved groups in tech careers.
 - Young ladies who have access to STEM in middle school are more likely to take it later.
 - The gender breakdown in our CTE programs mirrors the traditional representation in those careers.
 - Early access and exposure can narrow or mitigate the under-represented groups and careers going forward.
- We have a program called "virtual scholars" at PPS for credit recovery.
 - Students get time to work with teachers remotely and those teachers know exactly how to teach in that remote way.

- I think that we need more of our classroom teachers, especially in 6th-12th grades, to have a deep understanding of best practices around that.
- One thing that struck me was that they don't have great software, so they use a giant network of Google sheets.
 - It is mindboggling but the students all know how to use the sheets, but then the students learn how to piece together how they work and become more familiar with spreadsheets as a tool as well. I find that fascinating.
 - I don't think we do enough with that type of tool. We have a lot of ready-made instruction that is easy to access, but doesn't get into the depth of knowledge about what computational thinking is.
- Exposure to technology is teaching students about remote collaboration; you don't have to convene to do work.
- So many of our students have interactions through a phone or their parent's phone.
 - I'm not sure how that impacts their opportunities, but if they are only accessing that, it will be limited and narrow.
 - I see that coming back to our previous conversations - there are limited tools on that phone.
- Students don't know how to you write a professional email.
 - Students don't know that skill.
 - Students treat email as a text message, because that's what they know so they transfer that.
 - That's what they would need to do in the workforce.
 - It's important to teach around that and related skills - they are trying to use powerful devices the same was as a mobile device.
- The model one-to-one is Las Vegas, but the concept is not the same here.
 - Those students had that device access 24 hours a day, but here it's when you go to the classroom, you'll have it for that time period.
 - Doing something repeatedly drove their success, but if you're only getting the Chromebook here and there, you have to start over - two steps forward and one step back.

Group 3

- Technology experience can provide career readiness skills such as how to identify reliable sources.
- It is important for kids to not be consumers of info but content creators; that gives them the power to do well in many fields.
- Technology teaches them communication, using different types of media for communication.
- Equity. It's an equity issue where families who have access already continue to be ahead of students who don't have access.
- I visited MetroEast, and they do all of the cable access productions in East County.
 - It's fun visiting them, because the people who create the content are telling the stories.
 - It's powerful for underrepresented populations to create polished things for other people.
- If they create a high-quality podcast, they can reach an audience.
- If they can't tell their story, we only hear one perspective.
- They are already behind going to high school and have zero tech skills.

- How will they prepare for college entry applications?
- They don't know what Word is.
- Last night I spent 45 minutes just to help sign up my daughter for the SAT.
 - We sat down in front of our computer.
 - We have resources including time, Internet, and a computer; we didn't have to do it on the phone.
- Building-by-building access is different.
 - At Beach they had a computer lab.
 - Getting ready for college was nothing because they had confidence at the computer.
 - Now where I am, they won't be confident at that computer.
- I found that what kids pick up on their own is siloed.
 - They'll be good at one thing and not another (i.e., watching them write an email is terrifying or making a phone call).
 - There are all these gaps - they seem good in some ways but not in others.
- Brilliant kids don't always know how to communicate with someone.
- They are getting so used to passive thinking before responding.
- We have to teach kids how to have that humanity piece.
 - Communicate with this device in a meaningful manner.
 - They need to have more traditional skills and the digital skills.
- We need to foster the ability to jump in and give it a try - Google it.
 - Risk taking. Teaching kids that failure is a way to succeed.
 - Tech is so great at that because kids are not afraid to fail at tech.
 - The worst group to teach tech to is adults.
- Teachers think that students are so adept at the tech that they think they don't need to teach it.
- Are those teachers skilled enough to guide them? What are we doing to support them?
- I've been around some teachers who think the kids will figure it out.
- They should identify what they should do on their own and what to teach.
- Teachers are afraid to fail at technology so then they don't try.
- A lot of kids get stuck on reaching out to people.
 - That's the scariest thing I could propose, but that's what gets you opportunities for jobs.
- Self-advocacy is hard regardless of devices, so teaching around that is important for career and education readiness.
- Etiquette seems old fashioned, but you need to know how to approach someone for the first time to ask for a favor.
- Digital literacy is important.
 - We did a whole unit on looking at an image.
 - Students believe that what was said was 100% true.
 - Having those skills be taught to develop criticism of media.
- Kids believe the conspiracy theories they see on the Internet.

Group 4

- Understanding how to learn via technology.
- As we do our continuing education classes, they are offered online.
 - You have to learn how to navigate that program.

- Kids will see more of that and they do it in their classroom (ear pods).
- So much training is available online, so you have to learn how to be engaged with your learning and not be a passive recipient.
- We don't give them the opportunity to select the tool that fits for them.
- How do our students become citizens when they are constantly bombarded with garbage?
 - They need to understand what is fake news and what is real to become viable adults.
- Technology is promoting passive learning.
 - My own daughter will only type notes in another tab.
 - They think writing notes is the old way.
- I have typing programs for everyone - students don't know how to type.
- Teaching them the skills of how to interact with these things will benefit them now and carry on into adulthood.
 - Teaching them basic critical thinking and then applying it to everything they do with technology.
 - If talking about successful careers in the future, I think about globalization and the types of careers where people work remotely.
 - They leverage tech to do their work remotely and being able to understand how to use technology in a meaningful way and being literate about bookmarks.
 - This lends itself well to what the careers of the future could hold. We have people working with teams remotely.
 - Technical support is in India.
 - Those teams have to talk to each other and interact in a meaningful way to drive those products.
- Inquiry-based classroom. Is it important for them to type the correct way?
- How are careers changing and how do we prepare students for careers of the future?
- I can walk into a building and kids are sitting in rows, but we know our careers have changed, jobs of tomorrow have changed.
 - We educate kids in the same way without regard to the fact that their needs are different.

Group 5

- What job doesn't use technology now?
- All jobs have some need to communicate task-oriented information outside your space by using technology.
- Most creative and artistic careers still need to sell their product.
- Our kids communicate with each other that way.
 - They are using the digital tools, so teaching them the right way to use it is important.
- My daughter is aspiring to be an artist - she is doing commission and is using Instagram to promote her work.
- They need to understand that they have a digital footprint.
 - Things you put out there, your employer can find.
 - People can get fired or not get jobs for posts they make online.
- Be intentional about what you share and who you share it with.
- Teachers can have a teacher profile and a personal profile on social media.
 - I only have one, but no kids are friends with me. Kids need to learn that too.

- What you text to your friend with emojis is not something you should send if you are writing an email to a coworker or boss.
 - At the elementary level they don't know the difference.
- I had a middle school girl who was being approached to see her favorite band.
 - Her mom was just really out of her depth on how to handle it.
 - I tell them it's not okay and set the rules down.
 - Our parents don't know because they haven't lived this.
- I had two different first grade families using an iPad as a way to go to sleep.
 - They would turn it on YouTube, and it's easy to get where you're not supposed to get to.
- I use the Net app to monitor students' current screens.
 - I am teaching them that that is a tool that people have careers for - if tech is interesting to you, let's make this positive.

Breakout Discussion Topic 5: Cable television service and use of Community Media

Group 1

Do you remember cable in the classroom or program services like that?

- When I was a student teacher, we did half an hour of *Ola Ola* every day.
- We were pushing to make sure that every classroom had it.

How are Comcast connections utilized in the schools?

- It's become more difficult now.
- Some school districts actually have digital terminal adapters.
- I think that they took down all the TVs that were mounted.
- I don't think our school has a single TV in our building.
- At Woodstock, there are no more TVs to my knowledge.
- We didn't have access to cable 10-15 years ago, just for videos.
- The TVs were mostly for VHS or DVDs. It was mainly VHS.

Is there still video in the classrooms?

- It's mostly Internet video streaming now.
- The last was at Boyce Elliott around 2000.
- It might be out there, but most aren't using TVs.
- Cable Access Channel 27 is used to view Board Meetings.
- One participant noted that there wasn't anything on the cable connection that she wanted to share with students or staff during the workday.
- *Ola Ola* and *Mushi Mushi* used to be delivered on the channel.
- There is a duplication now, because Board Meetings, other work things, are published on YouTube, too.
 - It's streamed on YouTube and then uploaded the next day.

How is the educational access channel used now?

- A while back, parents were still watching it on the TV.
- For the most part, they now watch something like a brief segment of YouTube video that's probably like a Board Meeting, for example.
- Very few people would watch the whole Board Meeting from start to finish.
- They would just watch a little snippet here and there.
- They would watch for whatever specific piece of information or segment they might want to hear.
 - A YouTube video is more conducive to that because they can get to their section of the program.
- There is no indication of what programming is available on the channel.
- Some schools do a lot of performances.
- The Odyssey program did a lot of performances that were played on the channel.
 - It was access for families to see the performances.
- Nowadays everything is digital, streaming, you can find it everywhere.
- One participant noted that they did a Black History Month assembly with videos online.
- Most everything can be found on Facebook and on social media as well.
- The channel staff used to get around to every school in the district at least once a year to cover something within the district. With so many schools, they can't do that anymore.
 - They're covering an assembly that's coming up on March 6.
 - You just reach out to them and if they can do the video, they will.
 - If it's in the evening, the school has to pay for it. Usually, we don't do evening events because of that.
 - The school had to reach out to them.
 - You have to know to reach out to them.
 - A lot of people are not aware of it.
 - They may not be reaching out because they don't have the staff to do that.
 - The staff may be smaller than it used to be; maybe only two people.
- It would be really cool for kids to see other kids across the district.
- It would be important for the kids to see what performing looks like.
- Some school districts are very active and have more than two people.
- They use it as a video production platform.
- What is happening with the department is more focused on the superintendent and the senior leadership productions.
 - There's been a shift -- less on school things, and more on focusing on PR, promotional material, and other things that senior leadership kind of does.
- The 2020 bond is in progress, so that would be something to watch for, and see how it's utilized.
- There were a couple of videos that were created around the new schools, like a video tour.
- They'll probably do something around the bond referendums because they spend a lot of money.
- One of the issues with cable is you have to know when it's coming on.
 - With streaming, you're able to show what you want to show when you want to show it, the segment you want to show.
 - That's still one of the challenges of just cable.

What about partnerships with other media organizations concerning program development and training?

- It would be great to see a partnership between Portland and the cable access, Portland's public cable channel.
- It's an important kind of resource sharing, knowing that with such a small department in the schools, if there could be some kind of intention to utilize cable access facilities.
- That used to happen during the timeframe that we're talking about, because that used to happen at Jefferson high school and was part of the creative tech pathways.
- Part of something that technical education was tied into.
- Does Benson still have the radio station? Do they still use that? They still have the tower.
- Kids do come in who don't necessarily have that opportunity at the schools, but do at the radio station.
- That would be something to think about; however, there's a tight budget.
- Looking at careers like that, and that is a career, so having that as an option.
- It's circling back to how it used to be.
- Thinking of professional development, teachers are always saying, "Oh, I wish I had more time to go see how this teacher runs their workshop or how this teacher structures."
 - If you could just turn on whatever and see a video of another workshop, or see other teachers in action, it seems like it could be a very efficient way for educators to watch each other in action.
- It could have a lot of potential for the students, the staff and the community if it were something that was invested in again.
- There is already the technology, like Swivel, and so using that technology to film.

Group 2

Does your school use the Comcast cable service, or do you know any school that does?

- Maybe five.
- One participant noted that she didn't even know it existed.
- I used to work in West Lynn/Wilsonville where they had TVs in the classroom that were connected to the cable, but never played the cable.
- There aren't many TVs in PPS.
- Even the desktops are getting old and broken down.
 - They tell us to instead "Use your Chromebooks".
- One of the teachers still uses the smart board and the programs are still on the desktop.
- Years ago, we had smart boards and televisions, "I didn't even know it was still a thing."
- One of the schools has a TV that is above the office that highlights different events that are happening, but that's just within the school.
- Most schools don't do morning announcements anymore.
 - On Fridays, they announce the cleanest classroom, and the class that did the best in the cafeteria.

- The golden lunch tray and the silver trashcan award get announced by fifth-graders on Friday.

Do you use video that comes online through monitors or laptops?

- Just projecting from your computer.
- Just projecting from your desktop or Chromebook.
- Educational videos, sometimes a music video, like a song to get the kids moving.
- A lot of stuff from YouTube or Noodle.
- Some teachers will sometimes show a movie (if they've done a book study and then there's a movie adaptation of it, for example, they'll show a movie).
- Teachers will show a DVD, and they'll have to have their desktop to be able to do that.
- A lot of teachers are really resistant to going fully Chromebook, because they feel like they have a lot of, I mean this is the same conversation that we had a number of years ago, about not wanting to get rid of all of the VHS tape players in the building.
 - It's all on the Internet now, so it's all there.
- The problem that you run into a lot, and this is the case with so much stuff, is that the level of commercialization and of so many things, is like yes a lot of those things are available on the Internet, but it's like, five years ago, you bought the DVD set once for \$50, and then you had it for the whole building, and now it's a recurring charge every month for \$4.99 per account, that you can only have one person logged into.
- That transition of the commercialization of educational stuff, it's one of the things that as a tech teacher that I run into so much with flash being phased out. There is all these really amazing things that were being developed on flash years ago, that were just like things that people made because they thought it was cool or they wanted to use it in their classrooms, they wanted to put it on the website for free. Now, those are all becoming phased out.
- There are a lot of new things that are being developed, but in the meantime, people have figured out that it's a viable business model, so now everything is locked behind a pay wall.
 - To get things of the same quality it's either on a tiny sub screen, or you have to pay \$1.99 per student per month for an account.
 - There's been that shift where finding free things of quality is very difficult because nobody is just making stuff for free, because you can monetize it.

Do you watch the Portland Public Schools channel?

- It's just the Board Meetings.
- They still cover concerts and things like that.
- They do some promotional kind of things, like here's the new school that opened.
- We have concerts and plays, and it seems like a great place to highlight some of that.
- Part of it is that so much of it, a bunch of it is getting sent out in a variety of different formats, an email format, a monthly newsletter format, and posted on the website.
- There are not a lot of things to actively go seek out on the channel because it's already on the website.
- There's not much promotion within the schools about the channel.

What kind of programming ideas would be reflective of the things going on in your school, or the school district overall?

- Sporting events might be of interest to families, like when you get down to regionals and can't get to the basketball game.
- There was one father who was just taking video of the girls' senior varsity soccer team, so they could learn from their mistakes, and watch the other teams, but that was more internal just so that they could learn from the other teams.
- A concern was raised, particularly at the elementary school level, that so often, with anything that's being broadcast publicly, you run into privacy issues like "oh they could do the school concert", but you've got kids that can't do photo and video, so that just becomes a very complicated piece.
 - I can only imagine; it's probably easier if you're doing like a Jefferson day, but you can go and get everybody on there to sign saying it's okay and they can do this.
 - It's a lot harder if you're talking about 150 third-graders up on stage, because then you have to figure out tracking down all the parents and getting all the parents to sign off on everything.

Group 3

Are you aware of whether cable is in your school?

- One of our elementary schools, Role Boyles. I remember them installing TVs, like the big CRTs in the corner, and they had cable access, but I'm not sure what the teachers do with them.
 - This was over 10 years ago.
- It's starting to feel like it could be a good tool, because of the political climate, and teaching the kids there's a lot of different sources that lean one way or the other, and there's a lot of different sources that are neutral.

Do you use online video services?

- We use one of those. Like with YouTube, everything that the TV could do.
- We can go to a website like CNN or others, looking at a video.

Are you aware of the cable channel that Portland Public Schools has?

- Two participants indicated that they were not aware of the channel.
- The board meetings are on it, so it's all the board's perspective.
- Even the board meetings, how you access it through the website, is through their YouTube.
- They live stream it. There's nothing that the cable channel does that can't be found on YouTube, or you can get online.
- If anything, it's kind of a complicating factor to access information, because you have to be there at the scheduled time.
- It is a controlled environment, though, so you don't have to worry about the wrong ads popping up when you're on YouTube.

- When I think of cable TV and cord cutting, the only reason people would want to have it is for live sports.
- It's great that it's offered to schools, but I don't see a lot of use for it.
- You could use some on-demand stuff, but you could also set up a video or any other kind of video platform.
- They tried to push out traditional TVs a while ago just for space, and now everyone's projecting through their laptops.
 - It's kind of surprising that they still have access.
- It's not really engaging, meaning this generation, where they are and I don't think it's going to.
- Even seasoned teachers are very comfortable and confident doing a YouTube or Google, or video search on Google, to find what they need to show their kids.
- What are the other possibilities besides live sports?
 - Is there opportunity for more than education, or communication with our community?
 - Graduation ceremonies are broadcast.
 - It could provide kind of a reality check for the schools.
- The video crew comes into the schools, and we have them do a couple little things.
 - They access them on YouTube and share that with families but that's how it is linked up on their website.
- I brainstormed with a few school administrators, the idea that you could do a weekly recap video kind of newsletter that streamed internally at school.
 - With the district's proximity to MetroEast, there could be a potential for students to work the whole week and the video is set out, produced, and streamed every Friday.
 - It could cover the happenings at the school, and students are actually the news anchors.
- From the perspective of some school administrators, part of it is tied into creating a positive school climate.
- You can easily do a video recap of the week, have students out covering the sports or the events or the afterschool events or the extracurricular events; what's coming up - student body elections, those kinds of things; and they're the ones producing a kind of news recap, weekly news recap.
- As mentioned earlier, about morning announcements, that's how it is used in the biggest way, use the program in an elective way, so the program was run just to fine-tune.
 - It used student announcers.
 - One period a day, like an elective class at the schools, that is that class.
 - They would work with MetroEast to develop this.
 - They would have a green screen at the schools so that they're not transporting kids.
 - It's way cheaper to just get a green screen in the schools locally and just handle it there.
 - That would be a way that you can engage if you have people sign a release.
 - Those could also be streamed so that the community could see what was really truly happening in the school.
- Some principals feel like that would be a really good idea.
- It just seems like an underutilized potential resource or partnership -- MetroEast is literally a mile away.
- The virtual reality kind of replaces the cable because it provides for actual interaction.

- When we were visiting Israel and different countries and the kids pick up their iPad, they can actually go into the places they see with other people, so it's like they're actually there and in real time.
- They would totally move away from the cable aspect, because with the iPad, they're able to move around and it's like they're actually there.

Group 4

Does your school use cable television in the classroom?

- There are no TVs anymore.
- The two that we have are for signage, and they're in the hallways.
- It's important to note that they went away because they were not being used, at least not in my building.
- It's hard to think what the role of TV would be because most things that you need you can find video of them online or on-demand.

Are you using streaming video in the schools?

- It mostly comes from YouTube.
- There's almost no need to go to Comcast, because that would be more cumbersome to try to figure out what I was looking for there and what time it's going to show.
- It doesn't work very well anytime you need to do logins of a personal account in a school setting.
- I'm not even sure how you would use Comcast.
- I think there's been one case where it's like, oh there's a screen...
- Comcast is actually piped into our buildings.
- I think it's from 1990-something.
- It was amazing when all of it went up in the late 90s in Portland.

What about the Portland Public Schools channel?

- I don't think a single teacher in my building knows about Comcast's channel.
- We used to watch the public access cable channel.
- They do board meetings.
- It's like the public access channel.
- Media services does this school; they definitely call up schools and make some of their own videos.
- Do they still do that news thing?
- A principal responded, from his perspective, that he knows he can do that and that he can also reach out to them to make a video.
- We have a tech smart video.
- Before I became a teacher, I worked for community access, TVCA, and taught people video production. I would say, "hey, I'm doing a video in my class", and they would just tell them to talk and they did PSAs for them.

The school districts in East County don't have their own cable channel, but they work with MetroEast. Have you ever worked with MetroEast?

- I personally haven't been involved in any work with them yet.
- I met with them about a month ago.
- They are trying to envision what a partnership will look like.
 - They would really like for teachers involved in the grant to learn about all of the equipment available to them at MetroEast.
 - They want to take them out for training with the requirement to do podcasting, video making, some other resources, just to get them excited about making those.
 - They do have some partner work with the Gresham School District, and some other East County districts for coming in and doing work with kids, and we're potentially going to do some of that; however, it is unclear what the plan is right now.

What do you think about the opportunities for students to learn multimedia production?

- I don't think it is important for every kid.
- I had some middle school students who had an interest in learning how to put up their own YouTube videos, so there is a certain population of kids, and there are kids that can make money doing this.
 - That's a group that this would be super powerful for.
- We just got a license at my school for Wii video, which is like a web-based video editing.
 - It's really easy to use, and you can make really nice videos.
 - I'm really hoping the teachers explore how to use it in lots of different ways, because it's fast and they can publish it themselves
 - There are issues with anybody under 12 using YouTube, so what's nice about that is that they can just publish the link, and so then you can just use those links.
- YouTube has its own level of concerns -- it has to be turned on at the district level.
 - It does have safe search which is HUPA and CIPA compliant.
 - You can have younger students publish or post on there if it is set up.
 - They can post with security levels.
 - To create a public video, they can share a link so it's not searchable by outside entities.
 - So there is kind of like a workaround, but I kind of disagree with what our colleague was saying about kids not needing to be able to create videos, because I think the shift in the accessibility of people getting their information but certainly, the roots behind any kind of communication are the same, whether it's the writing or the planning, researching, all of the components are the same, it's the output that is different.
 - So being able to communicate in a visual way, is becoming very much more prevalent.
- I would actually guess that we're going to change the standards in 15 or 20 years, to acknowledge the fact that the whole world is online and is very visual.
- When I was working in community media, one of the reasons I got into education is because I learned a lot about media literacy before it was digital literacy, and all of those sorts of things, and how we take in information, and how we produce our own information.

- Digital literacy is becoming bigger than it was before -- understanding what's fake and what's real -- how do you create a message for your audience, just like the writing, so I think those all have the potential of being able to support and keep cable intact.
- People see this TV thing that is old-school, everything is digital using my computer, but there's an entity for cable and that being like YouTube or being able to take what you could use there and put it somewhere.
- That's essential too. The public access could be a publishing location for students, or it could be online access and you wouldn't have to worry about having cable.
 - Disseminate content and the people will see it.

Group 5

Is cable television being utilized in every school and in all of the school districts?

- I didn't even know Comcast was required to provide it in the schools.
- Our TVs were taken down about four years ago.
- Would Comcast be required to do broadband or wireless? That would be different.
- Can we trade our cable services for broadband?
- Just to that point of the cable being mandatory in schools.
 - Schools are always behind the technology that is out there, and that creates real problems.
 - We're using antiquated things that don't work well, versus what's coming out now, and to retrofit them into ... just even connecting a USB cord dongle, just things like that, and that's the real factor.
- I didn't even know that cable TV had to come to the schools.
- Internet streaming has really moved us away from it.
- Teachers are using YouTube videos in classrooms, so they are leveraging that platform.
- There are on-demand capabilities.
- Netflix, if you need something off of there, it's kind of that on-demand when you actually need it versus being tied to somebody else's schedule.
- Portland Public Schools has its own cable channel.
 - It is primarily used for board meetings.
 - It's also online. You can also stream it online.
 - A few years ago, you had to watch them on the channel.

What types of programs should be on the PPS channel?

- At one school, there was a parent there that was part of that division in PPS who used to come in and film things.
- If you had somebody coming from the district to film all of this, but I don't even know if we need that.
- They started sending those daily snapshot things, which is an interesting new thing that they've done, which is an email that is static pictures of different happenings around the district.
- I personally kind of like it because I'll flip it open, and it makes me feel a little more connected, because we're such a large district. I open it, I see the headline, I see the picture and a little thing about what the school is doing and whatever.

- I think the whole image thing is very powerful.
- I mean, it doesn't take time like the longer videos.
- It's one thing that comes daily.
- I was wondering when the last time we actually watched cable in the classrooms was, and it was when Obama was going to be elected, that was the last time.

After the conclusion of the breakout sessions, a closing general session discussion was held that focused on the most critical needs for the future as projected by the TechSmart Initiative Workshop participants. Key findings from that closing general session discussion are the following:

What needs and interests over the next decade do you anticipate having?

- More robust way to work across districts, build resources into common places, directories of skills, often reinventing district to district.
- Sustained support.
 - Education has issues with boom/bust funding.
 - More systemic sustained support.
 - Avoid restarting at each new initiative.
- Challenge for coaches is trying to get people to learn tech when we know the program.
 - Maybe will change again in two years.
 - Need to teach teachers to “technolograte”.
- Learning first, tech second.
- Best practices - seeing all of these programs that are basically the same thing but with little tweaks.

Public Agency Focus Groups

Focus Group with Portland Public Agencies February 25, 2020 3:00 p.m. - 4:30 p.m.

A focus group was held with representatives from City of Portland Public Agencies, including: a member of the Communications Team for Portland Fire & Rescue; the Public Information Officer from the Bureau of Development Services (including permitting and licensing); and a staff member from the Office of Management & Finance. A PowerPoint focused discussion guide was used to display key guidelines and topics for reference by the group.

Key findings from the group discussion, as well as from three completed questionnaires on communications technologies used for agency outreach, community engagement, service delivery and video content development, include the following:

What kind of communications technology do you rely on for connections to the public?

- Portland Fire & Rescue (F&R) uses Facebook, other social media, Buffer, Canvo, Vimeo, Rev, WeVideo, the City's website, and others such as:
 - Nextdoor is something we use to engage with the public, as this is a neighbor space, and we use it if it's something they can access and gain something from. No policies or procedures currently- just kind of a gut feeling on when to use it. Nextdoor seems to be recruiting a lot of public agencies.
 - We gave them maps of FMA's that were tied to the stations. A lot of potential power, but a very specific audience, homeowners, especially older homeowners.
 - I didn't know there was a low-income Comcast plan for example, and saw that on Nextdoor- so it's kind of cool that people can get on there and learn about that kind of thing.
- For the Bureau of Development Services (BDS), we needed a well-organized and visually-appealing website (which we don't have- but we're working on), MailChimp, diverse email list, social media- accounts for the Bureau include Facebook, LinkedIn, Instagram, Twitter, and YouTube. We have Nextdoor, but we shut off comments, because it can get tricky when dealing with things like gentrification, and people's feelings about that.
 - We use YouTube, and we're looking to launch a video blog soon with a full-time videographer on staff. We have a recording studio, and we're also looking into doing Podcasts
 - We really use these platforms more for homeowners- like DIY on how to submit permits, as where most contractors already know how to do this. We have to focus on what audience we're trying to understand and share information with. A lot of our video content is around- here's how to prepare and what to expect with a permit application. A

lot of interaction with our customers is over the phone and in-person- we see a lot of people in our permit center in our buildings.

- For the Office of Management & Finance (OMF), we have everyone's emails, so we do a lot of emailing, and use the City website's email feedback forms. We have a lot of utilization where people can report such things as a homeless camp in need of assistance or clean-up. We also have Twitter on the social media side- that's really the key one we use, as there's not a lot of content we can post.

When the budget is being prepared, does OMF get involved in the public discussions?

- The City budget office is actually separate from our office, but I do know that they have a lot of videos on the website explaining what a lot of these terms mean.

Are there technologies that you believe you need at your agency in order to provide proper services, like for underserved communities such as communities of color, people living with disabilities, seniors, etc.?

- Mobile phone use is pretty much across the board now, so I think that the social media networks are more of an access point than our F&R website. Our website isn't great with mobile use right now- they're updating it, but it isn't very functional on a mobile device right now. We also have to be cognizant of content file sizes to try and limit the amount of data people need to use to access the downloadable files.

Is there an app that can be used on a tablet?

- BDS is rolling out an application called Amanda that replaced technology we've been using since the 1990's, which is a significant change regarding how the permitting software works. There's additional features like remote planner view, and remote scheduling through this app.
 - We're also using, in the inspection field, a remote video re-inspection program, so if you didn't pass inspection and had some minor things you needed to fix, you can schedule a video re-inspection, and the inspector can reinspect those minor items via Skype or some other video-chatting software.
 - We also use livestream video technology for reviewing abatement of lead paint and asbestos in home demolitions and construction, and this technology helps with the 4 different inspections, so we can see through the video whether they are doing this abatement properly. We don't save the video file because of bandwidth issues and storage- so there's no record of that in the permit file- so that is a limitation.

Do you have any challenges with internal or external accessibility?

- Using a website on a phone is difficult. OMF has worked with community members that get really frustrated, and we have to do a lot of training on how to navigate the site. We really need

a search function that works, and is compliant with screen readers, where you can see the colors, and shows content that is relevant. We also need to be attentive to simplifying the language on the pages so they are accessible for everyone, and for ESL populations to be translated so that they can read the pages also.

- When people want to apply for things at the City, they really want to do it via an app because it's so much easier.
- F&R has an iPad on each of our rigs, and we have an app called Lifelines/Lines for Life, that provides real time translation, for deaf and hard of hearing persons, and also ESL persons. I'm not sure how well it works, and sometimes people default to a child or an English-speaking person in the home, if the program isn't working well. It's hard when it's a medical issue too, because the child might not know how to answer the questions.

Are there technologies that you think, if the residents and businesses had them, it would be more efficient for you to provide services to them, and do your jobs?

- F&R also works in the permitting arena with fire permits as well. We usually find it's businesses that need the permits, and have access to technologies that allow them to watch our videos. I do wonder if people aren't accessing a lot of our services because they have to dig around the website to find information about it. We really need to focus on promoting these things on social media. We connect to the schools, but if people aren't in schools or using social media, they won't have access to it.
- I'm sure there are still some people using dial-up Internet in our communities.
- We do still have people using dial-up Internet. We do have people relying on their cellphones and data plans, but there are still 32,000 households in the County that don't have access - communities of color, low-income, and seniors.
- Homeowners aren't trade associations, and don't really have anywhere to go to access this information in a centralized manner. People are trying to look it up on the Internet, trying to find resources. The DIY audience is so diverse and scattered, they're getting their information from all different sources, outside of our websites.
- We seem to shy away from buying ads or targeting content that we have to pay for, but it does seem to put us at a deficit trying to reach the underserved populations that need this information in a more sophisticated way.
- For example, posting a Facebook post for \$5-\$10, can have a really positive effect in reaching those populations.
- We don't really talk about it and no one really wants to be the one to ask for a "Facebook budget".

Are there technologies that might help you in relation to businesses?

- There's something called the arts tax, and it seems like there's conflicting views on who pays and who doesn't. The system is outdated, and we're working on a new one that will be going live this summer. But there's still a lot of questions regarding "what is the arts tax?", and we're trying

to think about other ways than social media to get that information out there. I think that the website can definitely be more content-specific, and really help to send information back to the people requesting it- like sending a notification to their calendars, or something like that.

- Maybe making responses quicker, easier, and even automated.
- This track-it program is really behind the times, and it's the only one we can use. There's only one person in the City that can post it to the website.

What do you think about kiosks, or universal devices that anyone can access? Do you think they'd be useful in the future?

- I know there's a lot of free WiFi in government buildings. I wonder if there are any other hotspots that are free that are provided by the City?
- I could see it tied to public transportation, like on the actual bus or train. A "live" placard that they could use to access information.
- For BDS, I don't know how we'd use the kiosks on our end, except for having them at the government centers for permit access information. And some of the questions are really complex, and a live person is probably going to be able to more easily answer those questions than at a kiosk.
 - We're going to resume our residential permit night, which we do twice a month, and we open the permit center, and people can come down to our offices, and access us after hours, so it doesn't inhibit people that work during the day and can't get to us between 9am-5pm on a weekday.
- PSU, the local university, has put in centers that were created for emergencies, and a lot of people didn't know where they were, even though they were strategically placed, and if you didn't speak English, they were difficult to access. I think a kiosk there or at a park, might really work for that, but people need to be aware of where they are, and be accessible to ESL individuals.
- Community centers might also be a really good access point for those.

When people experience barriers to accessing your services, what do you do to help overcome those?

- I think a lot of it is addressed in a project by project situation. We did an initiative through a grant in 2016 related to putting in smoke alarms for deaf and hard of hearing communities. We asked them how they wanted to receive the information, and let them drive how they were going to get the information.
 - There's a state program that loans out equipment, and that has been popular as well. Outreach and trying to find out what works for a particular population seems to be the best option.

Does BDS have issues that they face with developers where you have an advisory committee that indicates issues that they would like to see the City resolve?

- Yes- they do have monthly meetings, but it seems to be more focused on internal organizing right now, over the community in general. It could be a sounding board for neighborhoods- it does have neighborhood representatives, and members from the Bureaus attend the meetings. We do talk about bigger policy things, but it's been more formative than anything else, and they haven't yet thrown out big questions to the community.
 - To overcome barriers, I think we try to really go where people are, when we can, to get more people to engage, and give them greater access to us. Creation of task forces is one way, like a task force trying to figure out what to do about unreinforced masonry throughout Portland- where these buildings could collapse during an earthquake or other major event. We try to hold these meetings in these buildings, for example, to try and really illustrate the problem and give people a visual.
 - Related to technology, we really need to make things more accessible to people that don't have a lot of access- such as streamlining the website, or making those "universal centers" available to them.
- When people want to request certain facilities documents, for people who are low-income, or homeless, it is very difficult to try to figure out how to meet with people where they are, and get them what they need. I don't think it's a technology barrier, but maybe the barrier is that they don't have the ability to engage with us, or are aware of us.

Is technology portability and mobility important? Is such going to need to increase?

- I can't see how across the board it doesn't need to increase. It definitely does.
- I can't imagine answering no to that question. More and more stuff is being done on mobile platforms and phones. If I can transfer money from my bank account over a phone, we should be able to allow people to apply for building permits over the phone through an app. Portability and mobility is very important. Many employees in my bureau have City-issued cell phones- so they clearly think they have a need for a cell phone that is just used for business purposes. I don't see there being a lessened demand for having a work-related cell phone. They need to access tools through those mobile platforms in order to do their jobs offsite.

If you think about the things that you do, and the fact that there's not universal broadband availability- if that were to occur, and everyone had access to high-speed Internet- do you think your agencies could be more efficient and more effective? Is the lack of access an impediment?

- My sense is that the impediment is on our side and not on the public side. It seems most people do have cell phones and access to these platforms and tools, but it seems like communication between departments is an impediment. I think the onus is on us for our particular audience, to match what the public has.

- I think it definitely would help us. As more people get access, I think one thing we're not prepared for, is that we need more people on the other side, to communicate back with them. It's a human resource issue- you really need someone who can respond and engage.
- I think universal access is really important for things like emails. Not all city employees have City emails. There's a big inequality in who gets what information, and who has access to that information, even when these departments are all working together. It's almost like information gets siloed. When it comes to community members interacting with us, I think they just need to know that we have more resources and services that they can have access to.

Are there emerging technologies, that might be beneficial to you in delivery of services? (AI, Virtual Reality, etc.)

- As an employee that's working with cross-bureau teams, having project space collaboration tools that multiple bureaus can use is really helpful- like Microsoft Teams, to setup work plans, and schedules, etc., and we can all go in and collaborate and comment. Internal collaboration tools, like SharePoint, all of those are very useful.
 - I really would like to see a customer relationship management database. You need to be careful from a public information standpoint, but how do we have information about the customers that we work with regularly, where we can better track how we're engaging with them one-on-one, or the topics they're concerned about, so we can better track what we should be emailing to them, or resources we should be directing them to, to more effectively interact with them. I acknowledge there's a huge training component to this, but I think it would really help us to understand and interact with the public better.
- I think the robot cars, driverless cars, autonomous vehicles, will play a big role, especially in fighting fires. It might help in things we're responding to. If we're not driving, we can actually look at things and do things, which is time efficiency. Drones also may be useful. We don't have permission to use them right now, but we do have a committee looking into it, because they seem to be useful for communication when there's a fire going on.
 - Virtual reality for firefighter training, fire prevention, all of those things, would be beneficial.
- I'd be curious to see what virtual reality can do for development planner view. For example, you could put on VR goggles to walk across a bridge so you could see how it was going to look for transportation applications- what was going to be around the bridge, and where the lines would be.
- Internally, being able to ensure all employees, in case of emergency, are able to telework. It's really hard and there's a lot of preparation in order to be able to telework. You have to download all of these things, and make sure your computer is at the highest operating system, etc. It would be nice if it were more equitable among the people who could telework.¹

¹ This observation was made prior to COVID-19 pandemic stay-at-home orders and anecdotal evidence to-date now indicates that ensuring telework capabilities are at high levels, is crucial to continuing operations.

The City's Cable Channel has a lot of public meeting coverage, and similar types of programming. Is there any programming you think might be useful to produce in a video medium, and make available to the public on the channel or through YouTube?

- I'd need to be convinced on the demographic populations watching that channel, and during what times, to really be an advocate for producing additional programming for the channel, since we already have video on YouTube. I've never seen an audience breakdown on who is watching and at what times. I think the channel, as a voter, is really important to see the elected officials, and city meetings, and keep up with local politics.
- I think that demographic is diminishing though, and I don't know that many people that still have cable anymore.
- People are disconnecting, but it's still about half of residents that still have some form of cable.
- It could be just really basic cable service, where the CityNet 30 channel is included. I do have streaming services, but still have the basic cable channel package, including the CityNet 30 channel.
- If they made a channel 30 app, rather than it be tied to a channel, and you can get it on your smart TV, and moves around in different formats, it may be more watched.
- I don't think we need to create new content for it- we might just want to have them stream our different content on it.
- If the app had multiple channels, for each department, that might be really helpful- with on-demand videos specific to the departments you're trying to find information from.

If you could create an ideal communications technology environment, what would that look like?

- I think the idea would be to recognize that we really need a universal medium, like smart phones, and give people access to everything through their smartphones, for example, if they don't have a TV or a computer. I think the idea of having an app for the City would really be beneficial to everyone because we're so tied to our smartphones. Maybe some subtitles, and ability to telecast this programming, and these videos, and getting them in any languages. There is a cost component to this, but if we had subtitles that were edited after the fact, or put out in another language, that might be helpful.
 - Just making sure that people know- hey, here is the unabridged version, you can access this, and find the pertinent content or specific content you want access to.

Does the City currently have any sort of app related to its website?

- Not that I'm aware of. I think home Internet access should be free, or as ubiquitous as getting food and water. Free WiFi targeted in certain neighborhoods that have a lower-income demographic, to try and break that technology divide.
- You have to be careful about who is running the free WiFi as well.

- Having reliable Internet, without data caps on cell phones, would also make things a lot easier. Some companies, when you're trying to get WiFi, say that we don't do that lower plan anymore, and then try to force people to buy a higher package. We need to recognize that Wifi is becoming an essential utility, and how can we make sure that we provide access to everyone for that.

Focus Group with Multnomah County Public Agencies
January 21, 2020
3:00 p.m. - 4:30 p.m.

A focus group was held with representatives of public agencies of Multnomah County (County) that focused on information technology and the Libraries, including: the Deputy CIO, two IT Managers, a Project Manager for the IT Department (including a key representative in the group managing the Multnomah County Broadband Feasibility Study Project), another IT Project Manager and the Director of Content Strategies for Multnomah County Library. The focused discussion and a companion questionnaire covered a variety of communications technology topics including technologies used for internal operations, as well as technologies used to provide services externally to the many constituencies that the County serves. There was also discussion of the County's relationships with Open Signal and MetroEast Community Media, and the provision of programming over the Government Access Channels facilitated by MetroEast and Open Signal, including discussion of future content development and facilities, equipment, and channel utilization. A PowerPoint focused discussion guide was used to display key questions and topics for reference by the group. Key findings from the focused discussion, as well as the completed questionnaire, are the following:

Communications Technologies for Internal Operations

- The County relies heavily on mobile technologies.
 - These are used, for example, for inspectors related to enforcement of the County Code and checking Code compliance.
- Radio communications are used extensively for public safety and Public Works applications.
- Wireless communications, especially WiFi, is used both internally and to provide Internet access to the public.
- Multnomah County has several critical agencies with a mobile workforce: Human Services, Health, the Sheriff's Department, Information Technology, Emergency Management, DART, Bridges and Roads, etc. Probably every department within Multnomah County requires some level of mobile technology to perform its duties, and mobile devices are needed to ensure the safety of staff when they work with the residents they serve (e.g. parole officers and staff in public safety roles).
- The County sees more video information provided internally, as well as more provided externally, by agencies such as Community Services.
 - Internally, Human Resources currently has a YouTube channel.
- The County considers their data systems secure now, and they do have disaster recovery including both an on-premise system as well as a cloud-based system.
 - More and more storage will be needed, and continues to be an expensive part of IT expenditures.

Communications Technologies for Provision of Services to the Public

- Many of the County's services are provided via applications online over the Internet.
- Estimations are that 10% of County residents have no Internet access at home.
 - Some of this is related to the residents' housing (or lack of) situation.

- The County, as it employs technology, looks at ensuring that it will be accessible and works to comply with standards of accessibility.
 - For instance, all of its applications provided online are set up to be understandable at a sixth-grade level or above.
- It employs translation services, including live multilingual individuals, for communicating with residents whose primary language is not English.
 - The County is working to be able to communicate with and provide services to all consistent with the different languages spoken in the County.
- It has online interpreters.
- It is working to have videoconferencing, and this is growing over time (*and has probably grown substantially recently, since this focus group was conducted prior to the pandemic-related stay-at-home orders*).
- It is working to have information provided where, similar to a kiosk environment, you would select a language first, and then the information would be provided in that language.
- It is doing captioning of the Board Meetings live (and is continuing to look at the accuracy of its current captioning systems to improve upon that).
- The County is very focused on IOT (Internet of Things) and how this will filter down to every agency and affect the way that services are provided.
 - The County sees tremendous applications of IOT in the healthcare space.
- This is specifically related to AI (Artificial Intelligence)-based technologies.
- It continues to employ more automation and machine learning into its applications and network development, such as SD WAN technologies.
- The County partners with nonprofit entities to work to help increase digital literacy and adoption of devices, services and applications.
 - One of these is Free Geek.
- The County is behind where they want to be in these digital literacy expansion efforts because more funding and other resources are needed.
- Security and privacy are big issues for those that haven't yet fully adopted online access to services.
- These are the same issues for businesses related to their provision of services.
 - They are working to provide training for employers in this regard.
- They know that many people are focused on the use of mobile devices, and they are looking at more and more ways to foster digital literacy through the use of mobile access.
 - They are involved in pilot projects using iPads.
- The County has worked with businesses on understanding and promoting cyber security.
- They continue to work with businesses on integrating technology.
- The County is the largest provider of free WiFi in the region, especially through Multnomah County Library.
- They provide free computer classes.
 - Some people shy away from the classes because of "vanity"; in other words, they don't want other people to know that they don't know how to use them.
- County IT is working to make it easy for businesses to access the County online, including the payment of taxes, using employment databases and other services.
- They work with Free Geek to provide "Welcome to the Computer" classes.

- The County also helps provide “gently used” equipment to be repurposed for provision to underserved populations.
- County employees volunteer on an annual basis to help provide digital literacy training.
- From the economic development perspective, they work with the job sector to help promote digital literacy with both employers and employees.
- The Library works to provide everything online, and then facilitate, through the assistance of staff, the use of the WiFi access at the Libraries.
- There are occasional issues with download speeds because of the number accessing the Library’s WiFi.
- The County knows that universal access is the key to continuing to spur economic development throughout the County.
- The County is concerned about augmented and virtual reality systems misleading the public.
 - From a security standpoint, verifications are very important.
- The government is held accountable if public systems are hacked and problems are created for the public.
- There are many new capabilities that will be available in the digital environment that the County is pursuing through its various agencies.
 - Telemedicine is a critical one that the County wants to continue to engage from a public health perspective.
 - However, it will require users to have the capacity to do videoconferencing with enough resolution to make accurate diagnoses.
- Its use of spatial technologies will continue to innovate, and one big application is emergency management.
 - These will continue to evolve.
- Smart devices for residential, business and government applications will continue to be incorporated into networks and provide Smart Home, Smart Business and Smart Cities-type applications.
- Remote access to training, reducing the need for specific location-based training and enabling a wider reach for training, especially real time training will be important in the future (*and again this has been pointed up during the current pandemic*).
- There is a cost to implementation of all of this, and the County is looking at partnerships wherever it can, to jointly develop, especially physical, infrastructure.
- Regarding video, the County provides County Board Meetings live, facilitated by MetroEast and provided over the government channels throughout the County.
 - They are also live streamed through Granicus.
- They would like to develop more programs and partner with MetroEast and Open Signal to do them.
 - 360 Video is coming into a mature space, and they want to look at more applications for 360 Video.
- They see more use of videoconferencing going forward.
- They have some video arraignment now but see more in the future.
- They are working to provide more “open data”.
 - They have started to provide some public safety data but need to continue to work on protocols to provide that.

- They are working holistically to create a roadmap to provide as much data in a public fashion as possible.
- They have geospatial data that is currently provided through sharing agreements.
- DCHS has an emergency dashboard acting as a portal to access their data.
- One of the big concerns is reaching older populations (already more difficult to reach in a holistic, digitally-centered way), especially those where English is a second language.
 - They want to try to co-locate multiple services targeted at such populations.
- They continue to look at best practices and the cost for implementation.
- They know that digital equity will require collaboration with many in the Multnomah County community and the development of public-private partnerships.
- They continue to work to develop multilingual features to all of their programs.
- They know that, while they may be able to solve a problem at a local level, there are still Federal and State issues.
- Accessibility is the key, and this is what the County will continually work towards.

Focus Group with City of Gresham Public Agencies
January 21, 2020
8:30 a.m. - 10:00 a.m.

A focus group was held with representatives of various public agencies of the City of Gresham (City) that focused on information technology, public information, community engagement and outreach, including: the Technology Director, a Senior Manager in the City Manager's Office, the Applications Manager, the Web Content Coordinator, the Communications Content Specialist, the Community Engagement Specialist, and the Digital Media Producer. The focused discussion covered a variety of communications technology topics including technologies used for internal operations, as well as technologies used to provide services externally to the various constituencies that the City serves. There was also discussion of the City's relationship with MetroEast Community Media, and the provision of programming over the East County Government Channel provided by MetroEast, including discussion of future content development and facilities, equipment, and channel utilization. A PowerPoint focused discussion guide was used to display key questions and topics for reference by the group.

Key findings from the focused discussion are the following:

Technologies Used for Internal Operations

- City staff have had substantial involvement in local government over many years ranging from 8 to 30 years and have seen many changes in the use of communications technologies for both internal and external services.
- The City's website is one of the key connections that the City has with the community and for staff to develop and provide content.
 - The City also monitors neighborhood social commentary through "Next Door".
 - The City provides video information, not only through MetroEast but also through its own YouTube Channel.
- Critical technology for communications technology use internally includes email, Internet access and text.
- Communications technology is ever present in its use for multiple internal clients including:
 - Cloud-based technologies.
 - Support for a mobile workforce.
 - Support for those who do work in the field.
- Communications technology is critical for the continuity of operations in an emergency.
- A big driver in the future will be IOT (Internet of Things).
 - They are just now at the tip of what will be possible.
 - Water meters currently utilize radio systems, but they are looking to move the sensors to new wireless connectivity.
- Provision of services from the Internet has been developed so that it has a flexible design making it very Smart Phone-Friendly.
 - Data they have gathered indicates that 80% of the population relies on, for a variety of reasons, Internet access through their Smart Phones to access City information
- The City utilizes the I-Net for communications between its facilities.

- They also take into account that a substantial portion of their population relies on in-person access, whether it's coming to a facility, or the services and information being provided to them through community partners.
- They continually look at a variety of platforms and applications to be able to more efficiently provide services.
- The user's experience, in large part, depends on how the third-party vendor designs the system and interacts with the City.
 - For much of the applications they have developed, the user experience is driven by the vendors.
- They create video content, primarily for external use, but also for some internal uses.
- In the last 10 years, there has been a huge boom in the use of mobile devices for internal operations.
- The City itself has substantial connectivity for its facilities and employees, including both wireless and wired access to the Internet.
- There is a drone for surveying work.

Provision of Services to Residents

- They develop all different types of video programming, much of which is distributed through their Facebook page for social media interaction or their YouTube channel.
 - They have had fairly good success with their video streaming.
- Language barriers are an issue.
 - They must do multilingual outreach to reach the entirety of the community.
 - Staff has iPads and mobile Internet with language translation applications.
 - There are 13 different main languages spoken just within Gresham, not including English, focusing primarily on Asian, Russian and some African languages.
 - For major outreach, they try to provide it in the top 4 or top 5 languages other than English.
 - They work with partners that serve diverse populations.
 - For instance, they try to reach those that speak Spanish and Vietnamese at a neighborhood level.
- They make decisions based on the information that needs to be provided as to how it can best be provided.
- They do try to drive people to the City's website for those who do have access to the Internet and a computing device.
 - They are transitioning, for example, to more online bill payments.
- For community engagement, the City uses a variety of methodologies, some that are "low tech" in order to reach various populations.
 - Much of this is online and through the website.
 - Sometimes they will use Intercept Surveys.
- The surveys through various means provide statistics that support grant applications.
 - They also use videos to augment the survey information.
- The geographic location of residents sometimes determines the engagement method used and the type of outreach made.
- There are real issues with access and affordability for underserved populations.

- For businesses, sometimes the outreach is through word of mouth in the business community.
- They are selective in how they use online engagement.
 - They know that for many residents, it's a value proposition.
- They continue to pursue ways to provide low-cost access.
- When they develop ways to overcome language barriers, they then need to verify how successful it was to ensure that the method utilized was effective.
- They will translate some videos, such as the Mayor's State of the City.
- They also try to work with technologies such as Google Translate.
 - Because of the multiple platforms that they provide outreach on and the community engages with, the language doesn't always translate accurately.
- A challenge is the cost of reaching so many diverse populations.
- They work to provide wide outreach related to communications about community planning.
 - This helps build trust, because if some populations are not aware, then there is a trust issue.
- As they go through urban renewal activities, they partner with other entities such as the Multnomah County Library.
 - An example is the Rockwood DIY location which has a Makerspace.
 - They also developed a digital media classroom and have been building a media library.
 - Between 600 and 800 people have been trained in this facility.
- They also work with Mount Hood Community College and get involved with grassroots efforts such as Spanish-speaking parent groups concerning educational initiatives in the City.
- They are always looking for ways to make content more accessible, including working on different apps.
- Their focus is on being able to access City of Gresham information and services anywhere in the community through portability and the availability of free WiFi in a number of locations.
- They know that certain segments of the population do not have sophisticated computing devices.
 - For example, a portion of the Spanish population relies heavily on mobile devices such as Smart Phones for access to the Internet.
- They work with partners to increase the number of physical locations to be equipped with everything needed, not just WiFi access to the Internet.
- They have developed a City portal making it easy to navigate the site.
- The homeless population is perhaps the most difficult to reach, knowing that they rely on mobile devices and are mindful that they typically will have limited Internet access.
- They work to provide free access to the Internet, and things like charging stations to ensure that these populations are able to access City services.
- They are pursuing a number of IOT (Internet of Things) applications, including installing sensors for Smart Cities applications.
- They are investigating Augmented Reality.
- They are working to develop GIS-based open data applications.
- They again are working to increase the availability of public computing technology.
- They are concerned about privacy issues with the escalation and the need for a great amount of video surveillance technology, body cameras and other technologies and access to people's personal devices in order to provide information, including emergency information.
- They are working on applications for automated vehicles as the technology becomes more mature.

- Regarding video technology, they are currently recording a lot of video and so need to continually increase storage capabilities along with overall data storage and archiving systems.
- They look for economically viable applications; for example, efficient and effective delivery of water and sewer data for operations purposes while spurring more efficient use of such services in households, thus saving both the City and its residents money.
- They are concerned about data security.
 - One of the issues is vendor relationships and how third-party vendors themselves can ensure that the systems they are implementing for the City and residents are secure and that any data retention is secure. Will reliability and security continue to be evident as the systems scale up over time?
 - There are operational issues such as who manages particular vendors, and is it the same City entities that make the acquisitions?
- The City is “dabbling” in machine learning and AI technologies.
 - As they become more adept at these technologies and integrating them into their systems, then they may be able to transition some vendor-oriented systems to City-owned and developed systems, which could decrease cost and increase accessibility.
- They continue to review different types of digital engagement tools such as online Town Halls.
 - The key is whether people can participate effectively.
 - Is it as effective a way to communicate as appearing in person?
- They believe the use of these multiple platforms has resulted in people engaging more actively in their civic life with the City.
- One irony is that while technology theoretically increases the efficiency of staff, implementing, adapting to and utilizing new technology effectively, will often require an increase in staff.
- Planning platforms are heavily GIS-based.
 - 3-D modeling is beginning to be used more and more.
 - It allows “story maps” to be created which show both the past and future chronology of, for example, site development.
 - It does allow connections with the community in a very graphic way.
- Sharing stories effectively can be done in presentations and in-person meeting spaces, as well as online.
- The City still uses a variety of print materials as tools for both internal and external communications.
- The real key as to how successful these are is the analytics gathered.
- One of the focuses of the portal is to provide open data in a “big data” fashion and thus increase trust in government.
 - It takes some time to organize the data, but really good information can be provided to residents from the data that the City gathers on a regular basis.
- The City continues to work on providing accessibility to data through enhancements to its Content Management System (CMS).
 - For example, Parks-related information is now provided in a very informative, continually updated manner.
- Information such as this, provided online, can increase civic participation as well.
- The City’s streaming capability is a third party solution and has been developed as broad as it needs to be based on evaluation of the cost/benefit.
- The City has a Digital Media Studio.

- They utilize an Adobe Creative Suite for editing and providing graphics.
- Through the use of cloud-based systems, they can work on videos, both at the office and at home.
- The City has a small team for video production but is continuing to expand video development.
- They are looking for ways to partner with other organizations in the development of video.
- MetroEast provides contracted service (cable channel-related coverage of City Council meetings, for example) and provides production support, especially in the Summer.
- They gather “B-Roll” for incorporation into the City’s productions.
- MetroEast partners with them and sponsors some of the larger City events.
- They do a recap video utilizing both video and still photography.
- They work with them on coverage of live events.
- MetroEast is also a low-cost training resource for Gresham residents.
- Gresham is one of the subscribing members of MetroEast.
- MetroEast assists in gathering content so that polished communications can be developed.
 - For example, they worked to put together a training video.
 - MetroEast has much more robust equipment than the City’s small Digital Media Studio and can therefore provide great access for the City and their members, many of whom are Gresham residents.
- The City puts together a weekly, public affairs show that concerns issues in Gresham.
- MetroEast has substantial audio recording facilities and provides training in podcasting.
- Importantly, they train their membership in how to develop a story.
- The City believes that MetroEast is a well utilized resource in the East County.
- For small business, for example, video is becoming very important.
 - Small business needs to have digital literacy and be fluent, for example, in different file types.
 - Video continues to grow in importance as a way to communicate for both individuals and businesses.
 - Video is used for both internal and external purposes.
- People being digitally literate is a huge issue, because without this, people are less civically-minded.
- Because people don’t have the availability to spend large amounts of time with any particular video programming, it is important to get key messages across right away.
- It’s also important that the user experience be positive for the message to have impact.
- 360 Video and Augmented Reality will continue to grow in utilization.
 - For example, the City has used such video to make key points about development projects, such as showing what a development site looks like now versus what it would look like after the project is completed.
- In a government-type structure, it is often difficult to keep up with technology because technology moves faster than government systems can always adapt.
- They continue to look at research in more effective emergency communications.
 - For instance, currently they believe text is the best way to get emergency messages out.
- They continue to investigate different types of interactive communications technology.

- The overall view is that it takes continuous learning on the part of all City staff to keep up with technology.

Focus Group with Other East County City Public Agencies
January 23, 2020
1:00 p.m. - 2:30 p.m.

A focus group was held with representatives of various public agencies of the Cities of Troutdale, Fairview and Wood Village, all in the eastern part of Multnomah County, including: the Digital Media Specialist, the Administrative Assistant to the City Manager and an Associate Planner for Troutdale; the City Administrator of Fairview; and the City Manager of Wood Village. The focused discussion covered a variety of communications technology topics including technologies used for internal operations, as well as technologies used to provide services externally to the various constituencies that the Cities serve. There was also discussion of the Cities' relationship with MetroEast Community Media, and the provision of programming over the East County Government Channel provided by MetroEast, including discussion of future content development and facilities, equipment, and channel utilization. A PowerPoint focused discussion guide was used to display key questions and topics for the group's reference.

Key findings from the focused discussion, and four companion questionnaires are the following:

Technologies Used for Internal Operations

- City staff have a variety of portable devices that they use including Surface Pros and iPads.
- Paper copies of official documents for appointed and elected officials continue to be hand-delivered, although they are archived electronically.
- Connections to their well sites previously utilized Frontier slow speed lines, but they were problematic.
 - They switched to Business Class cable modems from Comcast.
- They are very interested in the Municipal Broadband Feasibility Study for the County.
 - Ideally, they would have gigabit speed connections to City facilities.
- Regarding internal operations, some participants indicated that it was essential for the agency to have access to portable and mobile technologies because a lot of employees have to work away from City facilities and need devices to do that (inspectors, public safety, etc.).
- Another participant indicated it was easier to track data and assist the public utilizing electronic devices versus old paper tracking.
 - One indicated that mobile technology use was somewhat important, because most of their work is "done at a desktop" (for some tasks, a laptop and a Smart Phone are utilized).
- The highest priority technologies for the East County Cities are:
 - The website;
 - iPads;
 - Social media;
 - Email;
 - E blast alerts;
 - Fast Internet service;
 - Phone;
 - Video;
 - Text;

- Electronic bill payment; and
- Web-based applications, including:
 - Electronic bill payment
 - Parks reservations
 - Reporting code violations
 - Submitting job applications
 - Permit inspection scheduling
 - Police reports

Provision of Services to Residents

- The Cities each use their website and social media platforms for community engagement.
 - They push a lot of information out and receive comments but typically do not engage back with the comments they get back through Facebook or other social media platforms.
- The City of Fairview provides flash alerts through texts.
- They don't have mobile apps currently for their online information.
- They still provide information through paper, as well as electronic means.
 - Paper includes signs, flyers and other notifications.
- There is some public WiFi.
 - For instance, Fairview at its old City Hall does provide WiFi and will be building it into the Park.
- Public WiFi is important so members of the public can access pertinent information.
- Public WiFi outdoors is password protected.
- They do not want the ability to stream from the website going forward.
- They are currently not streaming any video, but they do get 3,000 visitors a month to their website.
- They know that some of their residents are on pay-by-the-month dial-up.
- Others get everything data-wise on the phone, and do all of their primary activities on their Smart devices.
 - This means they have to optimize their web communications for such devices.
- They are looking at kiosks in targeted areas through public-private partnerships.
 - They anticipate that they will have paid ads to help support them, and this will allow WiFi hot spots at those locations.
- They believe that artificial intelligence will be important, but it needs to look and act like a live person is communicating with the resident or business on the other end.
- Language is still the biggest barrier to providing the same level of information to all of their residents.
 - They have worked with live translation services, but technical jargon can be a problem for the translator or translation service.
- They know that, where comprehension is a barrier because of language understanding issues, "simple is better" and that the communication should not be complicated.
- They have developed step-by-step processes for permits and business licenses and have permitting software and other automated systems.
- They also have a citizens' help portal.
 - However, they find that many times they must have a personal interface.

- They, like their counterparts in Gresham, have needed to engage third party vendors for some of their online and automated systems.
 - Like Gresham, there have been glitches.
- They have online registration for the County library branches in the Cities for programs that they co-sponsor like Internet safety classes where teenagers can surf safely.
- They know that education around technology impacts newer residents and are concerned that small businesses may be disadvantaged by the lack of understanding of technology needed in the digital economy.
- They have looked at 311 information services being available as an app, but know that barriers can include institutional distrust, privacy concerns and concerns that utilizing such services might subject the user to spyware or malware.
- They are partnering with the libraries to ensure that people are aware of the Census and taking the Census.
 - In Fairview, they are also using the Next Door social media platform.
 - They have had some issues with the Next Door platform with people complaining in ways that don't allow them to react and respond to counter any kind of disinformation.
 - They monitor it to ensure legitimacy and rather than engage the complainants on the platform, they urge them to call the City directly.
 - They had a recent issue where someone was providing disinformation about the quality of the water.
 - Issues such as aesthetics and potholes often come up on services like Next Door.
 - Bigger issues, like the quality of the water, can become a political issue if not countered.
- They talked about how complaints used to be responded to individually.
 - Now, a resident's complaint becomes more widespread on the Web and is more difficult to respond to appropriately.
- They have some requirements, and again because not everyone is connected, to ensure that paper copies of public notices are mailed out.
 - They also post them on their website.
- Forty percent (40%) of the population is renters, so they make sure that they send out postcards to addresses.
- They will send a bimonthly newsletter to those that have provided their email addresses.
- In both Fairview and Wood Village, it's hard to connect to the entire diversity of the community in only one manner.
- They have looked at "mobile access centers" that will provide cell phone and laptop/notebook capability along with kiosks.
 - These are staffed by volunteers.
- They are looking to have neighborhood meetings to reach out to those in the far-flung areas of the community.
- In Troutdale, they work with groups like APANO to interface with population groups that they represent.
- The digital divide in Troutdale is substantial, at approximately 10% for those without connectivity.
 - For example, Townsend Farms at certain times is a workers' camp for migrant workers.
 - This will be an issue for gathering appropriate Census information.

- Besides working with partners, they try to make connections with individuals who can then network and make further connections to get the word out.
- In Gresham and Troutdale, they want to ensure that their outreach is widely dispersed.
 - Otherwise the Census will not be reflective of the community as it exists.
 - They looked at web analytics to determine the locations that they will need to focus on for in-person outreach.
 - Their outreach will have to be a mixture of a variety of media and mechanisms.
- All agree that broadband is an essential service for all of their residents.
- They indicated that lack of education is one of the biggest inhibitors to broadband adoption.
 - They believe that people without broadband or the Internet make a lot of assumptions about the problems they would encounter, the lack of benefit or the difficulty of use.
 - Education can counter this and ensure a higher level of access.
 - The best citizen is one who is educated and who has access to services and opportunity.
- Some people are anti-technology and they may never adopt.
- Regarding new technologies, they have invested in smart street lights and smart parking.
- They are developing 3D maps and want to use AI to make their provision of utilities smarter and more efficient.
- Regarding AI, they are currently looking at “pre-applications”. In other words, they are looking at pilots and to verify the usefulness.
- They are looking at the amount of teleworking and telecommuting versus physical presence that they want as part of their work activities.
 - They want to ensure that the systems used are high quality and allow a high amount of productivity and some oversight.
 - *(This information was pre the pandemic, and the anticipation is that the East County Cities are consistent with all the other local governments in the Portland Metropolitan Area who had to quickly invest in telecommuting and teleworking applications and systems.)*
- Regarding MetroEast and its relationship with the East County Cities, participants indicated that it was either essential or very important to ensure that live coverage of government meetings and distribution of City content occurred over the MetroEast channels.
- They also agreed that it was essential or very important to have the MetroEast channels in order to help them meet the mission of their government agency.
- They indicated that it was a way to connect with citizens and that it is essential “because many people cannot make it to the actual meeting and this still allows them to be a part of it.”
- Additional video programs for the community channels should include:
 - Seminars like emergency preparedness;
 - Possibly recreation classes;
 - Archival of major City events;
 - Budget messages; and
 - Frequent updates on City activities and messaging.
- East County Cities desire to use more video, but they have limited time and resources so it restricts that opportunity.
- They indicated that use of video is very important and is mainly used on the City’s website and social media outside of the programming on the MetroEast channels.

- One indicated that they have a limited use of video, mainly on Facebook, to either share the public meetings that are recorded or provide short video clips.
- Regarding video, they currently provide the Planning Commission and the Council meetings on the MetroEast channels.
- They are also looking at a program on flood awareness.
- They provide information on the budgets each year and budget hearings.
- They are developing how-to videos.
- They provide videos on both the MetroEast channels and on YouTube.

Focus Group with Digital Inclusion Network Members

Focus Group with Members of the Digital Inclusion Network (DIN)

January 22, 2020

2:00 p.m. - 4:00 p.m.

A focused discussion was held with 20 members of the Digital Inclusion Network as part of the Community Technology Needs Ascertainment. The group included representatives from a variety of government agencies as well as nonprofits focused on working collaboratively and cooperatively to promote digital inclusion and equity among all of Multnomah County's constituencies.

The group included representatives from the following organizations: Wisdom of the Elders, Home Forward, Free Geek, Tree House, Human Solutions, Worksystems, APANO (the Asian Pacific Network of Oregon), Chicktech, Outside the Frame, NTEN (Nonprofit Technology Enterprise Network), FC Hurdle Consulting, Municipal Broadband PDX, CETI (Creative and Emergent Technology Institute), Multnomah County, the Multnomah County Library, and the City of Portland's Office of Equity, Civic Life and Smart Cities - Open Data Program.

Similar to other groups, the discussion focused on the organizations' use of communications technology internally, as well as to provide services to their constituencies. However, the group also focused on a variety of digital inclusion topics, including workforce development, digital literacy, education and training, adoption issues and multimedia literacy. A PowerPoint focused discussion guide was used to display key questions and topics for the group's reference.

Key findings from the focused discussion, and several follow-up surveys, were the following:

- Wisdom of the Elders works with Native American youth in teaching multimedia literacy.
 - They work on documentaries, learn how to be reporters and enter their work in a film festival.
- Another group is focused on providing technology training to immigrant communities.
 - They work to provide them with a voice and a platform and to be able to enter the mainstream as it relates to digital literacy.
 - Critical issues include security and understanding the functionality of various technologies.
- Others are working on a more competitive broadband environment.
- Others are working on underserved communities such as people living with disabilities.
 - For technologies to be more accessible to people living with disabilities, they cost more, or you pay more for the same features.
 - Certain types of accessibility are tied to technologies, and the price points to make them accessible price people out.
- Another entity works on affordable housing issues, and those that are either homeless or have to seek subsidized housing often have Internet only through the phone.
 - They work on lifeline programs to help provide access to services.
 - Often those with low income or no income only have their phone for access purposes.

- For families, this is extremely problematic because it requires homework to be done through the data that can be acquired through the telephone.
- A big focus is being able to provide people with adequate devices for what they need the Internet for.
- Many of the groups provide outreach, which sometimes can only be accomplished through the phone.
 - They try to get feedback through email and also through surveys.
 - This is a limiting factor in being able to reach those in need.
 - It can become very hit or miss in being able to reach people who need assistance.
- Free Geek works with community partners and the schools on programs to provide those that don't have devices, with devices they need.
- Free Geek works to provide laptops and the hardware and software that recipients need in order to achieve their goals.
- Worksystems works on workforce development.
 - They look at the strategic use of technology to develop a digitally literate workforce.
 - They look at innovative uses as part of the strategic uses.
 - They noted that it's important to be able to provide information over and over again in order for it to be effective.
- One of the keys is to establish some form of data exchange.
 - In this way, information can be shared and it enables broader access.
- Groups are involved in community engagement and community building.
 - An example was given of a farming design project in Western Africa that didn't work for the target group.
 - Because it didn't work, it was ineffective and wasn't used.
 - This means that prior to engaging the community, the research needs to be well grounded.
 - A lot of surveys go after what entities already know.
 - What needs to be asked is, what would you like to learn?
 - Continual feedback is key to effective community engagement.
- It is important to be intentional and teach people what they want to know.
- Universal design is a key concept for making web content and other important tools accessible.
- Getting online is half the battle.
 - There are many challenges to that, including cost, utility and understanding of devices, and availability of the Internet.
- Regarding universal design, cost is one of the biggest factors.
- It is important to have transparency, and the provision of big data provides transparency.
- There are certainly tradeoffs in the ability to be able to access and use the data.
- Universal design should be mandated as a required practice by the government to help ensure accessibility.
- Cost always seems to be the biggest inhibitor to pursuing universal design.
- The design of technology needs to be focused on the broader community.
- There needs to be transparency in the data that is accumulated by governments and private entities.
 - People give their data for it to be useful, and yet it results in tradeoffs that don't necessarily benefit them.

- If you're going to use public data to make decisions, then the public should be involved in those decisions.
 - This will help get people to participate and engage for the benefit of all.
 - For example, there should be participatory budgeting related to technologies and those that will benefit from them, rather than making decisions in isolation.
 - An example is New York City reaching out to 100,000 residents to participate in spending \$34 million on public benefit programs.

This helps build trust and promotes transparency.

- For people to believe in their governments, the governments have to build trust with them.
- The group talked about whether forms could become barriers; for example, the forms required by the County for access to housing.
 - The data that the form requires is considered private personal data, and if there is a mistrust of government, then applicants will be reluctant to provide accurate data.
- There was a discussion of legal requirements related to accommodations for people living with disabilities, and the group indicated that both governments and businesses systematically violate those laws and even their own policies.
 - The governments have to lead the way in compliance in order to not be seen as hypocritical when enforcing compliance on businesses.
- There was discussion on whether WiFi helped make access to the Internet more affordable, and whether access to the Internet was as essential as having electricity.
 - The group agreed that these were fundamental needs of the population.
- The group talked about Phase II of the Digital Equity Action Plan and where the County and its constituencies need to go in order to continue to improve upon current efforts.
- One of the big questions is, with all the current technologies and challenges, where is the best place to invest the funding that is available?
 - Are there certain programmatic technologies that would provide the best outcome?
- The group discussed that expansion of public WiFi would build upon the current successes, and needs to be addressed from a widespread public policy point of view, rather than an ad hoc, per facility or per agency point of view.
 - The group mentioned that there are security/speed/quality issues that need to be addressed.
 - For example, people are always concerned about public WiFi and its level of security.
 - From the public agency perspective, it needs to be provided as a secure service.
- Participants talked about the issues that occurred when public WiFi was kept on outside the libraries after closing hours, and so it's now turned off 10 minutes before closing because of those issues (*this may have changed after the time of the focus group based on response to the pandemic*).
- While Band-Aids are not panaceas, they are important in helping to provide at least temporary solutions.
- Participants talked about that it is really important to understand the needs of each community.
 - For instance, you can have good intentions, but it won't necessarily result in a good outcome.
 - An example was given of small business owners, where you could provide technology designed to be helpful, but they may not even know the fundamentals of how to log on.
- This points out the need to know exactly what the needs are before embarking on any kind of project designed to improve or enhance digital literacy, accessibility and adoption.

- The upcoming Census is a good example.
 - The group agreed that a lot of effort would need to be put in in order to “count the uncounted”.
 - Some would find it difficult to fill out the Census form even with what has been attempted to be a simple form.
 - Others will have trust issues.
 - Others won’t have the appropriate access.
- The group indicated that whether technology can help promote digital inclusion and digital literacy was in large part related to those receiving the assistance believing that the provider has been transparent, and then trusting in the provider.
- Technology has to be designed in a way that it is user-centered and promotes individual protections.
- Some data suggests that user-centered designs are 30% more successful than trying to apply other types of technology to resolve digital challenges.
 - There are barriers to promotion of this type of technology, and there would need to be policy changes to have user-centered design requirements.
 - One thing the universal design does is it allows one size, with modular variations, to fit all.
 - There has to be a systemic change in the way technology is developed for this to be implemented.
- The way that a lot of technologies are promoted with gimmicks is dangerous to having people be able to adopt it.
 - In other words, if it is gimmick-oriented, and people find that it is not useable for what they are looking for or it generates problems, then they are more likely to be distrustful of technology and its use.
- It’s important to build on what has been effective so far.
 - A creative process of technology development is using a successful technology as a foundation and then building upon it.
 - For example, one strategic pursuit is to focus on what people like about a technology and continue to enhance that.
- Being able to easily exchange data for all different types of uses and users is key to improving adoption and digital literacy.
- For Smart Cities applications, the first task is to determine what services are provided.
 - Essentially, what services are going to be of most benefit to the population?
 - Are there services, instead, that will create a further digital gap?
 - It’s important to have the community involved in developing these Smart Cities applications.
 - Is implementation using a planning horizon that forecasts what the environment will look like years down the road?
 - In other words, is it being implemented with a long-term view?
 - This perspective would be the most beneficial in implementing Smart Cities technologies.
 - What kind of system will be implemented, and who will own the technology?
 - Is it going to be a public-oriented system or essentially another “capitalist system” that will benefit only those that are able to have the access to the technology?

- One of the big concerns is the obsolescence of technology, such that it creates a constant learning process.
 - So, for example, the digital divide or digital inclusion gap gets smaller, but then the obsolescence of technology and the need to adopt new technology increases it back to a larger gap.
 - Obsolescence of technology then creates new challenges for both access to and adoption of hardware.
 - Then, depending upon the applications and the system utilized, privacy concerns that might have been lessened under a previous technology or application are then heightened again.
 - Are accessibility issues exacerbated by this constant change in technology?
- The group indicated that, at this point, the evolution of technology and applications was clearly, systemically disadvantageous to lower socioeconomic populations.
- The key to including them in an ever-changing technology landscape is active training related to access, rather than passive training.
 - For example, K-12 STEM education works well within the school system, but you need to have 24-hour access in order for the basics learned in school to continue to be built upon.
 - Could such 24-hour access be provided by the School Districts, when it's not available at home?
- There needs to be an overall framework that provides a set of rights for everyone to have equity.
 - Part of that would be related to net neutrality which, again, has been bandied back and forth at the federal level.
 - Part of the solution is at the local level where the City Council and others have to be proactive.

Multnomah County Branch Library Focus Group

Focus Group with Multnomah County Branch Libraries

February 26, 2020

9:00 a.m. – 10:30 a.m.

A focus group was held with the representatives from several Multnomah County Library branches. Participants included: a Library Assistant from North Portland; a Librarian at Midland Branch Library- serving portions of the East County; a Regional Librarian for the Mid-County Region, based in Midland, but also Serving Holgate and Gregory Heights; a Librarian for the Collins Gallery from the Central Library in Downtown Portland; a representative who focuses on digital equity work all over the district, based at the Central Library; an East County Regional Librarian representing Rockwood, Gresham, Fairview, and Troutdale whose focus is collection support, outreach efforts, and management of staff; a Librarian at the Central Library, who is also serving as a Temporary Librarian at Belmont and Woodstock; the Belmont Library Interim Supervisor who was the regional technology coordinator before his current position; and a Black Cultural Advocate at the North Portland Library, serving the North Portland area, who is also on the IS Staff and provides tech support.

Similar to other groups, the discussion centered on communications technology, broadband, devices, Internet, digital literacy and how all relate to providing access to, in this case, Library services.

A PowerPoint focused discussion guide with key questions and topics was displayed for reference by the group.

Key findings from the focused discussion are the following:

What are the primary factors in why people come to the libraries to access the Internet?

- People don't have the means to own a computer; it's a generational thing. Public services are needed, because they have to fill out things online, and they've never done that before, and need help/training to do these things online.
- There are a lot of patrons that rely on IS staff to do these things for them, because the learning curve for them is often long and frustrating- causing them to want to give up. These patrons are coming from AOL dial-up to Gmail and the cloud, and trying to explain this to them is quite difficult.
- I wish that we had like an email and Internet 101 course to conceptualize what it is that they're doing, and also what it is. They want immediate results and not how to learn, so they're coming in to access computers and the Internet, but also us and our services.
- We have people that are elderly and do have a computer at home, but they don't have the skills, so they want your time so that you can show them everything they need to do.
- Language can also be a barrier; They want you to tell them how to do something, and some of those things, like tax help, we're not really allowed to instruct them on that.
- There are also younger folks who don't have access to a computer, and they come in and want the computer for hours and hours.

- A lot of people see themselves as computer illiterate, so they really need help utilizing those devices, even if they are their own devices. They also come in to use the WiFi on their own devices.
- A lot of people come in to print because a lot of people don't have printers at home, or they may have really outdated equipment.
- Fax machines are also really popular. People were asking for access to those, and we finally got them a few years ago, and now they're used all of the time.
- We're also seeing people that are familiar with one type of technology because they had exposure to it at work, and they've either lost their jobs or are looking for a new job, and they need help learning other types of technology.
- A lot of kids come into game and sit together after school, and it's really a drain on our stations and time, not so much the Internet or data, but more so the time they sit at the station.
- It's a lot of adults gaming too, and it seems a lot of people come in for use of electricity to charge their phones or laptops.
- Our Internet access seems to provide a lot of community connection to exist socially. For older folks, it seems to be a desire to connect with a larger world- like learning to use social media. They want to also stay connected to family that's further out.
 - It's an ability to express themselves and their ideas- like making YouTube videos or blogging.
 - Some people want a larger vocabulary, or they have a lower level of education, and they want to understand things like what is a USB cable, where does it go, what is a USB port. There's a lot of technology terminology that people don't know.
- They may have the technology at home, but if it is older and breaks, they don't know how to fix it, or they don't have the money to fix it. They come in asking if we can help fix their laptop.
- Internet access is also really expensive, so I always ask our patrons if they have it at their homes. We ask them, and a lot of patrons say they don't have it.
- Or people have it at home, but it's not fast enough for their entire family to use it. Kids want to remain on the Internet for long periods of time.
- We have a lot of homeless folks that come in regularly to use the computer so they can gain access to the Internet.

Is this something everyone experiences at their branches with the homeless population?

- We have homeless people lined up every day to come in and use the computers.
- A lot of people come in and just want to use their phones, or charge their phones, especially the homeless population that do have phones.
- A lot of kids might have a cell phone, but don't have data, so they'll use the Library's WiFi to get on the Internet on their phones. The parents rely on the Library's WiFi for their kids.
- Many are accessing the Internet for access to videos- sports, entertainment, music, etc.

It can take a lot of network capacity to access videos. Do you ever find that it overloads the capacity of the system?

- I haven't really seen it affect the capacity of our Internet speed. We haven't really seen anyone complaining about connection speeds. I think with public WiFi, a lot of people just expect that it's not going to be insanely fast.
- We have the "accept" page for the WiFi, so if you stop using it for a bit, it will kick you out and make you log back in. So maybe that is kind of a gatekeeper so that it doesn't drain the service capacity.
- We do have patrons that complain about the speed of the WiFi, but it's not a regular thing.
- We see patrons getting kicked off trying to access Craigslist and that seems to be a problem with too many people on the server.
- Kelley Blue Book has been an issue too.
- Craigslist kind of treats us like we're hackers, so it sees too many people from the same area and IP address trying to access the same site, and kicks us off.

Do you have to worry about any security issues such as people bringing in outside USB drives or similar?

- I think it's just the volume that we're coming at it from. I think it's the site because there are so many people on Craigslist looking for housing or apartments.
- I think our system is fairly robust. It seems to clear everything out when someone logs out.
- IT has also been very clear with us that if we find a USB drive, we're not to plug it into a staff computer. We always have to plug them into a public computer to check them.

Are there other applications or things that people want to do? For example, are you able to work with people that don't speak English?

- We have a program that's system-wide, so we can speak your language. We generate the need for staff speaking other languages based on demographic populations.
- I think people move around so much, it's hard to keep Spanish-speaking staff at specific libraries, but it does seem like we have a lot of staff that can speak other languages. We also have ERCO.
- I'm not sure ERCO can walk them through filling out an application, though.
- We also have a weekly tutoring program at Midland with volunteers that speak different languages that can help them do things like fill out job applications or study for their GED's. But it is difficult to do it with all demographic populations.
- I think they allocate the staff based on the 2010 Census.
- In East County, we do have a coordinator that is required to be bilingual, and he sets up appointments at different locations and visits the different branches to assist people who need help.
- We have seen over the years where we think something, like a program, is going to go through, and then it just doesn't because of compatibility issues, etc.

- A lot of people really are just coming in to check social media, access applications, or check email.
 - It's hard when people don't remember their passwords, and need a second email address just to recover the password for their first email. Helping people put in applications for Portland's Housing Authority was especially challenging, so we ended up writing down their passwords on paper and stapling them to a copy of their applications because they weren't going to remember the password a year later.
- We talk to people a lot about security, and what they should be accessing, and things they shouldn't be sharing online.
- It's really difficult when things like Gmail require a phone number and 2nd email to just setup an account.
- So many people do things on their phones, which really becomes a barrier with computer literacy when you aren't forced to use a computer all of the time. I've definitely seen people get really frustrated.
- And sometimes it even requires Library disciplinary action, which is sad, because we know they're frustrated.
- There are also a lot of people doing research, and we help them access, at least at Kenton, accessing E-Books, and signing up for the E-Book service. We help people download on their own devices so they can download the book at the library and then still access it at home, if they don't have Internet at home.

How successful do you think the libraries have been so far at addressing adoption strategies?

- I feel like our drop-in tech helps are very helpful to these patrons. They really remove a lot of barriers.
- There can be really simple fixes like correcting settings, that people don't necessarily need a class for, but really just need "in the moment" simple help. So, the drop-in labs work well for that.
- I think we're helping people most with the one-on-one book a librarian sessions. We do a lot of appointments at our branch.
- Often, they don't know that we even have those services, so then I ask them what their basic need is, and then suggest the one-on-one appointments, if we aren't super busy and can't sit down with them right then. But they can book online, or over the phone. 90% of the time that seems to work better for them than the class.
- Our classes are really spread out, and across our entire system. So sometimes the one-on-one is a lot more accessible at that person's specific branch, and that way they don't have to travel, or wait weeks to solve their issues.
 - They don't necessarily know what is the right class for them, or what class they should take, so I see that our attendance in the classes is low, versus the one-on-one appointments.
- Classes have worked really well in some regions and with some populations, but as a widespread thing- the one-on-one's definitely work better.
 - We've also discussed whether people could start checking out the devices, or borrowing hotspot devices so they can use WiFi at home, or the device at home.

Have the libraries been able to keep up with the need for tech support?

- Not in East County. Our Tech coordinator is constantly booked.
- We really need one at each branch. It's hard when they only come to your branch for 4 hours per week.
- We only have like 2 or 3 tech coordinators in the entire system. We also have to be aware of the fact that these are adult learners, so they do a lot better in one-on-one settings. It's hard for them to keep up with everyone else in the classroom. The adult learners know that they're behind, they're embarrassed, and constantly apologizing- so it seems like the one-on-one is also a more dignified setting for them.
 - The adult literacy centers in some of the branches do seem to be more popular in those areas.
- It would be a lot nicer to have a space dedicated to this so that we don't get distracted while we're trying to help them. If a patron sees you around, they might try and interrupt you.
- Work schedules seem to be a barrier too. I tried going into the community after hours and doing classes, and those seemed to be successful because we had a group of people all trying to learn the same thing. We did it at a church or a community center, so it was also somewhere that was more comfortable for them. It's hard to coordinate that time with them when they work during the day.
- I work for Welcome to Computers, and we distribute about 150 computers per year. So, we're out in the community really trying to help people setup the computers. We don't have that at this time because the devices are expensive and our time is expensive, and we don't have the hours.
- We need more resources, and I've been trying to try more models, and there seems to be a lot of different ways to do it. We have more teaching capacity through the system with our volunteers, but our actual library staff having time to teach, and the devices are definitely barriers, and dependent on staff capacity and what they get in donations.
- People definitely have success in the classes, especially the after-hours courses with childcare and work. In some of those circumstances, they're all just looking for an example of how to apply online for jobs or certifications. So, it's easier when the entire group is all looking for the same thing, and we can do it all together- it's very successful.

How are people aware that these services are available? Do you promote them within the community?

- Other organizations usually tell them to go to the library to get help.
- The website also has information, but I think a lot of people don't really know that the information is there on the website. I think some additional marketing can happen.
- I've noticed in a lot of my outreaches that a lot of people aren't really aware of what is available at the libraries.
- I think across the board, the library has a hard time marketing and promoting the services that the library provides. Coming from non-profits, it seems that the library definitely has a more difficult time indicating what their services are.
- We should be able to market the services we provide, and have more time to do outreach in the most underserved populations and regions.

- I think this also comes back to serving adults. Libraries are historically amazing at doing outreach to schools, and kids, but it's like how do we tailor outreach to adults without having schools or afterschool programs to reach out at. How do we change the approach to meet the needs of adults?
- Even parents that have been going to the library for years, end up being like "Oh you do that?", and I'm not surprised because we don't really promote that.

Do the libraries partner with other entities, like non-profits, etc.; are there cross-referrals?

- FreeGeek is a big one, Goodwill, I've sent people to MetroEast, Open Signal because they check-out equipment, and I think we partner with location-based entities as well, like Home Forward and similar public housing places.
- I think the regional tech coordinators get to in turn face more. There's definitely a capacity issue, because most of us don't have a full-time job to do that. We are also very active in the Digital Inclusion Network.

Is there a centralized database for resources for this kind of help outside of the library?

- I don't believe we have one. We use 211 sometimes, but there's nothing related to an actual database. I try to just refer people to local services, like iChihuahua for their phones. I think collectively as a community, we have our hacks and tricks on how to get our needs met, but I don't believe it's compiled in a specific way. It would be a great resource, but I've watched the Library put a lot of resources into a lot of things, and then not communicate that to the community. So that's a big barrier- if we have the material means, we should be setting that aside to get the message out in an effective way.
 - We have to be innovative and adaptive on how to deliver that message to adult communities, outside of outreach events. We need to have cool, attractive incentives, and other things. We have stickers and pencils, which really doesn't appeal to adults. We need to learn how to catch their attention, especially in the adult community.
- Even other County employees don't know the extent of what we do, when they serve the same communities. So maybe some of their clients, referring them, and interdepartmental cooperation-cross-references, etc. They don't seem to be sending people to us. Years ago, we kind of had a push, with staff working through the Leadership Academy, but it seems like it's kind of falling by the wayside. We really need to get more people informed who have a vested interest in informing the community.
 - In the last couple of years, we have a specific librarian who only works with the homeless and underserved population, and I think she goes out like once a month. There are ways to let people know, but it needs to be more.
- It seems like we're over-dependent on the website, which seems like it takes away from other marketing efforts. I like our website, but if there's all these hoops- like not having digital literacy or Internet access, then it doesn't seem really useful. We need like billboards, or the ads I see every now and then on the bus.
- Do we do anything in the local publications?
- I know we do some stuff in the local publications, but some of them have moved to online only. Getting it out in the news is useful, but it seems everyone is dependent on the Internet. Everything

is on the website, and that seems like the only way that we're reaching out to our patrons. Which is a problem for people that don't have a computer, or the Internet, or digital literacy. It seems to restrict it just to people that are web-savvy. I find door-drops, or flyers, or door to door to be most effective in my community. I sell a newspaper for \$1 to get local news across, and make conversation, and it seems to work to get people to come back. It might be really helpful to distribute flyers in the same kind of manner. I just don't really have the manpower or the time to be doing that constantly. I'm usually doing this on my own time when I have the time to do it.

Are there emerging technologies that you're aware of that could be of assistance?

- In terms of AI, I think a lot of people come to the library for the person-on-person interaction. AI may help to alleviate some of it, but it seems a lot of people just want to talk to a human.
- I think a scheduling technology might be really helpful. We also work with a lot of people that have a lot of broken trust in their lives, so it seems like they are a lot more inclined to interact with a human over an automated system.
- Maybe things for the patrons instead of us- things that help them learn while they build. Maybe that kind of programming. The in-person thing is so important, we're probably the only place that you can get these kinds of extensive services for free. Turning it over to an automated or menu system might have the potential to really further frustrate our patrons.
 - There are some virtual reality programming initiatives going on, but on a small scale.
- It might take certain skills for people to survive in the job market going forward. So, I think it's really important to keep our services free. Many libraries have recording studios for things like podcasting- which is huge. So, I think we really need that kind of equipment and services for people to utilize for free. We're really trying to work towards having more of that- like meeting rooms with smartboards.
- I think partnering with people that already have the IT knowledge, and coming in to do the training for free to help the community would be useful.
- I think I see a really big gap in project management as a system. We have the capacity, but I think there's an efficiency issue with how we're delegating it. We're relying on the branches to figure out the individual branch, instead of just kind of coming together as a library community to make all of these new services available for free, and develop systems to deliver that to our patrons. We really need some kind of project management software to indicate what the capacity is for each branch and for each system.
 - I worked here for months without knowing who our contacts were from branch to branch.

Community Media Focus Groups

Focus Group with Open Signal Staff January 23, 2020 2:00 p.m. - 3:30 p.m.

A focus group was held with Open Signal Staff at the Portland Community Media Center. Staff represented included: Executive Director; Facilitator/Media Educator; Media Services Director; Front Desk/Receptionist; Manager of Media Education; Production Services Director; Programs Coordinator; Facilities Manager; Director of Equity; Executive Producer; Distribution Coordinator; Distribution Manager; Information Technology Staff; and Originals/Public Outreach Coordinator. The discussion centered on the use of communications technology for internal operations, as well as the use of communications technology for all of the external services provided to all of Open Signal's constituencies. As part of this, there was substantial discussion on both current and future needs for production, post production and distribution facilities and equipment for content development, as well as on the types of content currently being developed and anticipated in both the near and longer term. A PowerPoint focused discussion guide was used to display key questions and topics for the group's reference.

Key findings from the discussion are the following:

Communications Technology for Internal Operations

- Open Signal uses a Drupal content management and scheduling system. It is custom-made for Open Signal and enables a portal for input by users of the Media Center.
- The website has both an internal component for use by staff as well as an external, community-oriented portion of the website.
- They employ project management software to keep track of the multitudes of projects that Open Signal is engaged in at any given time.
- There is a variety of office-based systems as well as cloud-based systems provided by both Google and NextCloud.
- The Center focuses on the use of portable devices, rather than desktop-oriented devices.
 - One concern they have is caps on storage capacity and space for utilization because of the high capacity needed for the types of files that they store and distribute.
- They have an Internet pipe from CenturyLink as well as a gigabit connection through Comcast that are extremely important based on the uploads and downloads that are required.
- They use cellular-based technology for communications out in the field.
- They have iPad Pros that they use for all sorts of applications.
- They use Square for their accounting and payment requirements.
- They back up their systems regularly so that they can recover if any kind of problem occurs.
- They use the Adobe Creative Suite for editing and graphic design.
- They use a lot of graphics in their presentations and in both in-person and virtual meetings.
- They have Cat 6 wiring for communications throughout the facility.
 - Some of their computers are hardwired within the building.
- They also have WiFi for both internal and external access to the Internet.

Technologies that Support Content Development

- A variety of technologies are used related to content development including:
 - Software is used to document productions, especially staff productions.
 - Closed captioning is available.
- Since there is a high amount of content produced, daily backups are needed and there are long-term contracts with offsite entities to accomplish that.
 - In order to achieve full backup, they have had to increase the size of both their offsite storage as well as their Internet capacity.
 - In fact, they now have a 40 Mbps upload and download symmetrical Metro Ethernet connection with CenturyLink and a 1 Gbps residential service connection with Comcast that includes 12 static IPs.
- They use a lot of graphic user interface (GUI) tools and technology.
- They have facilities management software to track vehicles and other facility usage.
- Regarding video storage, they began with 64 terabytes, and in 2015, went to more than double that storage.
 - They are now at 750 terabytes of cloud-based storage, 75% of which is currently being utilized.
 - This is primarily related to all productions being done in 1080p HD with some in HD 4K and more and more moving to that format.
- There is substantial capital cost from hardware, labor and management cost, to support the level of technology they have for internal operations.

Technologies that Support Services

- There are also resources that are needed for web development and upkeep.
- There are also substantial resources invested in infrastructure and the bandwidth needed for internal and external access.
- Regarding support for video producers, they support the ingestion of content, regardless of whether it's produced at the Media Center.
 - As an example, people can come into the building and upload content that they have produced, or they can upload content to the website that they have produced remotely.
 - The capacity that they have can support 400 people or more.
- They have spent a substantial amount of time building systems and capability and capacity into the systems to serve the needs of the content creation community.
- For special needs populations, they provide a number of services including live captioning of the governmental meetings that they support.
- They have screen readers for devices in the Media Center.
- They are wheelchair accessible.
- Regarding training, they have translation tools for tablets, as well as cloud-based services.
- They work to react to the needs of their membership and the community.
- They utilize modern video compression technology for storage and file-based systems.
- They collaborate on a digital asset management system.

Education, Training and Outreach

- The staff indicates that Open Signal is a trusted entity for training, learning and education related to development of content.
 - Those that trust the Center then spread through word of mouth that the Center is a trusted place for education.
- They are not a school, which means that you don't have to learn at a certain rate.
 - One of the values obviously is having direct, hands-on access to multiple technologies for content development.
- They do ask how people have heard about Open Signal, and while there are a variety of responses, again many hear through networking with their peers.
- They have partnerships with groups like "Outside the Frame".
- One of their focuses is on young adults, and they try to have equipment available to them that they will be familiar with to produce content that reduces the learning curve.
- They have youth partnerships with the Public Schools and other entities.
- They have partnerships with a variety of organizations.
- They promote learning through programs like their "Saturday Academy" and "Summer Work".
 - They have specific staff devoted to training, education and development of partnerships.
- They provide real world experience so that those looking for a career in the industry can develop internships with both commercial and nonprofit production entities.
- One of the values of training and producing at Open Signal is that they have licenses for the types of software that the industry uses including Afterworks, Adobe Premier and others that would be expensive for producers to access on their own but they can access easily through Open Signal.
- They provide access to equipment, and because it's modern technology with many capabilities, it's like having on-the-job training, which again is very helpful if someone is seeking a career in the production field.
- They provide access to emerging technologies such as 360 video, virtual reality, augmented reality and similar.
 - They have a license for the necessary software, which again makes it accessible to all members of the community.
- They have an LED wall for exposition of videos.
- All in all, they provide a wide variety of training, education and access for professional development - from learning basic skills, to learning the highest arts and science of the craft. "Open Signal makes access to a high level of technology and equipment for people to use every day."
- They have carved out spaces within the facility for a variety of different uses and users, from beginners to those that have obtained levels of specialty in different aspects of content creation.
- They encourage people to constantly learn and explore all the different types of content creation that Open Signal makes available.
- For some users such as filmmakers that may already have a basic level of content creation expertise, they are not required to start over. They can pick up from their current capabilities.
- They have partnered with entities such as "New Media Makers", where users from those groups can obtain shorter certifications to utilize Open Signal's equipment.
- They have a production services arm where equipment can be rented.

- They provide classes where people just want to learn, such as editing classes, and may not end up producing any content for the channel or for online.
- Every one of the staff is committed to helping promote multimedia literacy in the community.
- Multimedia literacy is important in every field now.
 - An example is training medical practitioners on cameras and the use of them so that they are able to be virtual practitioners with telemedicine and telehealth applications.
- AI (artificial intelligence) will continue to be integrated into content development and distribution and is a growing, important part of how Open Signal provides services.
 - For example, there are Smart Phone apps which assist with content development, editing, video distribution, video reception and a variety of other multimedia applications.
 - VR headsets can now work off of applications that no longer have to be contained in a companion piece of equipment, but can be on a Smart Phone.
- Regarding content, it's important that the community as a whole be trained to be able to verify true sources of information.
 - For example, "Deep Fakes" are videos created that look realistic, but the trained eye can detect that they are fake.
 - Video messaging will continue to be a critical way of providing outreach and communicating and will be targeted at cultural preferences.
 - These types of alterations of the truth can affect humanity as a whole, so it's important for people to learn how to be critical of a message and the content that they are seeing.
 - Open Signal is working on a training video designed on how to look for true sources of content.
 - They are training people on editing conventions so that they can be aware of when content has been altered.
- These are important aspects to consider in storytelling as well.
 - Training people in the art of truthful storytelling.
- It is also important for the community to be able to provide storytelling for the greater benefit of the community, not just for the aim of profit.
 - For example, it's important to note product placement in films and videos and what the aim of that is.
- There are basic concepts that Open Signal works to get across to the members and producers and the community; however, they are limited in time and capacity.
 - They would like to obtain additional funding for teaching and education.
- The concept is to get people to recognize things faster that might otherwise be disguised.
- Regarding communities, Open Signal reaches out to the variety of local ethnic and minority communities within Portland.
 - For example, the Russian community is large and they work to get them involved in the organization.
- They try to work with organizations already affiliated with diverse communities.
 - They promote the ability to be relevant and to become a source of trusted content.
- Again, capacity can be an issue.
 - For example, hours of operation could be expanded if capacity was available and this could act to involve more of the community.
- While content produced at the Center is largely cablecast, they also encourage it to be provided online.

- They real-time stream the primary Open Signal channel as an over-the-top service.
- Open Signal works with other nonprofits to help increase their visibility in the community.
- They continue to work with educational partnerships and work to create a number of such partnerships to benefit both the educational entities and the constituencies they serve.
- They encourage producers to engage in conversations, and provide testimonials.
- Open Signal in many ways is a lifeline for a number of people in the community.
 - It gives them a purpose and a sense of community.
 - People tell the staff that Open Signal is appreciated as a place to come and feel welcome.
- They are also told that people see the passion for content creation and involvement in the community and appreciate that.
- Some people have passions for certain aspects of life, and Open Signal works to channel that energy and passion into the provision of content and outreach back to the community.
- They encourage producers to focus on personal stories.

Equipment Needs

- Going forward, they need to ensure that there is continued investment in and replacement of a variety of different equipment including:
 - Lighting packages - they need these to enable creative content from documentary-style productions to theatrical to the ability to work indoors and outdoors.
 - Continued investment in new camera gear.
 - Continued investment in immersion technology such as 360 video and VR
 - The ability to shift technologies and keep up with format changes.
 - The ability to continue to develop different types of sets including more complex sets for filmmaking purposes.
- They need to ensure that they have a variety of different types of gear from the most user-friendly to that with the greatest capabilities.
- They are going to need to continue to have staff time available to support all the activities within the Center.
- They have developed a pretty good core of equipment to date, and need to ensure that this basic core continues to be replaced and kept up with technology over time.
- They need the ability to develop a locker system within the facility to make checkout easier.
- They want to be able to develop classrooms without walls because of spatial limitations that include mobile classes as well as vehicles to support taking education to the community.
- They need to develop more bandwidth for video-on-demand capabilities.
 - This would include an additional 275 terabytes of archiving storage space
- They need to continue to upgrade their server system and put in new hardware.
- They need new mobile flypack technology.
- They would like to be able, especially for some of the government meetings and activities, events, press conferences, etc., to develop a bonded cellular system for video transport from anywhere.
- They would love to be able to develop community and neighborhood news which would require substantial upgrades in ENG type gear, as well as sets and related remote facilities and equipment.

Future Development of Open Signal

- Going forward, they want to develop mentorships with industry pros and connect with bigger production houses.
- They themselves are continually learning and want to ensure adequate training for staff.
 - They specifically want to be able to develop peering groups with other production and content development organizations.
- They want to continue to build coalitions and to pursue diversity and equity in order to shift people's ideas toward community support and development.
 - Their Black Filmmakers program is an example of a program that is “changing the perspective” of the community.
- Funding for workforce development would be beneficial.

Focus Group Discussion with MetroEast Community Media Staff
January 21, 2020
12:00 p.m. - 1:30 p.m.

A focus group was held with the principal members of the MetroEast Community Media Staff including the CEO, the Operations Coordinator, the head of Production and the Digital Equity and Inclusion Program Manager. The purpose of the discussion was to determine current and future communications and technology-related, including cable-related, needs and interests of MetroEast Community Media (“MetroEast”) related to their provision of access to community media equipment, facilities and training, and video program and other content distribution over the Community Channels allocated to MetroEast on the cable system, as well as provision of content over the Internet.

There were a variety of key questions and subject areas and topics discussed with the Staff focusing both on internal operations as well as external service provision, training, content creation and distribution, communications technology needs at the present time and needs, interests, and projections for the future. A PowerPoint focused discussion guide was used to display key questions and topics for reference by the group.

Key findings from this focus group included the following:

- MetroEast utilizes a variety of applications for its internal operations, including Google applications, a variety of cloud-based technologies, security software, Apple TV, automated systems for HVAC control, Square for payments, inventory systems and content management systems.
- MetroEast relies on Apple TV for online and streaming applications, and utilizes surround sound capabilities.
- MetroEast has a video surveillance system for its property, as well as a fire suppression system to protect servers and other equipment in case of a fire.
- MetroEast utilizes Telvue server scheduling, storage and playback system for their main master control output capabilities.
- Regarding closed captioning, the Staff noted that Multnomah County captions all of their public meetings shown on the MetroEast channels, but that MetroEast currently has no capacity for captioning on its channels either in post-production or live.
 - Staff noted that current software-based captioning systems were only about 95% accurate, and so are looking for a better but still cost-effective solution.
 - MetroEast clearly sees captioning as a community need, but needs the cities that it provides support services to and delivery of content over the cable system for, to provide the budgets for closed captioning.
- MetroEast is involved in a number of joint ventures and partnerships with schools and other entities focusing on education, fund raising and provision of hyper-local programming.
 - An example is its work with the Tucker-Maxon School which is a school for the deaf and hard of hearing. They developed a fund-raising video for them which also provided outreach to the community on the work that is being done at the school.

- They have done digital installations where they projected graphics from a mapping program and see this as art and technology coming together.
 - These digital installations are set up so that they are available in the evening and members of the community can take advantage of them.
- MetroEast wants to expand its virtual reality (VR) capabilities.
 - It doesn't have VR readily available at this time, but is beginning to explore 360 video and filmmaking.
 - This would be extremely useful in training participants in game design.
- MetroEast is continuing to visualize new content creation spaces.
- They are working with recognized teachers.
 - Youth are especially “instantly hooked” when learning from accomplished professionals and trainers.
 - MetroEast then becomes a bridge to their daily curriculum.
 - Students are better able to build their digital portfolios.
- MetroEast has an ad hoc production department and continues to seek ways to gain additional revenue.
- Augmented Reality (AR) and VR are game-changing technologies.
 - The question is, how much to invest in them with the uncertainty of how such technologies will evolve in the future.
- Regarding digital inclusion, MetroEast works to overcome barriers.
 - They partner to offer a six-week “Welcome to Computers” class.
- They teach immigrants and refugees digital and multimedia literacy.
 - They partner with the “Free Geek” organization to help support this community.
- Ongoing tech support is a huge issue once people are trained on the use of computers and similar devices and is a challenge to be able to provide.
- MetroEast sets up a progression so that those who desire to continue building upon the basics can learn more.
- One of the challenges is for youth to be able to physically get to the MetroEast Community Media Center.
 - They have worked with Tri-Met to get passes for these students.
- Having an effective mobile solution, i.e., including equipped vehicles, is critical to MetroEast's community engagement strategy.
 - MetroEast has been looking at going from a “mega rig” to a sprinter van or a potential hybrid between the two.
- For MetroEast, it is critical to be a member of the community, to be heavily involved in the community and be seen in the community.
 - For example, being at a Farmer's Market to both develop content and to make people aware of MetroEast is important.
- One of the big concerns for those that just use Smartphones for a variety of different voice, data and video services is data privacy and security.
- Trusted entities for training as well as helping develop content and provision of content include, from MetroEast's perspective, a variety of entities, including:
 - Mount Hood Community College
 - Free Geek through their Partners in Diversity Program
 - Gresham Barlow School District

- The Northwest Media Group
- ACM
- NDIA (National Digital Inclusion Alliance)
- ACD (Alliance for Communications Democracy)

There are a variety of other community organizations that work in the community and would be considered trustworthy including initiatives that provide interpreters, develop curriculum for ESL (English as a Second Language) communities, recruiting and ride share programs.

- Additional capabilities that they would want to expand upon include an audio booth, for both music recording and podcasting purposes.
 - There is currently a *Producers Corner* podcast that is developed which is specifically for MetroEast producers to exchange ideas and concepts.
- They provide training in Spanish which is done by appointment.
 - This is consistent with their core values, where they want to provide access to everything needed by any given population to produce content.
- They believe that wearables will continue to evolve, and they should be looked at for reception and production of content.
- They are very concerned about the possibility for facial recognition technology to be turned into production of “deep fakes” and that such will be mistakenly seen as reliable sources.
 - This means it is very important to monitor trends in this area and ensure that Community Media is not used for disinformation.
- They consider training and multimedia digital literacy and allied education to be essential.
 - It needs to be “put at the top” and focus on giving people the skills to communicate in a digital society.
- They would like to do “way more” in this regard, but their efforts have to be scaled based on their capacity.
 - There would be more opportunities if the scale could be expanded.
- An example is Mt. Hood Community College which cut their broadcasting curriculum which was the first level of contact that many students had with digital media.
 - Their focus has been more on marketing and outreach when it comes to digital media, rather than training and education.
- Media literacy is a substantial focus of MetroEast.
 - They have developed discussion panels open to the public on media literacy.
 - These focus on information privacy, safety and technological literacy.
 - The challenge they face is that there are 80 different languages spoken in the eastern part of Multnomah County.
- When they need a big space, they will develop meetings at the local Community Center.
- They continue to develop partnerships and to find partners to help them teach media literacy to greater amounts of the community.
 - They are finding good reception in the community for this type of training.
- They know that youth are focused on YouTube and Instagram as outlets for videos.
 - They help youth understand that you have to focus on trusted outlets to get your message across and that Community Media is one of these.
- They get positive feedback from the community, especially about educational programs.
 - For example, parents provide feedback related to programs that are valuable to them and their children.

- Teachers are “boots on the ground” related to some of these programs and help promote awareness of MetroEast.
- One issue is that current capacity of the staff limits their ability to continue to expand this type of outreach.
- They continue to work to bring people into the building.
 - A lot of it has to do with the local relevant content that they continually focus on and work with users of MetroEast to focus on.
- They fully believe that their existence helps strengthen the community.
- They work with nonprofits to make training videos and fundraising videos.
 - This provides valuable integration with other nonprofits, and those nonprofits help in MetroEast’s outreach efforts to the community.
- They have developed a community hotline show that focuses on specific issues of interest.
 - It is produced every 2 weeks.
 - There have been 48 shows so far, and the feedback from the community is very positive.
- They have developed free slots to help produce programs that spotlight nonprofits.
- They work to promote producers and users of the facility to provide content based on their experiences, which “speaks volumes” about the constituencies they serve and helps facilitate a direct connection to the local community.
- They would be very interested in working more with the municipalities that they serve, but again it gets down to human capacity on both sides.
 - The programs that they do work with municipalities to produce focus on public meetings and the particular municipality’s civic agenda.
- Regarding equipment needed going forward, they absolutely need more storage including onsite storage.
 - They want to get to 360 terabytes ultimately.
 - This is based on wanting to move all equipment and production to HD 4K in the near future.
- They want to develop their mobile capabilities, not only for production but also to create an Innovation Lab.
- They need additional high capacity projectors for community events.
- They want to continue to develop their AR Lab, including more computing power and more editing PCs.
- Their current studios are on a 5 to 7-year equipment replacement schedule.
- They need to expand their pipe to and from the Internet to a multi-gigabit connection.
- They want to have more automation in their production and programming environment, as well as a potential expansion of actual space, but definitely an expansion of virtual space.
- They gave an example of working with the hospital where people can come into MetroEast and in a short time learn the capabilities and utilize a black box production system, bring in some speakers and quickly develop a show of high interest.
- They want to showcase more artistic and inspirational programming.
- They want to continue focusing on highly informative and entertaining storytelling.
- They need to be nimble in their responses to evolutions in technology, so they can stay in a position to train people on current technology.

- They know that there will continue to be “second waves” of technological evolution so they need to make prudent decisions about capital purchases to be sure that it is not obsolete nearly immediately after purchase.
- They not only want to maintain leadership in the media community but continue to expand their leadership role in the community at large.
 - They know that this will take a substantial amount of capacity, including funding.
 - They are concerned about finances for the future, and want to make sure that they continue to strengthen their financial position so that they can always be relevant and always take advantage of opportunities.
- As part of cooperative outreach initiatives, they participate in the local Education Advisory Board, and they obtain continual feedback from the community, their users and other nonprofits.
- They are involved in the East Metro STEAM (Science, Technology, Engineering, Arts and Math) Partnership.
- They continue to work with other nonprofits to look at best practices and they continue to analyze all data available to help chart the proper course for the future.

**Focus Group with PCC Media Services
Concerning PCC's Educational Access Channel (via Google Meet)
Monday, March 30th, 2020
11 a.m. - Noon**

Focus group participants included: The Supervisor of PCC Media Services; two videographers/producers; an IT Specialist; a Video Engineer/Master Control Operator and the Director of Marketing. The Focus group centered on the current and future needs of PCC as they pertain to the Access Channel, including facilities, equipment, capacity, and content development. A focused discussion guide was used to ensure key questions and topics were reviewed during the group discussion.

Key findings from the focus group are the following:

Have you done any investigation on how you would do closed captioning, including whether you would use a software solution?

- We've had some terrible live events that have had bad captioning. Our channel runs 24/7, so that's a lot of hours of captioning and they charge by the minute.
- One thing I could point out is virtually all our programming is prerecorded. Captioning would add a per-program cost. We really don't do anything that requires live captioning. The caption cost at this point would be proportional to the hours of unique programming that would be run, which is still fairly substantial.

Overall, where does PCC want to go with the channel and programming?

- It's a process. I can't show you a PowerPoint slide that illustrates that, but what I can say is that the channel looks like a very important and underutilized asset that we want to enrich with relevant programming. We want to help connect the college to the community, which is so important to us in so many ways. I would think that would involve more varied programming, more original programming, more promotion of the programming that's available there. Those are concepts that are really important to my vision for this but I don't have that concrete at this point. I think our team needs to collaborate on that together.

When you look at the current operation, the facilities you have to produce video programming, the staff support and the support from the college, how do you see the needs related to the channel going forward?

- I would think we would need to have clarity around our strategy and plan for content before we could confidently make a list of what's needed in order to fulfill that vision.
- Would this be part of the student's story initiative that we were talking about earlier this year?
- We were talking about doing a story booth, and telling student's stories and putting them together in 30-minute segments.

- Our future students have a real hunger for understanding what it's like to be in a program or in the classroom, so I could see more instructional program-specific video that would be part of the content vision too. And then there's a whole other realm of communication that's important to us too, that given the popularity of video, is our role in the community. We do important work in training work force, helping employers, political entities, all of those stories need to be told. As I'm thinking out loud here, that's going to require equipment and staff time. I don't know if that's beyond the capacity that we have now, or if we need to develop resources for that.
- Some of the things that come to mind, there's a lot of over the horizon type of discussion we're having right now, we do have a need, one of the problems we have with the playout server is that it is a very basic system and it does not do a lot of the fundamental things you would expect in a broadcast environment. For example, a simple export of our playlist, that's not something that it does. It's really a basic jukebox with some hooks for potentially putting in some graphic overlays. They've got APIs and things that could be developed but it's honestly an unlikely pathway to pursue. We have a Harmonic Media as our content storage system and I've always thought it made sense for us to get an upgrade to the playout system, that we'd go down that road, because Harmonic has a turnkey solution, but its cost is pretty high. We can't afford it with our current budget, but we've been asking for a grant for some of that. With that comes a lot of functionality, like hooks that we could potentially expand the service into more of a web-hybrid presence, where we're currently locked into two separate universes the cable side and our web presence.

Are you currently able to upload your program schedule into the Comcast program guide?

- They have a really arcane backend system, that was not compatible with anything we could export.
- There was a period where channel programming on my end included a separate app where they asked us to populate daily content playlists to match what was playing out, and then they would take that feed from that provider and use that as theirs, and you could search and see what's coming next. That went away.
- Regarding content, we have created our own programming. I created a program called Cases in the Spotlight which was basically, we have a community ed part of our college, what we would do is we would send out students and one of the directors and they'd go and shoot a bit of our community ed program and build that into 30 minute segments. We did a program called Global Crossroads which was one of our beloved instructors who loved to talk to people from all over the world and we would do a half hour show of just him. So, we developed our own content. Right now, I run what I have and some of it is PEG programming which I've pulled from PEG, some of it is our student work done through Beth's group on the curriculum side. Our sister channel was Seattle Community College, so I have some stuff from them. It's interesting stuff. That's kind of the state of it right now. Each year I get about maybe 3 or 4 hours of student stuff that's new. Occasionally I get stuff from our other video group, the VPU. They do a variety of things that are educational. We used to be core math, core science, and core geology, and we had

a lot of programming from Annenberg that was tied to our programming, but that went away when they moved to online.

- I try and match time blocks as best I can and most of our programming that is legacy is done in 30-minute blocks except for the big convention-sized shoots that we did for Brian Hull and people who did big events where they'd have a speaker. Those would run an hour and fifteen or two hours and seventeen minutes, for example, so it depends. But it is all 24 hours of video.

Everything is in HD, but it's being produced for other purposes. Do you consider repurposing the web programming for the channel as well?

- The challenge is that web content and attention spans are 3 to 5 minutes and standard programming is a lot longer than that, so it's working to stitch those things together in a way that's contiguous.
- I do have things from the VPU that are 5 minutes long so that's not a problem, the time. The question is who's doing the production and where does it go?
- I've always thought that part of the idea I had when we rebuilt the infrastructure was that there are all these hooks that are already laid to consolidate communications for the college in one way or another through what was originally just a cable channel but digital signage could be converged. Certainly, emergency information for the campus' and the colleges would be really useful. I don't think the college currently has anything other than the website itself. The encoding system we have already have will do multiple channels. Right now, the Achilles heel, the playout server is the weakest piece of equipment that we have. The vision, upper management seeing a value and a pathway that would guide us down this road, I think is really an important piece.

What types of interconnections are there to route programs from various locations; for example, from the Cascade campus to the Sylvania campus?

- When I first got to the college, we used to use the metropolitan network as a quasi-video conferencing type of situation, and you had these fiber channels that went directly from campuses from the control rooms. That went away. There was a lack of interest to stand that up again. I had intended originally to upgrade all that as well but the primary college program from distance learning pulled the plug on it so that all went dark. Connecting all these campuses, you can do it over IP now but it is a useful concept, I think. Potentially our video program, which is out at Cascade, they have been operating out of our studio for a while, then it became problematic for students to cross town. They pulled the program over to their site. To stand up a back channel that could make it to our channel would be pretty cool.

What about online distribution of programming?

- In terms of website usage statistics related to video, most everything comes off of YouTube. There is some video that's only on the channel, but the real college related material is also on YouTube.

Do you take advantage of cable-based video OnDemand?

- We had some hours that were available to us and we did direct some programming to OnDemand but when our Comcast connection went away, that went away.
- I think a point in a larger conversation about PCC's cable channel, is it really, as a medium, one that student's direct themselves to? When I started it was a requirement, now there's not much of anything about student's use of PCC's channel. If they find it, it's by accident. If their parents find it, it's by accident. There's no promotion. There's no direct line to the channel, so I think that's a really good point because the college at large has moved online. Currently everything we do in this situation is online so it makes the channel feel like an old dinosaur that we may just propping be up. Are we going to keep propping this dinosaur up or are we going to turn it into a sports car?
- That's always been a major point, the college needs to determine whether it feels like it's worth the time, staff, and money that it would require to promote and generate content and reach those communities through that medium.

Educational Access Interviews

**Interview with the Department Chair/Instructor
Multimedia Department
Portland Community College
Cascade Campus
February 26, 2020
2:00 p.m. – 3:00 p.m.**

An interview was held with Beth Fitzgerald during a site visit made to Portland Community College's (PCC) multimedia educational facilities at the Cascade Campus concerning content development, education and training related to the Associates of Applied Science Degrees in video production and multimedia. An interview guide was used to ensure key questions and topics were covered during the interview.

Key discussion points of this interview were the following:

- The Cascade Campus educates students in two, two-year Associates Degree programs:
 - one in video production
 - one in multimedia
- There are a variety of facilities at the campus that facilitate both student lectures as well as hands on learning. This includes a:
 - Graphic Arts development area
 - Variety of classrooms
 - Video production studio
 - “360 video” production area, along with AR/VR (Augmented Reality/Virtual Reality) equipment
 - 3D modeling and animation development area
 - Editing and post-production equipment and facilities
- Ms. Fitzgerald indicated that PCC knows that technology is moving at “lightning speed” and works diligently to ensure that the multimedia and video production programs keep up with technology
- Much of the education and training is focused on ensuring that students develop “critical thinking” and the ability to work both as members of a team and in a stand-alone environment
 - Their focus is on providing a career pathway and ensuring that students can “promote themselves”
 - There is a lot of crosspollination with other educational focus areas, including music, theater, and other arts programs
 - For example, for video productions, actors will come from the theater program
 - In post-production, they focus on visual effects and voice work, such as narration and voice overs.
 - For visual effects, for example, they will work with graphic arts students related to art direction

- The goal is to, as part of the pathway, make sure that students are exposed to all the various fields that they may encounter, as well as build upon foundational elements in each field
- Students involved in animation help build digital sets, including 3D modeling and stop motion graphics
- They have a motion capture area for working in virtual set environments
- Video students learn video production from the ground up, from being part of camera crews to producers and directors
 - They do produce a variety of shows but not many end up on PCC's cable channel
- Media Services, at the Sylvania Campus, has specific personnel that develop video for PCC and place it on the channel
- There has been some interaction. For example, PCC has a mobile video production unit and students have been involved 6 or 7 times in productions, such as for the student Blues Fest
 - Here the students were able to apply their 360 video skills in development of the program
- PCC, for the students, works to ensure that the education and training is focused on real world activities so that they have experience that will assist in their career development
 - For example, they will shoot a lot of B-roll for their productions and then spend a substantial amount of time in post-production to develop shows that are professional quality
- At the end of each term they continue to build a substantial portfolio of their work

**Interview with the Manager, Multimedia Services
Portland Public Schools (PPS)
Communications Department
February 26, 2020
12:00 p.m. - 1:30 p.m.**

A meeting was held during a site visit to PPS's district headquarters with Terri Proctor who manages Portland Public Schools' (PPS) cable educational access channel, to discuss PPS's needs and interests going forward concerning the channel. An interview guide was used to ensure key questions and topics were covered during the interview.

The following summarizes the information discussed:

- Since PPS's access channel was last reviewed for the 2010 Community Technology Needs Ascertainment, the school has moved all their equipment to HD and now have a HD channel on the cable system
- PPS currently does two types of productions: live Board of Education meetings from the Board Room at the District headquarters; and mobile productions out in the various PPS Schools
- The Board Room is fully outfitted with HD cameras, and there is a Board meeting control room which is adjacent to the Board Room
- The smaller mobile system is used to go out into the District and stream and record live meetings and other events.
- The streaming platform that they use is YouTube Live
- There is a full-time staff of two including Mr. Proctor, and a quarter time engineer as needed
 - there are independent contractors that are employed from time to time for certain productions
- All the Board meetings are covered live with a number of replays
 - The Board meetings can last anywhere from one and a half hours to six hours
- The Phoenix system is used to schedule playback, and it can be programmed remotely
- The playback server is located in the IT area of the District headquarters and serves as master control for the output of the channel
- Besides the Board meetings, there are Board hearings and budget meetings that are cablecast
- Additionally, Multimedia Services develops a news package for the channel that covers what's happening at various Schools
- Multimedia Services is also responsible for PPS's social media presence and content for its E-Newsletter
- Multimedia Services works with schools throughout the District to develop video and it will be posted based on the District's preference, whether it's on the Channel, online, or both
- Multimedia Services does video productions for the District Administration as well, and those videos are accessible online and sometimes are produced for the Channel
- There are no "canned" PSA's and there is not very much evergreen programming anymore, so most of the current programming on the channel focuses on Board meetings, other public meetings and graduation ceremonies, as well as four to five short programs on a monthly basis that average 15 minutes per program

- Regarding equipment - the field equipment is both single camera JVC ENG cameras and robotic Panasonic PTZs, as well as DSLR's. They recently upgraded their live broadcasts to utilize a Broadcast Pix.
- They also have a green screen that they use occasionally
- Additionally, they will do offsite meetings to meet School District A/V needs which provides a cost savings of up to 30% by doing the work in-house
- In this vein, PPS has applied for a grant to be able to share the meetings on a broader basis than just the onsite audience. In other words, they are looking to do more effective community engagement by being able to broadcast live from the room where meetings are held and record them for later use
- Recently they did receive a grant to augment the lighting in the auditorium with better lights for video production
- In the Board room, they would like to employ live captioning. They are currently able to do this online with YouTube captioning
 - They are interested in at least captioning the recorded versions of the meetings for the Channel
- They believe that looking at automated systems may be useful in accelerating their ability to do closed captioning
- They would like to have more involvement with and from students
 - Some of the students through a CTE program are involved in digital media
 - They share this video on social media and are creating a greater collection of content
 - They also document work that is going on in the classroom
 - It would take additional Multimedia Services staff devoted to helping facilitate these types of activities. If staff time becomes available, they could incorporate more student-oriented programming into the lineup on the Channel
- The District is in significant need of having replacement equipment down the road. Right now, they're only in the position of being able to replace equipment when it completely breaks, rather than replace equipment as technology continues to shift

Health Sector Interview

Oregon Health Sciences University (OHSU) Telemedicine Interview February 25, 2020 11:30 a.m. – 12:30 p.m.

A long interview was held at OHSU with Miles Ellenby, Medical Director of Telehealth Services and Don WestLight, Manager of Network Architecture and Engineering. The focus of the interview was on the use of communications technology to provide telemedicine. An interview guide was used to ensure key questions and topics were covered during the interview.

Key findings from the discussion are the following:

When you look at today's landscape from a communications technology point of view, what are the critical technologies that are currently in use, and that you need to employ, whether it's from a hospital perspective, clinical perspective, or telemedicine perspective?

From the Telehealth application perspective:

- We've been working in the telemedicine world since 2007, when we started our first pilot from the pediatric ICU. Our psychiatrists were providing some services to the prison system prior to that, and that's been an ongoing program. But our bigger launch and expansion in 2007 was a pilot from the pediatric group. By 2009, we had seen the value in providing on-demand consultations from the pediatric ICU to Sacred Heart Medical Center in Eugene. What we found with that initial experience is that we were able to do a better job of triaging patients to identify which patients needed to be transported, and which ones could safely stay in the community. The ability to use video and actually see the child and talk with the family, really added to that ability, as whereas on the phone, you have a limited data set. But now with the ability to flip a camera on and actually move around the room and have full control and see what's going on, we're able to identify that we can improve the comfort level of the providers there, patients, family, and ourselves as well, because of the difference between hearing a description over the phone versus actually being able to see the live videos. We were able to convince the administration that this was not just a one-off, but a way of providing care, and we started to develop a team in 2010 to create a network around the acute care side.
- The 3 main service lines that we've been using since 2010 are: the pediatric ICU; our neonatologist support for newborn resuscitation; and our busiest service, both locally and nationwide, stroke coverage. There are a lot of adults that present with stroke-like symptoms to referring hospitals, and historically they weren't comfortable making decisions, and instead would just package the patient up and ship them to the nearest stroke center. In the meantime, the brain is not being addressed and time is critical, so now we're able to intervene much faster. Also, in addition to doing a better job on triaging on the other end of the spectrum for a code-like situation, we've been able to support providers in emergency situations, both the neonatologists, and the pediatric patients. It's fortunately an infrequent event where a child will need to be resuscitated, but when it is, it's really stressful, it's something that people aren't always comfortable with, and we're able to add our expertise.

- Anyways, the acute care channel has been fairly stable now. It's matured, we continually provide those services, and the other large health networks in the state are also providing such services, mostly focused on stroke, but also other service lines. We're not the only ones with this, but I think we have the largest pediatric branch/portfolio.
- And the other program we're in the process of developing is to provide virtual adult ICU coverage. Nationwide it's known that there are not enough adult ICU doctors to cover all the adult ICUs in the country, and so one of the coverage modalities that's been developed, with a variety of different trade names- EICU, virtual ICU and so forth, is to have a doctor and a nurse in front of a panel of monitors that are pulling data anywhere from 2,3, or 4 ICU's. All that data is fed into a network, and into a central monitoring station, with algorithms to identify patients at risk. If there's an issue, the doctor can hone in on that patient, where there's not nighttime intensive care coverage in-house, can click on a button, and open a video feed with a bedside nurse, or a bedside nurse can just say "hey, I need some help here", both nursing level help, as well as physician help.
- We also have been developing, which speaks more to broadband needs, the service offerings for those with chronic disease or just urgent needs, that don't want or aren't able to get to an urgent care center, or their provider's office, or those with chronic disease that need to see specialists. We can now offer those services to either a clinic setting or to the home. With a direct video to the home- obviously you're more constrained by the home connections, but as long as we understand the limitations of the platform, we're able to provide good care. Once you understand the limitations, like when you're emailing a patient, or on the phone with a patient, or with a video, you're able to see more, do more. It's another way of expanding access of care to those in trouble, who would have to travel great distances for potentially very short visits.
- The last piece is the concept of remote patient monitoring. People with chronic diseases can now go home with devices, such that we can do a better job of treating people with chronic disease, both in pediatrics and adults. I think that this, of all of the areas, is going to be the greatest growth area over the next decade or two. But obviously these folks are at home, so they need proper connectivity to make that happen.
- About telehealth in general, while telemedicine is now referred to as the kind that is direct face-to-face, telehealth is more broadly defined. It can be asynchronous; it doesn't have to be directly face-to-face. People are also now referring to the term digital health. There are some semantic differences.
- In the past 10 years, we've kind of been dealing with the early adopter phase of new telehealth technology, and identifying the champions that really feel the urge and the need. We're really at the inflexion point now where for more and more providers, this is becoming an expectation that they'll be able to provide care in this way, in some way, shape or form, as where our previous efforts have kind of been with the die-hard, early adopters. Now, we're at the point where it's going to become an expectation for everyone to provide care on some level in this way, with obviously different levels of comfort.

What kind of training does it take to get providers comfortable, as well as the patients on the other side?

- We do a formal training on the technology- how to actually work the connection, and that's all pretty straightforward- how to move the camera around, that's not that difficult. The bedside, or people call it "webside," manner, is a different skillset, and it comes easily to some, not to others,

much like bedside manner might. It's a little bit different. One of the things I hear from my providers, when we do a video consult is that it does take more time. When you're on the phone, you can be kind of quick and anonymous. For telehealth, it's a much more intimate interaction. Plus, the family is present. Before when we're getting a call from a referring hospital, you're on the phone with the referring doctor, and you're away from the patient, and we're just talking, so it's short, brief, blunt. I like to believe that our providers have the best manners at all times, but it tends to be a little bit different of an interaction. With telehealth all of the sudden your face is there, the family is there, and so it's a little different interaction especially if you're concerned about the care, they're receiving at a community hospital. We need to be partners in working with those providers, and not be "big brother" looking over their shoulders. So that's one of the things we emphasize as part of their training, not only that they're the face of OHSU now, but that these are relationships that are important to maintain, and if you are not collegial, they're not going to call us the next time.

Is it always an interactive video situation or is it sometimes you're just looking at them, and you're a disembodied voice on their side?

- For the connections to the emergency departments, it's interactive video. For the visits to the home, our face is present. There are other asynchronous modalities that we're expanding something called an e-consult, which is a provider to provider asynchronous consult, again providing some triaging function. If I'm a primary care provider, and I have a patient that I think needs to see the cardiologist, but I'm not entirely sure using the old way of business, I would just send a referral to the cardiologist, and they would be seen in person, so the patient needs to travel. This platform with the e-consult allows the provider to ask those questions and say "what's my next step for the work-up here", then the specialist has the ability to triage that, and go "these are the next steps", "I think you're doing fine", "these are the next things I would do", or can say "I do need to see the patient in-person, and let's fill up my clinic schedule with those patients that really need to be seen" as opposed to people that could be there for well-checks. For a lot of our specialists, there's access issues that could be just related to capacity, so we're hoping with a platform like that, we can improve the triage function on the front end, and for the patients as well- only make them travel when it's necessary.
- Other asynchronous modalities include an e-visit modality which our dermatologists deployed, which we also hope to expand. That's an asynchronous visit I've got something on my skin, a lesion, we now have a platform where a patient can take a photograph of that, a couple different views, send some other clinical content, and then the dermatologist will review that and, in 90%+ of the patients, will triage that, and won't have to see that patient in-person, and recommend next steps, as opposed to having to "I do need to see you for this."
- So those are asynchronous. The remote patient monitoring is often asynchronous, but with the ability to turn into a synchronous video if need be.

What are the technologies that facilitate all of this?

- One of the things that OHSU's data network support right now- about 160 buildings, and not all of those are our buildings, but they all have our network in them. Those are places where sometimes there's not a lot of good connectivity to those locations. In both the inpatient world and outpatient world, there's some applications that do imaging, so what they do is they stack up layers upon layers of high definition images. Now in order to do that, you need great amounts of

bandwidth, and it gets very expensive doing it the traditional way. So, part of what were about is figuring out the partnerships and whatever we need to do to be able to do that. OHSU is our own health care provider and we have many locations where OHSU has batched people to work, all around the state. For example, a little clinic over on 39th and Hawthorne, all over, we've got facilities like that. We also have our resources in other people's hospitals, and we're providing the healthcare record, and we're providing some of the other application services, so it's really OHSU under the hood, even though it may be really Mid-Columbia Medical Center or Hillsboro Medical Center which is a system of multiple buildings, and there's a number of those around the state. But from a network point of view, they look a lot more like a traditional OHSU footprint, where some point to point infrastructure is implemented. Then there's a lot of little offices and so those are right now a lot of Comcast links and other third-party connectivity, and we're starting to grow out of what we can easily afford from the commercial providers. So this is an inflexion point in what's possible technologically with the applications, and what's available from the providers because in some cases it's a declining market for the providers and they're in the process of consultations or going out of business or whatever, and it makes OHSU's job very complicated to be ramping up the quality when the providers may be struggling as a group. So, that's the clinical side.

- We have an education mission, so there's a lot of distance education for nursing programs and dental programs, and things like that around the state, so that people who work in these small hospitals can advance their careers in the communities, and continue to practice in those rural settings. So, a really important part of serving rural Oregon isn't just the direct service, but the education that goes with it, and so we've invested a lot in Internet-related resources over the years. It's actually how OHSU got started in wide-area networking it was to support the nursing school effort around the state.
- After education, there's a lot of telework for OHSU personnel and partners where people login remotely, and use their IP phones and WebEx meetings, and they push all the same data they would push from a desk, but they work remotely all over the state- wherever their workflow takes them.
- Then you get to Research, with a capital "R", we have genomics data being developed here- they're trying to cure cancer computationally. I'm sure you've heard about the Knight Cancer challenge- so we actually built a data center for this. We have multiple hundred gigabit rings to get the data in and out of the data center to the rest of OHSU. Because of that in part, we're able to crunch the genomes, (one of the things we were prepared for early on, is "Okay, if you're going to do a blood draw on every Oregonian once a year, and you're going to do a genomic analysis of that, just loading that into our data center would be 422 GB/second, all day every day, all year" So what we've been doing is trying to keep the capacity ahead of these guys so that as they start drawing on those resources, we have the data center, we have the security apparatus, we have all of the ingredients that we need, so that we don't just find ourselves capped out completely one day. The point is that OHSU is committed to, in the long-term, to be a resource for Oregon for health services, whatever those might evolve into, and that we're investing in the Internet itself, and the Internet exchange, so that the local service providers could be welded together for a higher quality, higher capacity interconnect, so that we didn't have to overbuild and pay for all of that ourselves. That's been a tremendously useful strategy, but we've had to do a lot of internal investments and so-on.
- In the Research space we have cancer, cardiology; there's a lot of computation going on in both of those spaces right now, and there's a bunch of other disciplines. We have core labs- so what

they are is scientists who have specific analytics or processes that they run, and they outsource that job for other people around the country. So, if you have a particular kind of analysis or radiology imaging, you put in the machine, and then data comes out- and so they do that as a line of business. We've got 15 of those maybe, but we have cryo-EM, and all other sorts of things like that. There's just a lot of keeping up with research like that. We have research partners around the country and some in Oregon, so we have pretty substantial Internet to national and regional along the Pacific Coast connectivity, to port all of that. We have the best Internet within Oregon that exists, because we built it to our specs and then managed it, and convinced other Oregonians to buy into the idea with us. We do have some commercial service- you know Comcast, and whomever else, just to round it out. But it isn't like you just get an Internet circuit and call it a day. For us, each one of those circuits and services mirrors the use case that we're trying to do, because early in my career, I got the Internet 2 going at a previous organization, and then the guy came to me and says "You know, that's really good- I can get to Boston, but I really wanted to get to Hillsboro." We solved the wrong problem. It really clued me in that you have to talk to the customers, find out what the workflows and modalities are, and then serve that. So, our strategy now is we have to think what is our Clackamas County strategy? What is our Multnomah County strategy? What is our Washington County strategy? What is our Oregon regional strategy and what's our national strategy? What's our WA and CA strategy? And they're all different. Anyway, there's a lot happening in network development.

- OHSU has got a really big quality focus going on right now, so they want it cheaper than it's ever been, they want it perfect, and they want us to be able to budget four years in advance and keep up with demands. We don't even know what products we will be using and what the demands are going to be, so it's challenging.
- On the provider side there's become an expectation that these big data files are going to be immediately available to us. I've been here 20 years and when I first came when a patient was transported, we would get the old physical x-rays in a stack, and then that evolved for a brief timeframe onto CDs, and now there's an expectation that if you get a CT Scan in a remote location through the network, I can look at it right here. This obviously is a benefit to the family.
- And the thing is, that typically works. We don't get a lot of phone calls like "oh that didn't work"- like half the scan, or it stopped.
- A common error is the person on the other end not actually hitting the button to upload it, so it's not available. When it works most of the time, I'm looking at those data-dense files as if they're just sitting right here. EEG readings, and all those other large data sets. The genomic data is, I imagine the biggest.
- One of the challenges we have is the design of the applications and the way the healthcare vendors sell them. So for example, you can have an application where the data lives in the data center, and they want to take their analysis PC to Astoria or The Dalles, but they want to run it as if it's on campus, and the app kind of makes some assumptions about being on campus and it wasn't optimized for that. It can totally be made to work that way, but the problem is the product that we bought doesn't. So, people come to us and they're like "my app doesn't work" and we're like well, you know it's a campus app it wasn't really designed to go to Mid-Columbia and The Dalles. So there's a whole generational architecture of the applications that has to keep up and engineering people like folks on our teams have to be involved with the clinicians to say "alright, what are you trying to do?", and we have to prove it out, and see it work in a lab kind of situation before we try to go into production with actual patients. Occasionally you learn something critical and we redesign- we either buy more capacity or we put something in a data center- there's things

we can do to address some of those, but you have to engineer it. You can't just magically expect everything is going to work.

Do you think there's going to be more of a need obtain such data, anytime, anywhere?

- Well there's going to be that expectation, but there has to be people to actually engineer the solution. So what happens a lot today, and it doesn't matter where you are in the medical environment, people will just go buy the random thing and wonder why it doesn't work, and if there's not the engineer of last resort that has the tools to figure it out, simply never works right. So, this is something that's sort of a challenge for the industry as a whole, that the quality of the applications, is instead to understanding what's needed when they write them; the conditions under which they're going to try to be used. And they don't necessarily support that, so there has to be some kind of dialogue between the support people, the engineering people, and the application people so that when we do RFP's, we take into account the properties of the network. And one of the ways we're reacting is we're building better and better networks that mimic what we can do on campus, at least in the Tri-County area, and there's a point at which we can just make it feel like a really big campus- which is kind of working. But you know, there's a limit to that, I think we're asking as a whole, as an industry, as a community, to have this adaptation of making sure that applications can work in the ecosystem and that this has to happen.

I would think that on campus, your transport is probably fiber-based, but so many portable applications are probably going to continue to be wireless-based. Do you think that you'll ever have the wireless capacity, or the industry as a whole will ever provide the wireless capacity, so that you can do the same thing whether using wireline or wireless?

- No. Never ever, and the reason is, wireless is orders of magnitude less capable than fiber. Even within OHSU, as soon as we put out WIFI, they will invent faster phones and apps, and widgets, and they crush it. Then they come to us and say "you didn't build the WiFi fast enough". But with the fiber, you can do your multilayered imaging and all of that. When you're using the wireless spectrum, there's only so much of that. And if you're consuming a good portion of an access point all by yourself, then you can't have, 200 people in an auditorium, all crunching on the same files, and wonder why that doesn't work so well. We put almost an access point per person in some places and that is a lot of resources. The cellular people with their 5G are talking about putting a cell tower every 1,000 feet because that's the only way that they can get the bandwidth, but it approaches a point of diminishing returns.
- And expensive, so what's the return on the investment?
- So, you could do that for a ball stadium, or some area downtown, but that's never going to be a general solution. So wireless at that density, whether it's WIFI or 5G, is just never going to be the same as plugging in and using the fiber. And for the kind of stuff that we're talking about, we want to see it wired if you want that kind of reliability.
- On our side, on the patient side, we're left sometimes to the reason that it's what they have.
- If the patient has a little cuff to take their blood pressure, or glucose meter in their home, it's low bandwidth and if it happens one minute or the next minute, it's no big deal. If they're doing video conferencing or something like that, WIFI's perfect. But if you're trying to do your multilayered images and do consults where you're trying to tell what's going on with that patient right this moment, that you probably want it wired. If it's just a cart, just with video conferencing, that can

be engineered to work well within the specs of that. But you don't want all of your big data in WIFI.

From the home perspective, you can do certain things within the hospital environment, and within the regional networks you setup, you can do certain things in the hospital to clinic environment, and clinic to clinic environment, but what about at the house? Are you going to be somewhat limited in bandwidth?

- It's whatever the family has, and whatever their other uses are. If they've got kids downstairs watching Netflix at the same time, they're trying to do a video visit, that's going to be a challenge.
- But the home networks have been speeding up a lot. The providers have been doing that, but unfortunately, it's asymmetric, meaning you download more than you can upload. And if what we're trying to do is get data out of the home, then that can often be a bottleneck.
- However, for a lot of the asynchronous use cases, it's fine.

In you get some providers in the fiber to the premises space then that's going to help, but it's limited. At least right now, it's the exceptional case rather than the rule. What do you do with a an ILEC for instance, that barely gets copper to some places? Do you think that's going to continue to be a challenge- to be able to provide equity for these kinds of services?

- I think so. The care you receive is based on where you live currently, putting these digital layers on top, is not going to be the cure-all for all of that for people in the "last mile and a half".
- We have tried to leverage the smaller local providers around the state, and to give them business and help keep them around. When the Oregon Health Network came, we designed it in such a way that we could amalgamate all of the local providers that were there already, and help get them additional federal subsidies to build additional infrastructure, which they could have us as anchor tenants but also sell it to other people. The idea was that once the program went away, we wanted them to continue in those communities, we could still do business, and OHSU could still use them, and that's working. We have thought about it like economic development, and we go to the working groups meetings sometimes, in broadband. But the point is that we try to put our money where our mouth is, and we try to use investments that leverage our alliances in business and vice versa, if that's possible. Clearly, if we find something that works, we're omnivorous and we just do it.

Does OHSU work with local government providers? For example, Clackamas County has that broadband exchange, the CBX, where they have fiber between anchor institutions, and they're trying to branch it out, by working with partners. Is that a group you would partner with?

- Absolutely, and we're actually talking with Clackamas County, Washington County, and Multnomah County right now. There's a new partnership called Link Oregon, which is the state government of Oregon, and the 4 research institutions OSU, UO, PSU, and OHSU. What we're doing is building a middle-mile, network across the whole state, and so that way we'll be able to get to those regional areas, drop it off in the county, and fan out to where we need to go. That will give us an option that isn't a Comcast or a Charter, and some of the companies are difficult to deal with.
- We're doing those things to the extent we can.

- We're a little bit new to some of those partnerships, so if you talk to us in 5 years, we'll probably have more to show for it.

We've seen, especially with the smaller providers, a sort of evolution in what they're willing to do. Do you see partnerships with entities like those too, where you try to leverage any resources you can, to continue to build?

- Yes. For example, we've got this partnership with Link Oregon, and Link Oregon doesn't actually own any fiber or assets, so in some cases we can put the OHSU hat on and negotiate with providers, and then we can hand off to Link Oregon to do the connection work so we don't have to. It's just a matter of figuring out what's needed.
- There's a lot of evolution in that space right now. But like I say, we're just figuring out a lot of the contractual vehicles- how are we going to do all of this? And we're trying to replace some of the expensive and aging infrastructure that we have now with things that are more cost effective, and less dependent, in case one of the providers goes out of business. The last time that happened with our dark fiber ring, we couldn't make any changes for 2 years, and you can imagine the problems if we're not able to make changes to our backbone for 2 years. It's kind of painful, so we're really motivated to do something different.

On the evolving telehealth perspective, for applications such as an aging in place, as you get a larger and larger senior population, what would the average home need, to be able to do that, beyond some high-speed connectivity? Are there specific devices, like making sure that every room is monitored, that there's sensors, video cameras, those kinds of things?

- Yes, that's a big challenge moving forward. There's a group here called OrCATech (Oregon Center for Aging Technology). It's led by a neurologist, and he probably could answer that better. They're doing some research in that space about what you would need, and also alleviating any privacy concerns that people may have as well. And you've got to strike that balance, although it turns out that most people are willing to sacrifice their privacy for their safety.
- Yes, there's a point at which, you know, privacy is less of an issue to people when they really need the service. I guess the other comment I'd want to make is that it depends a lot on what the circumstances of the people in the house are, because clearly, for example, diabetes is a very different thing than dementia. Or heart conditions, COPD, just the realities of what it means to be a patient with those conditions changes what the technology footprint might need to be. And also, what the human interaction component might need to be.
- And it's going to evolve over time as well for the individual.
- From our point of view, we try to make sure that there's some minimum amount of bandwidth there that we know could be used for multiple things. And like 10 years ago, I was thinking 10 mbps would be sufficient, but these days, we can chew through that pretty quickly. So, you know, it's what's available, and clearly 25 mbps or something like that would be a current minimum standard for some of these things.

And does that have to be synchronous, and have to have that kind of upload speed too?

- It depends on the scenario.

- If I have an OHSU clinic, the minimum now is like 200 Mbps, because I have to run some radiology images, and work with multiple people, and need the bandwidth. It goes fast, and that's for a little clinic.

Let's say that society continues to move towards that, is there a learning curve on the part of people? For instance, now you have a lot of people that really, as they age, don't want to go into any kind of assisted living, they don't want the classic nursing home - skilled nursing facility situation.

- And what type of monitoring are we thinking? Are we simply thinking the "I've fallen and can't get up" scenario versus high level monitoring?
- If someone has Alzheimer's as they advanced in the home, there is no technology that could work; they would forget it. There're no pushing buttons, or anything, the only thing that would work would be something that is completely controlled remotely, and eventually they have to have a family member living there. There is no technology for that, and it just depends on the conditions, and it can change on a dime.
- Regarding changes that are needed, one of the big challenges on the provider side, because we're now talking about creating these huge data files streaming and monitored, what are the expectations for that?
- Then there's a lot of privacy, and security issues. We want a completely ubiquitous, on all the time network, but now we've got to protect it in HIPAA/EFIA, and only for the right patients and that's expensive.
- Such systems can be hacked and instead of being a secure system what happens when you have someone that's aging?
- And that's the thing. These Internet of things IOT devices are inherently insecure because the manufacturers don't have the kind of acumen necessary to do it. So what that means is that at OHSU, we'd have to have some kind of engineered in-home solution that we could control more and lock down, and VPN back to the data center where it could only get to the secure munitions and there's no external Internet access to it, it's just hooked to our data center, with quadruple encryption. So, there's not going to be general purpose healthcare apps that multiple providers share, unless they share it through the OHSU portal, locked down in our data center. Or the legacy portal in their data center. But it's not like it's going to be where everybody just looks at the cuff from their own systems.
- So, you're not going to have something like that. You're going to have something that's engineered by the medical provider that you work with.

What about artificial intelligence- do you think that's going to help that in that those kinds of systems, theoretically adapt and learn, and they would be able to control the environment and alert you so you wouldn't have to have active human monitoring?

- There's a lot of people looking at that. I guess I would reserve judgment yet because they're not really quite sure how that would resolve diagnostic dilemma, and triage patients to the right location.
- There are not enough humans in the world to watch all the data that would be coming in. So just like doing the math, the only way that that's going to be processed in any meaningful kind of way, is some sort of artificial intelligence condition-matched search engine that looks for

condition x, condition y, condition z, and does something with it. But a person can watch 24/7 videos of like 50 patients, so how are you going to do that?

- So, for this to really work with millions of people potentially, you'd have to have a very advanced artificial intelligence system in place. So, it's probably not soon.
- No, but people are working on it. One of the things not only on dealing with this large data volume, but concerns, with some. The clinicians, to speak generally, are not very tech savvy. Some are, some are not, and that is a challenge.

Are clinicians getting more tech savvy as they come out of medical school, having worked with technology?

- To some degree, you know being raised with the technology. But is that tech savvy or is that just extreme expectations? I used to bemoan carrying around a pager that people had access to all the time. For example, if diabetics take blood sugars 4 or 5 times a day, they used to write them in a journal, and hopefully show up at every appointment and hand it over, or maybe there'd be some kind of download of that over time- now that data can be in real time to the doctor's office. How do the providers deal with all of that data? And if you're receiving it, then is there an expectation that you're going to act on it?
- OHSU has a very robust technology staff; we've got like 700 people on our IT staff.

So, at some point, does every clinic have to have an IT person?

- Well, we have multiple tiers of service. We've got helpdesk people, and field techs who do a lot of the in-person stuff, and they do frontline applications and work like that too. We have application teams that specialize in different healthcare apps and whatnot. You know, we've got education research teams that support that. I'm a network person, so I support everybody. But there's a lot of specialists, and so the idea is that you go in to yours, and then get triaged, and then you get to the right specialist, and they can take you the rest of the way if that's what needed. And if they can do first call resolution- great, but the problem of course is that this is evolving so quickly that there's a lot of areas for which no specialist yet exists, so functionally, my network engineering team is the engineering team of last resort, and we help with the applications that don't work quite right, or nobody knows. So, we try to deal with some of those things, and then ultimately, they become departments, or we fund it, that sort of thing. But there's always got to be proof of concepts and pilots and trials and whatnot. So, it just depends.

As you look at all of this, from the Oregon perspective, or maybe even just from Multnomah County, because you've got fairly rural areas the farther you go out, is it important that everyone have access to some minimum level of technology, broadband, etc. to be considered a healthy community, or to have the kinds of health services we've discussed?

- Yes, and actually looking at a lot of the rural areas in Oregon, some would cease to exist because people would move to where they would be able to get those things. They can't do their healthcare, they can't do whatever, you know, the kids won't stay. But if you can get a little community, where the clinic or hospital is supported, and they can do some of those other things, well they'll stay there, because the quality of life in many cases is good or better than what they can do elsewhere. It's just a utility like electricity or water.

Anything else that you think would be important to know?

- As far as other details, in this case, I think we put together a bi-annual, every other year, report through the Broadband Advisory council, and they are available online, and there is a telehealth section included, and it's evolved over time. I guess there have been around 5 or 6 of them now. And it used to be just a catalog of kind of what we were doing, and now it's gotten a little more refined, but that's there if you need, and it's on the Broadband Advisory Council website. Those are reports to the legislature.
- You know one of the things, it's just an example, for the remote patient monitoring/home monitoring, historically families would go home, and for some disease conditions they'd be sent home with a binder with information and then some expectation of recording data. With some children that go home with some very complex heart lesions, and other interstage monitoring, was this paper binder, and our providers would try and reach out to them once a week only to find out that their cell phone minutes were used up, or other there were socioeconomic aspects of this. So now the program we have in place, is that we're actually sending them home with a tablet, an iPad that is dedicated for this use only, has cellular connectivity so that they don't even need to have WIFI. They do need to be in cell range, which is not always available depending on how rural you are, but now they have a dedicated device that we're not dependent on the vagaries of whether they've used all of their cell data playing games and watching movies, but it's a dedicated device for their healthcare. And all that data gets automatically uploaded to us, so our providers can do a proactive model and see day to day, what's going on, and intervene, before something happens and compensate, as opposed to waiting and hoping you can get in touch with them by phone.
- It's a small number of patients that we're doing this for now, in the most complex fashion, and they were already monitoring them, but in a very haphazard way dependent on the patient to recognize the issues and also call in, as opposed to now every day getting the data, and if you don't get the data- that's a flag. It triggers a question of what's going on- did they just forget or is there something else going on?

[DEMO OF SOFTWARE]

- This is what we use for acute care- this is the most time sensitive- this is a company out of Southern CA. For most of our transport calls, we start on the phone, which is mostly how we do it, and most of the time it's adequate, but there are times that there are those that may need to come in, in the extreme scenarios, so the provider on the phone call might say "I'd really like you to take a look." So, these are the hospitals that we're connected to around the state. Within 10-15 seconds, we're going to be in Santa Barbara in a mock-up of what they see on their side. And now we're in the ER/OR, and I have full control of the camera, I can zoom in, it has pretty high resolution, I can look at the monitor and see what's going on. I have almost a 360 range of motion.

If there's an attendant there, can you talk to them as well?

- Yes. With ER situations that's what we're dealing with. This is what the cart looks like. So, this is what the robot, mobile cameras look like. That's what we do. You can see I'm all the way across, but you can still see really high resolution. And there's a stethoscope, and other add-ons. Then again, this allows me, instead of talking to the provider, I can hear their voice,

and see the situation, so I can do a much better job of triaging. It's also a huge cost savings for families so they don't have to travel.

- So that's kind of what this looks like. This is only for the acute care channels- this is an expensive solution. The biggest thing we get from these guys is the 24/7 tech support, so all these green dots reflect that they are continually pinging these carts to make sure that they're on and working. So, this is actually one place where they have their own technical support built-in, and that's our first option, and if that doesn't work, then we'll go through our internal. Usually though it's simple things like the battery ran out on the cart, or someone changed their WIFI configuration.

Portland Smart Cities Equity Advisor Interview

Interview with a Smart Cities Equity Consulting Advisor Portland Smart Cities Steering Committee January 22, 2020 10:00 a.m. - 11:00 a.m.

An interview was held with Alyshia Macaysa, who is an Equity Consulting Advisor to the City of Portland related to its Smart Cities Project. She is part of a group of Smart City PDX advisors participating in various aspects of the Project and in work group meetings. The key findings from the interview are the following:

- There are a number of issues of concern related to Smart Cities' applications from a resident's perspective.
 - For example, while facial recognition for policing and public safety purposes is seen as an ability to help ward off threats, it is also seen as a potential invasion of privacy and profiling tool.
- As such, the City of Portland wanted to engage a more authentic community engagement.
- Alyshia previously has experience working with the County Public Health Department on community-based issues.
- The initial impression is that the community doesn't know what is happening related to Smart Cities applications.
- The first thing is to look at the "big buckets of applications".
 - For instance, in working with vendors, is the City creating an equitable process?
- Part of her job is to take the perspective of someone from the outside looking in.
 - In other words, there is an anticipation that she as an equity consultant can be more vocal about potential issues than City staff can be.
- Her colleague has been at work in the Portland community working for a nonprofit for quite some time.
- Her job is to assess the potential impact of these applications on the community, and her group is working to establish conversations with various community constituencies.
 - They anticipate that these would occur in April and May after they take the time to build relationships with the community and know how to be representative of community perspective (*this was prior to the pandemic and the anticipation is that this may not have been able to occur in this timeframe*).
- She is part of a group of Smart Cities Advisors offering their perspectives in work group meetings with the City.
 - One of their jobs is to evaluate the pitfalls versus the potential benefits.
- Their focus is to advance community priorities, which may be different than the City's understanding of what its priorities should be.
- They are working to engage community organizations and determine what their priorities are and what their plans are within the same subject matter area as those that would fall into the Smart Cities arena.

- One of the things they found is that some constituencies are either for technology or against it.
 - For instance, there is a belief in communities of color that “big tech” is not for them but rather can work against them.
 - In order to reverse that perspective, it’s important to build deeper relationships with the community.
 - This requires capacity building and is not a short-term project.
 - For example, for data that may be developed hastily, how reliable is it in being representative of the communities.
 - One of the issues is the “changing faces” at different community organizations. New leadership may have new perspectives.
- The basic fear of technology is the fear of misuse of that technology against parts of the community.
 - For example, when public housing residents see resident coordinators with devices like Surface Pro and then see the nexus of those devices as utilized by ICE during raids, it immediately establishes a linkage that develops mistrust.
 - When this works on a larger scale, it creates an even bigger mistrust.
- Alyshia gave an example of how the fear of technology negatively impacted the County’s Pacific Islander data gathering project.
 - Essentially, there were a variety of issues including that the Asian population is different than the Pacific Islander population, and this wasn’t necessarily characterized correctly.
 - Populations were over-surveyed, and the data was not centralized.
 - The loop also was not necessarily closed properly, so there was no real report back to the community to explain the findings and the benefits.
 - Then there was no real attempt at a data sovereignty agreement with the Pacific Islander Coalition.
 - These were all issues that created problems for that data project.
- One of the questions is, does the framing of the project connote the benefits to the population?
 - Having a follow-up process and building a data sovereignty agreement, so that the target populations know how the data is going to be used, builds trust.
- For example, one project ended in a big celebration with a visioning session where various categories of data were looked at.
 - There were six determinants of health that were specified.
 - A Program Specialist at the County worked with the groups that were tied both into the County and the community and developed deep connections.
 - Organizations within the community were paid to lead the workshops.
 - Ultimately, it was very clear to the populations what the data was that was gathered, how it was gathered and how it will be used.
 - This type of focus builds trust.
- Capacity building is critical to effective community engagement.
 - This includes intermediaries that can help spot corrections needed in initial data gathered.
 - This means collaborating with those who can effectively communicate in different languages.
- All of these builds understanding and helps to test the data gathered.
- Ultimately, what is known and verified can then be used as a foundation to determine what else needs to be known.

- When the community sees value in what data has been gathered and how that data will benefit them, then it:
 - Strengthens relationships with the community;
 - Facilitates continued involvement and engagement; and
 - Builds momentum.
- In the current project related to community engagement on Smart Cities, digital literacy training isn't a defined part of the activities.
 - The question is whether something should be integrated, so communities are more knowledgeable and informed about the issues that may arise related to Smart Cities' applications.
- One of the issues is getting data from undocumented persons because they are always wary of where that information is going to go.
- Sometimes gift cards are used as incentives to provide information.
- Those providing information will always weigh the opportunities and potential benefits versus the potential problems and pitfalls.
- Digital literacy is a big issue in being able to have the community engage on technology-related issues.
- It also is important for gaining access to services.
 - For example, many, wary of both the technology and where the data is going, are not entering information into online databases that might provide services to them, so they are not making, for example, applications to get aid at the State level.
 - So, the question is, what is the overall plan to gain necessary information from communities that need to provide it potentially in a different way?
- In any community engagement plan, safety needs to be a primary component.
 - There has to be a policy of preventing harm while also obtaining necessary data.
 - There is often a debate as to whether such a policy has to be structured first and what its role is in the process of community engagement.
 - For example, should it always be Step 1 in the process, or maybe part of Step 1 or combine Step 1 and Step 2?
- Effective community engagement takes years to develop.
- Communities have to be a part of structuring how they're engaged and how data is developed.
 - Concrete ways need to be established to affect this participation and relationship.
 - You have to build capacity even to have a conversation with the communities.
- Resources and commitment throughout a community engagement plan are critical to the depth, breadth and validity of the data gathered.
- For any large community engagement activity, there should be a steering committee with advisors from each of the partner entities working on the engagement (for example, in Smart Cities, the various public agencies, the consulting advisors and the community partners themselves need to be involved).
 - This helps invest the community in the data gathering effort.
- A good example is housing development.
- To fully incorporate community perspectives, it was first important to engage, or re-engage in the case of community components that may have already been engaged in other or similar activities.
 - Then establish community partners.

- After that, to facilitate the engagement.
- After that, to invest the community in the overall project.
- These are typically repetitive cycles through a long engagement, so a framework has to be built from the beginning to strategically look at how the engagement will evolve.
- There needs to be a process for each application activity or project.
- Regarding Smart Cities, besides the Advisors, there are two City of Portland Staff and a Manager.
 - They report directly to a Councilperson.
- Part of the project is to look at what level of ongoing planning is needed and how to get sustainability of the process.
- A good example is Health Equity which has become a community-driven process.
 - Once it's ready to implement, there has to be an implementation plan as well.

ATTACHMENT 1.A
SUMMARY OF COMMUNITY TECHNOLOGY GRANTEE
REPORTS REVIEW

Attachment 1.A

Summary of Community Technology Grantee Reports Review

Introduction

In order to review the impact of the public benefit, community technology grants provided to school districts, nonprofits, Public, Educational and Governmental (PEG) Access program developers and providers and others, related to the use of the Community Access channels and the Institutional Network (I-Net), a review was made of the grants awarded, the entities utilizing the grant funds, the purpose of the grants and both the intended and actual impact on the beneficiaries of the technologies utilized that were funded in part by grant funds (it should be noted that each grant required a varying amount of matching resources).

Information was compiled for CBG Communications' review and analysis by MHCRC and Portland Office of Community Technology staff that provided data that would help provide answers to three critical questions. The answers would further provide findings and analysis to help address the Key Questions related to the overall Community Communications Technology Ascertainment. The three critical questions are the following:

1. How did the grant help improve or provide access to community technology by those that the organization serves?
2. How did the grant help to provide or improve access to community technology by the organization itself?
3. Would the organization have been able to implement the project without the grant, either at all, or at the depth and breadth that the project was implemented? (In other words, what was the impact of the franchise – provided funding on their ability to implement projects to enhance their own capabilities or provide services to others.)

Note that information for 2012 and 2013 was only available for the intended purpose of the grant funds awarded and came from approved Grantee applications for those years. This was due to the fact that information related to the final grant reports received from Grantees for 2012 and 2013 is only available in hard copy format from the City archives. Information gathering activities by MHCRC and the Office of Community Technology staff was performed after the beginning of the Stay at Home Orders issued during the current COVID-19 pandemic and so hard copies in City archives were not able to be retrieved.

For 2014-2019, information related to the three critical question areas was able to be derived from electronic files that could be accessed. A sampling of representative grants from this period is provided in this Attachment for review, to demonstrate the types of information that answers the three critical questions, which was then utilized in the analysis related to the overall Community Communications Technology Ascertainment.

Key information and findings from the Grantee Application and Report review are as follows:

2012

Grant High School: Closing the Science Enrollment Gap:

Technology Integration at Grant High School Project

Total Grant Funds:	\$198,499
Total Matching Resources:	\$199,000
Cable System Technology Use:	I-Net
Public Benefit Area:	Reducing Disparities for Underserved Communities

Citing enrollment statistics that show under-represented minority, female, and low-income students at Grant High School are more likely to lag behind White and affluent students when it comes to graduation rates, college attendance and degree completion, this project aims to address these disparities by developing an engaging, technology-focused science curriculum that increases interest and enrollment by these underserved groups. Focusing specifically on advanced level science class enrollment by minority, female, and low-income students as a significant contributing factor to student success, the project intends to demonstrate that student engagement in science goes up, and remains up, when technology is used to support interdisciplinary, project-based curriculum. To increase science interest, engagement, and advanced course enrollment by these underrepresented students, the MHCRC grant will fully integrate mobile computing devices (laptops and iPads) into each student's experience in addition to providing intensive teacher professional development throughout all science classes at Grant.

Center for Advanced Learning: Center for Advanced Learning Digital Video Production Project

Total Grant Funds:	\$218,333
Total Matching Resources:	\$382,048
Cable System Technology Use:	Community Access Channels
Public Benefit Area:	Improving Service Delivery

The Center for Advanced Learning (CAL) students, high school juniors and seniors from Centennial, Gresham-Barlow, and Reynolds school districts, come to CAL to take advanced courses in four technology-based fields: digital media & design, engineering/manufacturing, medical/dental sciences, and IT/networking & programming. CAL students earn Career and Technical Education (CTE) credits, seen as high-level, project-based "real world" learning experiences, which apply toward graduation from their home high schools. In order to bring its digital media & design course offerings in line with current technology, grant funds will be used to build computer labs, purchase video and still cameras, and provide teacher training in an effort to offer students applied learning skills in digital video production and associated digital communications fields, including graphic design, video, web design, and marketing/communications. The project targets 104 students annually who are enrolled in the digital media & design program.

Centennial School District: Centennial School District Server Replacement Project

Total Grant Funds: \$38,941.08
Total Matching Resources: \$71,854.47
Cable System Technology Use: I-Net
Public Benefit Area: Improving Service Delivery

The Centennial School District Server Replacement project uses grant funds to replace and upgrade aging infrastructure crucial to communication between students, staff, and the general community and the 1200 computers located throughout its 9 schools. Existing infrastructure consisting of servers and network equipment is rapidly reaching its end of life and needs replacing, yet district funds available for such a replacement are severely limited in light of significant budget cuts and a focus on keeping teachers in the classroom. Successful completion of this project will allow the district to maintain current services and provide a path to develop future services with a scalable infrastructure that can meet the increasing technology needs for staff, students, and the community.

Chapman School: Chapman iPad Literacy Continuation Program Project

Total Grant Funds: \$47,592
Total Matching Resources: \$121,604
Cable System Technology Use: I-Net
Public Benefit Area: Reducing Disparities for Underserved Communities

Building on a 2011 grant at Chapman Elementary School that established a mobile iPad lab used to infuse technology into the reading process in order to build necessary literacy skills for all 3rd grade students struggling with reading, the iPad Literacy Continuation Program will expand device use and share curriculum to 4th and 5th grade students. The project will benefit students and educators by capitalizing on students' fascination with technology to enhance and enliven instruction.

Film Action Oregon/Hollywood Theatre: Project Youth Doc and Animate It! Expansion Project

Total Grant Funds: \$118,000
Total Matching Resources: \$158,290
Cable System Technology Use: Community Access Channels
Public Benefit Area: Improving Service Delivery

This project seeks funding to upgrade video production equipment for two existing and successful educational programs: Project Youth Doc (PYD) and Animate It! Expanding upon its proven summer sessions of both programs, Hollywood Theater will offer four, eight-week sessions of PYD for Grant High School juniors and seniors in conjunction with the school's Film and Literature classes and four, nine-week sessions of Animate It! for juniors and seniors at Open Meadow alternative school in North Portland. Since both programs have grown beyond the pilot stage to become successful arts education programs, the Hollywood Theatre will use grant funds to support much needed expansion and upgrades to existing video and computer equipment to create 70 documentaries and 200 animated shorts for sharing with the broader community through the public access channels.

MetroEast Community Media: MetroEast Youth Media “Get Reel” Project

Total Grant Funds: \$93,943
Total Matching Resources: \$109,943
Cable System Technology Use: Community Access Channels
Public Benefit Area: Improving Service Delivery

When the highly successful collaborative youth media education program, OLLIE Program, with Portland Community Media ended in 2009, MetroEast had gained experience and success in teaching media literacy and digital storytelling to middle school and high school students but was left with a small stock of outdated equipment. With little capital funding available to focus on its expanding youth media program, called “Get Reel”, MetroEast turned to the MHCRC for help to fund upgrades to its video projection equipment. Grant funds will be used to purchase video production and editing equipment to bring existing youth programs up to date while expanding the program to provide greater access to new class options by East County students.

Wisdom of the Elders: Discovering Our Story Project 2012

Total Grant Funds: \$57,414
Total Matching Resources: \$279,321
Cable System Technology Use: Community Access Channels
Public Benefit Area: Reducing Disparities for Underserved Communities

Wisdom of the Elders (WOTE) first received grant funds for the Discovering Our Story Project in 2009. WOTE used the funds to record and preserve oral tradition and cultural arts of exemplary indigenous elders, historians, storytellers, and song carriers in order to regenerate the greatness of culture among native peoples. Since then the project has seen many successes and gained national recognition for its videos featuring exemplary role models from the regional Native American community that have supplemented mental health and addiction prevention efforts for Native Americans. 2012 grant funding will help WOTE expand and upgrade its equipment and create a recording studio and an edit suite at one of its facilities. The equipment purchased will supplement WOTE’s ongoing use of PCM’s editing equipment and studio.

David Douglas School District: Networking Enterprise Wireless Project

Total Grant Funds: \$520,000
Total Matching Resources: \$534,000
Cable System Technology Use: I-Net
Public Benefit Area: Improving Service Delivery

David Douglas School District (District) is a 10,000-student district in mid-Multnomah County. District schools were early adopters to using I-Net infrastructure to provide for the school’s wide area network connectivity. Today, wireless connectivity on the network has remained at low capacity and serves only district staff. With grant funds, the District plans to provide updated wireless infrastructure throughout the district in order to deliver applications wirelessly throughout each school and expand use to teachers, students, and visitors (non-profit groups, community groups, etc.).

2013

Roosevelt High School: Technology Immersion Pilot (TIP) 2013

Total Grant Funds:	\$202,373
Total Matching Resources:	\$266,834
Cable System Technology Use:	I-Net
Public Benefit Area:	Improving Service Delivery

Roosevelt High School is strategically leveraging the I-Net to provide anytime/anywhere access to technology for students and their families while giving teachers and administrators the opportunity and the tools to transition to online learning environments. Roosevelt High School, a recipient of a state School Improvement Grant, is building on its previous MHCRC grant that put iPads in the hands of all ninth and tenth grade students, will complete the school-wide shift to 1:1. Specifically, grant funds will be used to give eleventh and twelfth grade students a mobile device. Through this transformative project Roosevelt High School offers its entire student body, staff and administrators dedicated access to emerging “cloud-based” productivity, communication, and curriculum tools.

Gresham-Barlow School District: GBSD Asterisk Telephone Platform Project

Total Grant Funds:	\$470,629
Total Matching Resources:	\$476,104
Cable System Technology Use:	I-Net
Public Benefit Area:	Improving Service Delivery

The MHCRC made it a priority to help the schools replace the existing archaic and unstable phone systems with state-of-the-art Internet Protocol (IP) phone service. The biggest impact of this overhaul is that teachers in the funded districts will have a fully functional telephone available in every classroom. The telephones also provide improved security at schools and multi-language options for non-English speaking parents. The new IP based phone systems will greatly reduce the district’s cost to maintain the telephone systems, with added capabilities for students, teachers, and the community. Building on a previous MHCRC grant, Gresham-Barlow School District will roll out IP phone service to its remaining 11 schools; completing roll out of the technology to all schools in the district.

Corbett School District: iPads for Teaching and Learning Project

Total Grant Funds:	\$50,393
Total Matching Resources:	\$56,470
Cable System Technology Use:	I-Net
Public Benefit Area:	Reducing Disparities for Underserved Communities

Citing research that shows the benefits of iPad applications that support individualized student learning, Corbett School District has embarked on a process to integrate technology into its multi-age, integrated and project-based learning model with equitable access to the technology by its 805 K-8 students. Teachers will use the iPads to integrate technology across the curriculum through the use of

apps that will support project-based learning in the core subjects of math, language arts, social studies, and science.

Portland Public School District

Total Grant Funds: \$420,472
Total Matching Resources: \$902,605
Cable System Technology Use: I-Net
Public Benefit Area: Reducing Disparities for Underserved Communities

In an effort to address the achievement gap between demographic groups, specifically targeting students who are not on track to graduate in four years, Portland Public Schools (PPS) is giving struggling students access to blended online learning opportunities to recover credits and at the same time changing PPS’s educational landscape. In response to national data that shows the rate of students earning credits via online credit recovery is near 50%, PPS began implementing a 5-tiered plan for providing blended learning options (defined as students learning both in a “brick-and-mortar” school setting and in an online environment) to high school students. Grant funds will be used to support this plan through implementation of a Learning Management System (LMS). The LMS is a web-based technology used to provide teachers with a way to create, adapt and deliver content, monitor student progress and participation, and assess student performance. PPS hopes that by providing new and improved curriculum to struggling students in an environment that is flexible to student schedules and needs, that students will recover the credits needed to graduate.

Portland Public School District: Franklin and Madison High Schools

Franklin High School		Madison High School	
Total Grant Funds:	\$255,815	Total Grant Funds:	\$193,479
Total Matching Resources:	\$301,224	Total Matching Resources:	\$220,260
Cable System Technology Use:	I-Net		
Public Benefit Area:	Improving Service Delivery		

Franklin High School’s Freshman First program and Madison High School’s Senators Successful Start program focuses on individualized learning opportunities for each of its incoming 300 ninth grade students. Strong teacher collaboration on instruction tied to the learning targets for each student will become easier and more effective in an environment where a personal digital device is available to each student. The project will benefit students and educators by capitalizing on students’ fascination with technology to enhance and enliven instruction and give teachers real-time information on and collaboration opportunities with students.

Metro: Risk Diversification of Core Metro Data Communication Services

Total Grant Funds: \$6,741
Total Matching Resources: \$6,300
Cable System Technology Use: I-Net
Public Benefit Area: Improving Service Delivery

Metro is consolidating three existing data centers into a more advance technology environment which has both business advantages and cost savings, but it also introduces a new operating risk, simply the potential failure of Metro’s single commercial network connection, that could interrupt service to the public. Grant funds will be used to activate a backup network link using pre-existing I-Net fiber connections to create a redundant network connection.

City of Gresham: Getting to Know Gresham

Total Grant Funds: \$5,421
Total Matching Resources: \$52,754
Cable System Technology Use: Community Access Channels
Public Benefit Area: Improving Community Involvement

The City of Gresham, through the Getting to Know Gresham video project, seeks to address the knowledge gap Gresham residents have regarding what their local government does and how they can get involved. Targeting Spanish-speaker (20% of the population is Latino) and the 67% of all Gresham households that are “family households”, the City hopes to use grant funds to purchase video production equipment to create public access programming that will educate residents about the function of city government and to highlight core services and how residents can contribute to the livability of the community. The City cites research that suggests both targeted demographic groups represent key growth demographics for the City and that both groups are receptive and interested in information conveyed through video.

Flying Focus Video Collective: Digital Editing

Total Grant Funds: \$780
Total Matching Resources: \$792
Cable System Technology Use: Community Access Channels
Public Benefit Area: Improving Service Delivery

Keeping pace with advancements in video editing technology, Flying Focus Video Collective is moving away from tape-based editing to computer-based editing. Flying Focus’s own fund-raising resulted in purchase of the computer need for this project. Grant funds will be used to purchase component parts (hard drives and software) needed to complete the transition. Flying Focus’ volunteer producers, many of whom received initial training at Portland Community Media, will now be able to seamlessly move between the two organizations to create new programs.

Dill Pickle Club: Displacement in NE Portland/Youth Documentary Project

Total Grant Funds: \$8,052
Total Matching Resources: \$8,548
Cable System Technology Use: Community Access Channels
Public Benefit Area: Improving Community Involvement

The Dill Pickle Club, in partnership with the I Have a Dream Foundation, will introduce six high school students to the theories and techniques of video production. Mentored and guided by an award-

winning filmmaker, the students will collaborate on short videos about their neighbors, neighborhoods, and their own experiences. Project creators hope that through the experience, these six students will become empowered by a greater awareness of community and the critical thinking skills the program instills.

Centennial School District: Wireless Infrastructure Upgrade

Total Grant Funds:	\$126,828
Total Matching Resources:	\$194,500
Cable System Technology Use:	I-Net
Public Benefit Area:	Improving Service Delivery

In order to meet the growing demands for increased use of mobile device options by students, teachers, administrators and the public on school grounds, Centennial School District is upgrading its wireless infrastructure to provide both scalability and improved accessibility. Using I-Net fiber access, Centennial's existing infrastructure is limited in terms of access point coverage, connection speed and device frequency support. In addition, the hardware controller configuration is out-dated, time intensive to manage and is incapable of supporting future growth projections for wireless access needs. Grant funds will be used to deploy 290 access points and 20 switches in order to realize a three-fold increase over the current environment's speed and coverage areas. Impacts of the project on students and teachers are many, including capacity to support one wireless device per student and one wireless device and laptop per teacher, better student access to critical online content that enhances and supports their educational experience, and more opportunities to accommodate BYOD (Bring Your Own Device) in the instructional environment.

2014 - 2019

IFARA (2014): Health Challenge

Total Grant Funds:	\$77,695
Total Matching Resources:	\$108,340
Cable System Technology Use:	Community Access Channels
Proposed Technology:	Digital Video Production Equipment
Public Benefit Area:	Improving Service Delivery

***pulled from final status report submitted 07.05.2017*

(1/2)

- Were able to expand our production to individuals in all levels of education, gender/sexual orientation, ethnicity, and culture.
- Conducted trainings with multiple organizations to use IFARA production equipment to allow partners not only to be a part of the programmatic part of the program but the technical program production as well.
- Total training hours over the past three years: 578 Hours
- Total program production participants on camera and off camera: 872 individuals, some of whom participated in more than one program. Participants included people living with: cardiovascular

rehab needs, neurocognitive disorders, CMV disease, anal dysplasia, cognitive impairment, Ebola, HIV/AIDS, malignancies, diabetes, Hepatitis C, metabolic issues, MDR TB, TB, XTR-TB, malaria, influenza, frailty in aging, among many other diseases or conditions.

- The number of participants viewing the program on cable channels in the Portland Area will remain unknown due to the limitations of the cable companies serving us. However, we do see people calling in when we open the lines and do find people who notice Fred Schaich on the street in Portland and around the country who have noted having seen him on the show.
- “We did not memorialize any of the statements of the participants about their value of the program they participated in but almost every single participant in the monthly and many of the weekly show participants were very complimentary about the usefulness, appropriateness, effectiveness, and functionality of the programming, especially in the case of underserved populations listed above.”

(3)

- Undetermined. “The MHCRC grant funds were a significant aspect in allowing us to provide some of the best equipment which is still very “state of the art”. Cameras are really the only items that are “high tech” and they are certainly good for many years into the future. The lights and tripods, sets, robotics are all low tech and will be good for much longer and as I mentioned before, able to be modified to suit new concepts of production.”
- “The most of the success for accomplishing more than the number of programs required in the grant outcomes was also quickly accomplished with the ease of use of the new MHCRC Capital Grant equipment. The Crew/s were excited about using the new equipment.”
- The new novel, super functional equipment allowed many great shots with the camera operation devices.

Film Action Oregon (2014): Hollywood Theater Studio at Open Meadow

Total Grant Funds:	\$100,000
Total Matching Resources:	\$371,200
Cable System Technology Use:	Community Access Channels
Proposed Technology:	Digital Video Production Equipment
Public Benefit Area:	Improving Service Delivery

***pulled from final status report submitted 7.17.2016*

(1/2)

- Pulsar - an education program now operated jointly by the Hollywood Theatre and Portland Community Media - created a media lab at Open School North (OSN; formerly Open Meadow Middle School) to give underserved and at-risk Open School students and their teachers access to technology and professional media arts instruction.
- 229 students received leadership, media literacy, community engagement, and workforce preparedness training.
- An average of 67% of students served report mastery of skills in leadership, media literacy, community engagement, and workforce preparedness training

- 9 teacher trainings were conducted in the use of media production technology, with 12 total implementations into classes.
- 141 animated and live-action media projects were produced, with 84 uploaded to the Hollywood Theatre YouTube channel (HollywoodPDXTheatre) and 31 submitted for local cable access.
- “Because of the project, OSN families and the greater community have engaged with the school like never before, OSN educators are more excited and prepared to utilize media arts in their classrooms, and students have been inspired by and exposed to the possibilities of media arts both in terms of creative expression and future career/vocational opportunities.”
- 75% of teachers and staff said they now feel comfortable integrating technology into their classrooms, and 100% of teachers and staff are excited about the technology tools that they have been trained on.
- 57% of students said they would absolutely bring the skills they learned in Pulsar activities into their future careers.

(3)

- Undetermined. “We hope to build upon our past successes and to challenge the students and teachers of Open School North to dream big, by giving them the media technology resources and inspirations they need.”

Albertina Kerr (2014): Transforming Service Delivery at Albertina Kerr

Total Grant Funds:	\$110,863
Total Matching Resources:	\$407,598
Cable System Technology Use:	I-Net
Proposed Technology:	Interactive Video
Public Benefit Area:	Improving Service Delivery

***no final status report. Grant was terminated early and final report was waived by staff. Data below pulled from last submitted status report, 7.28.2016*

(1/2)

- Project’s focus has been on identifying, developing, and implementing video modeling projects with residents in our Developmental Disabilities Services (DDS) group homes
- Streamlined the video production process and made necessary adjustments to the secure and easy-to-use client interface for viewing videos
- Developed and implemented 11 videos with four residents, and we have another 31 videos in production with 19 residents.
- “The knowledge we have gained through creating, executing, and implementing video modeling projects with our DDS residents to date has enabled us to streamline the process, and to simplify how we move from idea to implementation. We anticipate ongoing projects can be produced and implemented more quickly and easily.”

(3)

- The organization wasn't able to complete the project even with the grant - "January 6, 2017: In a phone call with Craig Rusch, MHCRC staff was informed about the grantee's ongoing challenges to fulfill project goals due to continued staffing and budget shortages. MHCRC and Albertina staff agreed the pilot phase, while successful, would require significant staff time to scale as intended. Rusch expressed concern that organizational staffing and budget shortages would jeopardize the integrity of the scale up of the project beyond the pilot phase. Rusch requested that MHCRC staff consider ending the project as opposed to extending the term of the project; no further grant funds would be expended."

MCL Rockwood Innovation Station (2014)

Total Grant Funds:	\$300,404
Total Matching Resources:	\$963,904
Cable System Technology Use:	I-Net
Proposed Technology:	Interactive Data over I-Net
Public Benefit Area:	Reducing Disparities for Underserved Communities

***pulled from final status report submitted 10.31.2017*

(1/2)

- The Rockwood makerspace was developed by Multnomah County Library to provide a collaborative learning environment for teens to explore STEAM topics in order to address informal learning opportunity gaps for youth in East Multnomah County. The project outcomes were to serve 2,000 youth during the 3-year period, certify 100 youth as teen leaders in the makerspace, for 90% of youth to increase their interest, confidence, and knowledge in STEAM topics, and to serve 40% young women.
- Served 1,487 unique youth in a total of 549 programs during the three years of this project. The makerspace did serve 43% young women/non-binary gender youth during this grant period; 45% youth served in the makerspace were from race/ethnicities that are underrepresented in STEM education and careers according to the National Action Council for Minorities in Engineering, which include youth who identify as African, Black/African American, Hispanic/Latino, Native American/Alaskan Native, and Native Hawaiian/Pacific Islander.
- Improved access through refining staffing model to include staff dedicated to makerspace who are trained to work with teens and utilize that technology in the space. Improved access through establishment of East County Adult Mentors who serve in makerspace to support teens in learning how to use the technology.
- Provide access through \$64,960 in equipment purchased via the grant (technology work-stations, shared technology such as 3D printers, laser vinyl cutter, engraver, carts, workbenches, sewing machines, and lots of craft tools and supplies in addition to video recording equipment, and software).

(3)

- Undetermined. Of the total project cost, 76% was contributed by Multnomah County Library, The Library Foundation, and other project partners.
- The library has incorporated the makerspace into its budget starting in fiscal year 2018 (starting July 2017). The Library Foundation has committed \$9,000 to fund programming and supply costs in the makerspace for 2018 and indicated an interest to sustaining future funding for the makerspace, as well as considering additional funding to expand makerspace activities to other library locations. The Library Foundation has also rolled over unused supply budget from the grant into the 2018 equipment and supply budget. The library has allocated funding for equipment maintenance and replacement on the same schedule as the other technology in the library system, which is about three years.
- With The Library Foundation, the library applied for a National Library Leadership grant to try three different ways to deploy makerspace services in partnership with local schools and community organizations, through the Institute of Museum and Library Services. We, unfortunately, were not selected in the final selection process for this grant. The Library Foundation is looking at other fundraising opportunities so the library can keep working on expanding our creative learning spaces.

Young Audiences of Oregon & SW Washington (2015): Teaching Artist iPad Library and Curriculum Development

Total Grant Funds:	\$28,384
Total Matching Resources	\$37,962
Cable System Technology Use:	Community Access Channels and I-Net
Proposed Technology:	Mobile Devices
Public Benefit Area:	Reducing Disparities for Underserved Communities

***pulled from final status report submitted 7.31.2017*

(1/2)

- More than 70,000 students Young Audiences (YA) serves annually gained an invaluable technology and arts resource: a mobile library of 35 tablets and a set of tablet-based educational arts programs that improve student confidence in technology usage, develop students' ability to analyze and interpret media, and encourage creative and critical use and exploration of technology
- Provided 18 three- to-five-session residencies in four Multnomah County middle schools, serving approximately 480 students and generating nearly 400 artistic products.
- In "Immersive Monologues," students used iPads with GarageBand and YouTube to fashion a sonic and visual backdrop for either original or adapted monologues, then performed these multimedia pieces for their peers.
- 95% of students who participated at DaVinci indicated that they were "really confident" using an iPad, and nearly as many said they were interested in using digital tools to make art and express ideas.

- Teachers were excited about programs that used technology in an uncommonly creative, deep way (rather than to teach basic technology skills). One goal of the project was to improve student confidence using technology; YA learned that teachers, too, sometimes lack the confidence to use technology in their classrooms, and that by leading the way, technology-enhanced in-school artist residencies can increase their comfort (and thus improve students' access).
- "This project opened students' eyes to - and built their skills in - more advanced, creative uses of technology."

(3)

- "Co-contributing to the project delay was the challenge of raising match funds" indicates the project wouldn't have been able to move forward without the grant as they even struggled to raise the required match.
- Grant experience allowed YA has secured funding to implement Taboh's residency two times next school year

Friends of the Children (2015): East County Educational Technology (ECET) Project

Total Grant Funds:	\$218,798
Total Matching Resources:	\$633,231
Cable System Technology Use:	I-Net
Proposed Technology:	Interactive Data over I-Net
Public Benefit Area:	Reducing Disparities for Underserved Communities

***pulled from final status report submitted 6.29.2018*

(1/2)

- Our MHCRC grant launched catalytic changes for the youth in our program, beginning with a state-of-the-art media room at our Rockwood program facility, which opened in December of 2015. Since then, we have followed up with consistent staff training and youth programming to improve technology education across our organization.
- 3,158 records of outings or programming events that incorporated technology, serving 302 unduplicated youth
- Installed high speed I-Net throughout the building
- Purchased Microsoft Surface tablets for each of our 50 professional Friends, and we downloaded educational apps so that youth can read or learn wherever they go with their Friends.
- The most successful and consistent increases in technology education took place within the context of popular group programming.
- Partnered with the International Youth Silent Film Festival to introduce our youth to learn storytelling, cinematography, and video editing (2016 partnership was supported by a separate MHCRC media grant)
- "Graduating 11th and 12th graders took the technology skills they developed throughout their program years with us and applied them toward both college and job applications. Many of our youth do not have computers or internet access at home, but they had the opportunity to either check out one of our youth laptops or drop in to work on one of our desktop computers. These

older adolescents completed resumes, personal essays, scholarship searches, and test preparation with the support of their Friends.”

(3)

- Undetermined. Mentions intention to continue to invest in technology education after grant period closes.
- Grant funded training and coaching efforts were focused on helping Friends become more knowledgeable about how to get the most value out of the available educational apps.

Slavic Community Center of NW (2016): Slavic Community Media

Total Grant Funds:	\$26,038
Total Matching Resources:	\$39,817.91
Cable System Technology Use:	Community Access channels
Proposed Technology:	Video Production Equipment
Public Benefit Area:	Improving Community Involvement

***pulled from final status report submitted 3.31.2018*

(1/2)

- With the help of the grant, they were able to create a platform that gave local leaders an opportunity to express themselves as well as help other become more involved and engaged in the city. Besides the twelve programs that were submitted to Open Signal they were also able to produce and stream over 100 videos to social media and YouTube, which generated tens of thousands of views from the local Russian and Ukrainian speaking community.
- Put together a workshop at the Midland library which brought in about a hundred people to the seminar.
- Started a weekly program with one of our volunteers who talks about the politics and gives people a neutral perspective on what is going on in the United States and in the world. Every program, he encourages people who are not happy with what's going on in politics to become a citizen, register to vote and start participating.
- Served over 50,000 people in Portland and Vancouver who watched the videos on Open Signal and on our social media sites.
- 10 of the individuals trained became leaders in the development of 12 programs focused on the election process, the right to vote and how to get involved in local government.
- From the 24 new hosts, 6 did programs about community and city involvement and produced a lot more than 12 programs.

(3)

- Undetermined.
- “We are building new relationships and have plans to expand our studio so we can have more people use it.”

- “It really helped us to get more people to watch, listen and share the information. Also, it couldn’t be done without the help of other volunteers and staff who helped put together seminars, schedule speakers, get the videos edited and get them to the studio.”
- “This project made a very significant impact on the Slavic community in Portland.”

Curious Comedy (2016): All Jane Video Project (Formally Voices Heard)

Total Grant Funds:	\$172,775.19
Total Matching Resources:	\$218,215
Cable System Technology Use:	Community Access Channels
Proposed Technology:	Video Production Equipment
Public Benefit Area:	Reducing Disparities for Underserved Communities

***pulled from final status report submitted 10.16.2019*

(1/2)

- “Our goals were to provide women with video that would help them in their careers in comedy and to help reduce the disparity of women working in the entertainment industry. We feel that we have exceeded our wildest dreams of how this grant would help us help them.” During the life of the project, we have provided high quality, professional video to the following:
- 169 women including those who performed during the 3 All Jane Comedy Festivals originally scheduled to shoot during the life of the grant, plus 48 women during the festival this fall.
- 22 women who performed headlining showcases - exceeding the proposed 15 showcases by 32%.
- 15 women who performed at Curious as part of 2 Portland Queer Comedy Festivals that became an unexpected part of the project.
- Total = 206 women filmed, contributing to visible reduction in the disparity between men and women working in the entertainment industry
- Given Open Signal 120 videos ranging from 7-90 minutes long.
- Trained 25 women in live video production.
- 57% said the video helped them book gigs at comedy clubs; 50% said the video helped them increase their social media following; 19% said the video helped them book a manager or agent; 69% said the video helped them strengthen their web presence; 19% said the video helped them secure a TV gig.
- Sponsorships continue to grow each year; also building company relationships - Firefox, Audible, IFC, and Laugh Lounge have all paid All Jane talent for their audio and video recordings and increased the visibility of the performers through multiple on-line web and mobile platforms and radio.
- “Originally, our team was 99% male. We now have about 30% women in our paid talent pool.”
- Several performers who credit their video from the All Jane Comedy Festival with helping them reach another level of success; several comics have used their tapes to get booked on Late Night TV.

(3)

- “I know when we originally applied, the lighting, sound and projection aspects of the grants were questioned by the committee and we really had to make a case for those items. I have to say - thank you for including those in the grant. **THEY MAKE ALL THE DIFFERENCE!** I have seen quality camera shoot in poorly lit spaces and/or with bad sound and it just doesn’t work.”
- ”Keycode very much helped us put together the right system that can work wonders with only one crew member, or can expand for special events like the showcases and festivals.”
- “Curious Comedy has been committed to supporting women and minorities in comedy for 11 years. **This grant helped boost our efforts by 1000%** and we intend to continue to make the absolute most of it we possibly can until the cameras fall off the walls!”

XRAY.FM (2017): Understanding and Impacting Your Community

Total Grant Funds:	\$59,565
Total Matching Resources:	\$108,800
Cable System Technology Use:	Community Access Channels
Proposed Technology:	Video Production Equipment
Public Benefit Area:	Improving Community Involvement

***pulled from final status report submitted 12.06.2019*

(1/2)

- MetroEast Community Media consulted on an equipment list and studio design in our existing production studio, and then contracted to complete the build out. Having video equipment installed in our production studio has allowed us to record radio programs on video so that they can be broadcast on public access cable. Through distribution on MetroEast and Open Signal channels, our content has been made available to approximately 400,000 households in the Portland metro area.
- For one year, we delivered video content to MetroEast and Open Signal (150 radio segments and 12 City Club events).
- Video production technology helped XRAY attract additional new volunteers who either already had video production experience or wanted to use their volunteering as a chance to learn new skills. Over the course of our project period, we trained approximately 10 volunteers to operate the video equipment.
- New technology led to increases in corporate and individual support that suggests community support of this programming.
- “Making these conversations available for free on public access cable and FM radio allow many more Portlanders to stay connected and informed.”

(3)

- “Another thing that helped us be successful was receiving grant funds in support of our talk content and podcasts, as this funding enabled us to create a staff role dedicated to recruiting new shows and overseeing production.”
- Grant allowed them to expand the use of video equipment to capture other types of content on video as well. For example, they frequently have bands come by our studios to do interviews or

live sessions. We plan to film these live sessions and post on our YouTube channel, which will allow us to provide an additional platform for independent and local musicians to be heard. Having this type of video content also opens up new avenues for sponsorship as well, as other radio stations have been able to generate significant revenue from their in-studio session videos.

Outside the Frame (2017): Changing How Homeless and Marginalized Youth See and Are Seen Through Film

Total Grant Funds:	\$51,361
Total Matching Resources:	\$166,860
Cable System Technology Use:	Community Access Channels
Proposed Technology:	Video Production Equipment
Public Benefit Area:	Reducing Disparities for Underserved Communities

***pulled from final status report submitted 2.28.2020*

(1/2)

- More than 100 homeless youth participated in film workshops, becoming fully trained on how to use film equipment.
- 14 youth served as peer mentors over the course of the project.
- 26 youth participated in panels, trainings, and community screenings, facilitating compassionate and productive dialogues about homelessness.
- Provided more than 27 screenings, reaching 2,000 community members in person at venues.
- All youth participants gained critical skills and advanced towards employment and independent living goals, volunteer of employment positions, or school attendance.
- 88% said that what they learned from time at OTF helped add experience to resume; 100% said what they learned from time at OTF helped to identify strengths.
- Invest in underrepresented young filmmakers who change Portland with their clear, poignant voices. Outside the Frame program youth are 16-25 years old; 75% of the youth in our program have experienced “houselessness”; 65% are people of color; 72% have a disability; and 40% identify as LGBTQ.
- “The equipment that we received from the Mt. Hood Cable Regulatory Commission was a game changer for Outside the Frame. It allowed our youth to learn to use the equipment deeply, produce more videos and exercise more creative freedom over their projects because we no longer needed to coordinate with other nonprofits to rent or borrow equipment.”
- Testimonial: Our program graduates go on to find employment and change the community. Joey is now housed, employed full-time as a homeless youth outreach worker at Homeplate Youth in Beaverton, and refers new youth to our program. “There are rare moments in life when things come our way precisely when we need them. For me, this was Outside the Frame. Before finding this program, I was homeless, directionless, depressed, and running low on hope. When I found Outside the Frame, I finally felt like I had something creative to put my energy into. They put a camera in my hands, and taught me how to use it. Hundreds of people wrapped around the block just to hear *my story*, and stories like mine. This was a life-changing experience.”

(3)

- OTF operates with significant grant support. They have one additional grant with MHCRC and one pending grant for the 2020 cycle.
- Report mentions sustainability of programs dependent on pending grants and an intention to focus more on fundraising in the future.
- Were able to commit \$248,425.15 in matching resources to this project; approx \$240,000 of the match was in personnel and contractual expenditures.

NW Film Center (2017): 7GMS Film Challenge

Total Grant Funds:	\$85,540
Total Matching Resources:	\$97,920
Cable System Technology Use:	Community Access Channels and I-Net
Proposed Technology:	Video Production Equipment
Public Benefit Area:	Reducing Disparities for Underserved Communities

***pulled from final status report submitted 8.12.2019*

(1/2)

- Grant #00712 supported capital improvements which helped us to move a collaborative initiative with Portland Public Schools known as the 7TH GRADE FILM CHALLENGE (the name was changed by PPS after the grant was approved) from pilot phase into full implementation. At the time of our grant application, we had developed and initially tested a Live Action filmmaking curriculum with single student groups of 15 each. At the end of the grant, we had added a second track in Stop Motion Animation to the curriculum, developed a “bonus activity” for students wanting to advance their interest, and broadened to working with as many as three groups of 15 students each in the building simultaneously.
- Served a total of 600 students and 58 teachers/chaperones with 333 hours of instructional service, far higher than our projection of 512 students and 252 instructional hours.
- 73% were from high poverty middle schools, slightly under our goal of 80%, but a notable achievement given the scheduling challenges we faced in the second year (see below).
- 8% were English Language Learners, just shy of our goal of 10%. Special needs students were our smallest demographic at 3% (we had hoped to reach 10%).
- In terms of student learning, between 96% and 99% of students demonstrated through their filmmaking that they understood 3-act story structure, camera framing and story beats, as compared with our goal of 85%. 97% of students worked successfully as a team, over our goal of 85%. 75% of students said the activity increased their interest in filmmaking or a related career area, above our goal of 65%. 63% said the activity increased their interest in taking CTE classes in high school, nearly in line with our goal of 65%.
- 169 student films were created, about one film per 3.5 students. 48% were live action and 52% were stop motion, demonstrating the popularity of the added animation option and the importance of offering choices to students in this age group. As hoped for, six hours of compiled student

material was created in one-hour increments and submitted to Open Signal for broadcast on its community channels.

- The capital upgrades supported by the grant promoted student access and engagement, and helped to foster safety, functionality and relevancy, important elements in achieving and sustaining student and teacher engagement and in supporting Film Center staff in delivering the activities on a consistent basis over a two-year period.
- We were also able to upgrade classroom projectors (one initially, followed by two more at the end of the grant period), which enhanced the last day celebratory screening experience for participants.
- In sum, through the grant, we were able to minimize the possibility of systematic break downs and resulting student disengagement. Students were placed in a safe, well tooled learning environment with a low possibility of interruptions or delays due to malfunctions. Additionally, the number of equipment units was sufficient to support students in direct, hands-on work.

(3)

- The following quotes seem to indicate that MHCRC funding was essential to the success of this program:
- “Key partners were the PGE Foundation, who contributed a total of \$15,000 in operating support for the project during the grant period, and the Oregon Arts Commission, who contributed \$10,000. There is no doubt that our Mount Hood Cable Regulatory Commission grant strengthened our applications from these entities.”
- “Even though our capital needs have been satisfied for this program thanks to your generous support, we are soliciting needed operating support for the program from foundations and individual contributors and expect responses in the next few weeks (PPS pays us enough to cover Teaching Artist expenses but nothing toward program coordination, equipment management, space rental and media management).”
- “Your support has been instrumental in getting us to this point.”

ATTACHMENT 1.B

SUMMARY OF INSTITUTIONAL NETWORK (I-NET) REVIEW

Attachment 1.B

Summary of Institutional Network (I-Net) Review

Institutional Network Review

As part of the existing Franchise between Comcast and the MHCRC and its Member Jurisdictions, an Institutional Network (I-Net) has been provided and made available for use by the governments and their allied public agencies, as well as the public school districts with facilities in Comcast's MHCRC service area. This network allows for transportation of video, voice and data communications between and among the end users. The MHCRC has been the facilitator of this Institutional Network (I-Net) serving all of the Member Jurisdictions for approximately two decades.

The I-Net is an advanced fiber optic-based communications network utilized to link many governmental, educational and community agencies and their numerous institutions, providing connectivity between approximately 335 facilities. This includes 65 new locations that have been added since 2010 when 270 locations were connected via the I-Net. Comcast is obligated by its Franchise Agreement to provide network facilities, infrastructure, transport operations and the necessary preventative and emergency maintenance required to keep the network operating as designed.

Although the I-Net was reported to have a problematic start, related primarily to less than needed reliability, it has evolved into a highly reliable and until recently cost-effective network. As the relationship between Comcast and the MHCRC and all of the network users/Stakeholders has matured over the years it has become a cooperative venture for all parties using the network. Because of the I-Net's improved reliability and continually evolving/upgrades of electronics, the network has become paramount for all of the users for numerous applications ranging from Voice Over IP (VoIP) phone service where entire agencies can be on the same phone network, to enabling critical public safety information to be transported in a reliable, safe manner.

The I-Net has been successful, in large part, because it is based on a partnership approach. This has allowed the users to share the network fiber optic infrastructure while owning and managing their own network edge devices at their sites. The agencies received services at cost-based pricing calculated during development of the most recent franchise, not higher market-based pricing. Because the agencies are responsible for their own edge devices, they can increase their bandwidth with no increase in monthly fees. This allows for more stable costs over time which is a big advantage for creating and working within longer term budgets. The agencies participate in network planning and regularly scheduled I-Net meetings to discuss any issues that arise and to further develop the collaborative arrangement achieved with the I-Net.

As mentioned, the I-Net is comprised of all dark fiber from hubs to the many facilities that are connected. The agencies provide the edge equipment at each of their facilities. However, unlike most dark fiber networks, Comcast then receives the signals from each location, combines them into switches owned, configured and maintained by Comcast and provides the backhaul services between hubs at speeds and bandwidths capable of handling the comingled traffic. This configuration is sometimes called a "dim", rather than "dark" or "lit", fiber I-Net.

As reported in the 2010 Mt. Hood Cable Regulatory Commission Community Communications Technology Needs Ascertainment (2010 Report), “The affordability of the network bandwidth provided on the Institutional Network (I-Net) has enabled schools, libraries and local governments to expand related network services – I-Net users indicated that use of the network must remain affordable to publicly funded organizations as bandwidth capacity will need to expand to provide for the increasing demands from their constituencies.”

This need for affordable connectivity remains today and is further expanded by the 65 locations added to the I-Net since 2010 and the ever-increasing reliance on the network for daily tasks from students using applications in school for their studies, to entities sharing phone networks, accounting systems and virtually all programs and files used throughout their organizations. This was supplemented with statements regarding the value of the I-Net and services it provide the platform for, such as “The Institutional Network has provided the network connectivity that school districts and government locations need to facilitate both administrative operations and services to students, residents, businesses and customers.” In the 2010 Report.

The I-Net has afforded the network functionality that is necessary for governmental, including Public Safety and emergency communications, school districts and libraries. Since the early days of the I-Net’s existence, the number of devices accessing networks worldwide has skyrocketed and the I-Net is no exception. Added to this is the fact that many applications are now video-based and that there are many more applications for virtually every aspect of life including personal and business, government, educational, etc. which all combined continue to drive the need for upgrades to higher bandwidths or speeds and capacities. The survey findings of the I-Net users and Stakeholders performed in 2009 showed many smaller facilities needing bandwidths of between T-1 (1.54 Mbps symmetrical) to 100 Mbps.¹ Today, these speeds no longer meet the needs of these facilities, resulting in upgrades to service levels or bandwidth at a cost of edge device replacement or upgrades. The Core switches will continue to need management and oversight to ensure as edge devices are upgraded to meet the growing bandwidth needs, the Core switches are also upgraded as needs dictate, if not prior to that time based on end-of-life.

The I-Net’s method of connecting with locations outside of those served by the I-Net itself is through an interconnect to the City of Portland’s Integrated Regional Network Enterprise (IRNE) and will need to continue to provide cost-effective access to important, critical public locations and entities that are not on the I-Net, as well as connectivity with ISPs at the Pittock Block located in downtown Portland.

The I-Net has generally kept pace with ever-increasing needs for capacity and speed. Because fiber optic infrastructure is virtually unlimited in the ability to meet ever-increasing capacity needs of I-Net users, the limiting factors are the end user equipment and the switches placed by Comcast. Because these switches and the end user equipment have a limited life span for reliable performance, replacement of equipment to improve capacity also upgrades the network’s reliability without having to make any changes to the fiber optic infrastructure connecting the equipment. The industry standard for edge device and Core switches replacement is around 5 years. This can vary some based on the beliefs of network staff, but is a good general

¹ Community Institutional Network (I-Net) Survey for the Mt. Hood Cable Regulatory Commission (2009)

guideline for when a refresh/upgrade/replacement should be budgeted. This means the edge equipment on the I-Net will need to be replaced at least once, and in most cases twice over the next ten years.

Another benefit of the I-Net obligations of Comcast is the ability of the agencies to connect new sites and to relocate existing sites at minimal upfront costs and then have the same monthly recurring costs of other sites on the network using the same bandwidth. As mentioned above, this has occurred at least 65 times as new connections were added in the previous ten years. This again provides a cost-based budgeting process with few if any unexpected costs.

However, over the last 10 years, the cost per Megabit of transport and for associated equipment has dropped. This means that costs should be reviewed and reduced during the next franchise cycle.

In sum, going back to surveys performed in 2005² and as well as the more recent survey in 2009³ and the Fiber Optic Needs Assessment in 2018⁴ used to glean the needs and beliefs of I-Net users, the capacity and reliability needs have changed but the underlying requirements have not. Going forward, the users will need to continue to access a reliable I-Net, where through cooperation of governmental entities and Comcast, increasing bandwidth needs can be fulfilled while costs can be shared and minimized between entities.

More specifically:

- The I-Net must continue to be available in the same manner(s) as it is today. The fiber optic infrastructure needs to be maintained and repaired as has been performed to date. Although the life expectancy of the fiber optic infrastructure can potentially last until and past 2030, any sub-standard fiber links should be replaced on an as-needed basis.
- In order to best meet the needs at each facility, the end users should continue to provide the edge equipment capable of meeting their needs while Comcast continues to maintain, refresh, and upgrade the Core switches in the hubs in a timely manner to keep the I-Net operating smoothly while the system bandwidths continue to increase over time.
- The current management structure needs to remain in at least the current form, while the costs to I-Net users should be reviewed and reduced, in order to keep the needed oversight and affordability that the hundreds of users have come to depend on and have identified as the significant needs.
- Interconnection to IRNE and ultimately to the Pittock Block must remain as is currently in place. These interconnections must be capable of increasing bandwidth as the I-Net Users continue to demand increased capacity between networks and to the Pittock Block. The connection to the Internet must not create a slowdown or backup for the End Users.

² The 2005 I-Net Survey Results (Sparling Final Report 2006)

³ Community Institutional Network (I-Net) Survey for the Mt. Hood Cable Regulatory Commission (2009)

⁴ CTC Technology & Energy Fiber Optic Needs Assessment (2018)

ATTACHMENT 2
MHCRC SCIENTIFICALLY-VALID COMMUNITY
TECHNOLOGY RESIDENTIAL TELEPHONE SURVEY
REPORT

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- ATTACHMENT 2.A: Scientifically-valid Community Technology Residential Telephone Survey Results
- ATTACHMENT 2.B: Scientifically-valid Community Technology Residential Telephone Survey Underserved Community Results

Attachment 2

Scientifically-valid Community Technology Residential Telephone Survey Report

INTRODUCTION

As part of a broad community communications technology needs ascertainment on behalf of the Mt. Hood Regulatory Commission (MHCRC), CBG Communications, Inc. (CBG) and Riley Research Associates (RRA) conducted a residential telephone survey. Working with CBG, RRA surveyed cable television (Comcast, CenturyLink and Frontier) subscribers, other television service subscribers and non-subscribers within the MHCRC jurisdictions.

The goals of the residential telephone survey were to:

- Assess current and future local communications technology, including cable-related, needs and interests
- Understand technology access and use
- Gather insights into community media centers and local community access channel awareness and preferences
- Create demographic and satisfaction profiles of subscribers and non-subscribers

METHODOLOGY

MHCRC, CBG and RRA worked collaboratively to develop the survey methodology and questionnaire. A telephone methodology was developed to reach both subscribers and non-subscribers of cable television services.

RRA managed the survey using an experienced professional interviewing company. Interviewers were trained and supervised during the pretest, and quotas were monitored throughout the process to ensure the desired representation among the Multnomah County population. In addition, additional contacts were developed to ensure representation among at-risk populations, including communities of color, those with disabilities, and seniors.

The interviews were conducted between early November and early December in 2019. We employed both randomly-selected landlines and mobile phone numbers throughout Multnomah County, excluding only those not represented by MHCRC. Phone numbers were attempted multiple times at various times of day. Call back times were scheduled with respondents for their convenience. Spanish language interviews were performed with 32 respondents.

A total of 630 interviews were conducted, including 300 Comcast subscribers and 330 others, which included 30 with another cable provider, 45 with satellite service, and 255 who had none of these services.

A sample of 630 provides a margin of error of +/-3.9%, at a 95% level of confidence. The Comcast subscriber segment (n=300), and the non-cable subscriber segment (n=300) both yield a margin of

error of +/-5.6%. Sub-segments (such as gender categories or age groups) yield margins of error relative to that specific sample size.

Additionally, while the sample size of Frontier and CenturyLink television subscribers was smaller than that of the Comcast subscribers this was expected because of their substantially lower penetration numbers in the Multnomah County market place, and the responses from these groups still provide valuable insight into their opinions and behaviors.

The question-by-question analysis can be found in Attachment 2.A – Scientific Residential Survey Results, and includes results for Comcast Cable television subscribers, other television service subscribers and non-television subscribers. Cross-tabulations and verbatim responses are bound separately.

EXECUTIVE OVERVIEW

Subscribers to Cable Television Service

Customer Service

- ❖ Cable Subscribers were asked to rate their television service provider on a variety of customer service aspects (on a scale from Excellent to Poor). Overall subscribers rated their providers positively, spanning from excellent and good at 73% for Convenient local office hours, to a more negative rating of fair and poor at 24% for accurate and understanding billing statements. On the rating scale, a negative score $\geq 20\%$, indicates that there is an opportunity for improvement. (Q9-11)
 - Comcast subscribers rated *user-friendly automated telephone menu options* lower (23% indicated it was poor or fair) than other cable subscribers (17%).

Customer Service Aspects Comcast Cable Subscribers (N=300)	Excellent	Good	Fair	Poor	Don't Know/NA
Q9. Convenient local office hours	14%	60%	11%	3%	12%
Q10. Accurate and understanding billing statements	13%	58%	19%	4%	6%
Q11. Easy to Use automated telephone menu options	11%	53%	15%	8%	14%

Customer Service Aspects Other Cable Providers (N=30)	Excellent	Good	Fair	Poor	Don't Know/NA
Q9. Convenient local office hours	20%	43%	30%	3%	3%
Q10. Accurate and understanding billing statements	20%	50%	23%	3%	3%
Q11. Easy to Use automated telephone menu options	17%	60%	7%	10%	7%

Service Cost

- ❖ Cable Television Subscribers were asked including all the services, taxes and fees on their cable bill, what would they estimate their average monthly bill to be? Sixty-seven percent (67%) provided a response. The average cost per month was \$157.00 with the most common answer being \$200.00 a month. (Q5)

Cable Television Subscribers

Communication with the Service Provider

- ❖ About three-fifths of subscribers (58%) called their cable service provider for any reason in the past year, while 38% had not. Among those most likely to have called: (Q6)
 - Cable television subscribers with Internet
 - Of the cable subscribers who had contacted their provider, the most common way of contacting them was by telephone (93%), followed by online (6%), email (5%), online chat (5%), visit a retail store (4%), and by Virtual Assistant (1%). (Q7)
 - Of cable subscribers who had contacted their provider (N=191), 85% reported that the contact method they used was successful in resolving their issue. Thirteen percent (13%) said their issue was not resolved using that method of contact, and 2% could *not recall*. (Q8)

All Respondents

Local Community Access Channel Programming

- ❖ Almost half (46%) of survey respondents indicated that they were aware of the local community access channels provided over the cable channels. Almost three-fifths (57%) of cable subscribers were aware of the access channels, with 34% of non-cable subscribers being aware of the channels. (Q12)
 - Those most likely to be aware of the local community access channels include:
 - Those with at least some college education (87%)
 - Those who indicated a level of importance to having access to local community access channels (85%)
 - Of similar ranking, those with household incomes in the \$35-\$50K (55%) and \$50-\$75K (51%)
 - Ages 65 and over (53%)
 - Those with Internet in the home (49%)
 - Those either employed (44%) or retired (38%)
 - Almost two-thirds (64%) of survey respondents who are aware of the community access channels watch the local programming (5% watching *daily*, 8% watching *weekly*, 17% watching *once or twice a month*, and 34% watching *less than once or twice a month*), while just 36% *never watch* the channels. (Q13)

- Thirty-seven percent (37%) of Comcast cable subscribers and 22% of non-Comcast television subscribers (including Frontier, CenturyLink, Satellite Service Subscribers, and others) that were aware of the channels indicated that they watched the programming *at least once or twice a month*.
 - Those that were aware of the local community access channels and viewed any local community access channel programming were asked how they viewed the local programming: 65% indicated they viewed it on the cable channel, 21% viewed it online, 7% indicated that they viewed it both online and on their cable service, and 7% didn't remember. (Q14)
 - Those who watched the local programming on the cable channel were most likely to have both television service and Internet service in the home (77% of those that view on the cable channel).
- ❖ A substantial amount of survey respondents believe it is important for local community access channel programming to be available to all area residents, with 8% considering it essential, 30% saying very important, and 36% saying somewhat important. Twenty-three percent (23%) said it was not at all important, and 4% were unsure. (Q15)
 - Both cable subscribers and non-cable subscribers indicated a high rating of importance, with cable subscribers indicating a slightly higher level of importance (76%) than non-cable subscribers (70%) for local community access channel programming being available.
 - Those with Internet in the home were more likely to provide a higher level of importance (75%) for the availability of local community access channel programming than those residents without Internet (64%).
 - Those whose households watch local channels daily were most likely to consider the channels to be *very important or essential* (60%)

Privacy Protection Issues

- ❖ All respondents were asked to rate the importance of two privacy protection issues. The *protections against sharing, or sale of personal information* was the most important issue tested with a 95% importance level, while *no monitoring of service without authorization* was also considered highly important with a 94% importance level. These levels of importance indicate that an oversight role concerning these privacy protection issues continues to be an important issue. (Q34 and Q35)
 - Those most likely to rate privacy protections as essential include:
 - Those with incomes more than \$100,000 (Q34 - 56%; Q35 - 54%)
 - Those with Internet in the home (Q34 - 48%; Q35 - 45%)

Q.	Privacy Protection Issues – Importance	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/ NA
Q34	There are protections against sale or sharing of your personal information	44%	44%	7%	3%	2%
Q35	The cable company does not monitor your service without your authorization	41%	46%	7%	3%	3%

Internet/Broadband Usage

- ❖ Respondents were asked to name one or two communications products or services they don't currently have, but really need. While the majority answered, *nothing/I have everything I need* (82%), those who could name a product or service most frequently mentioned *affordable Internet* (5%), followed by *high-speed Internet/Broadband* (4%). (Q36)
- ❖ Respondents who mentioned a communications product or service that they needed were asked what barriers they faced in terms of obtaining or using those products or services. The majority named *cost/affordability* as a barrier (49%), with 13% saying no barriers and 9% indicating they didn't know, followed by *not being aware of options* (8%). (Q37)
- ❖ Respondents who have never subscribed to Internet at home (10% of all respondents) were asked what reasons or barriers prevented them from having Internet. Multiple answers were allowed and the most popular answer was that they *did not need or desire* Internet access at home (55%), followed by *cost/service was expensive* (29%), their *smartphone was all they needed* for Internet access (11%), and *that they had no device for accessing the Internet* (9%). (Q22)
- ❖ All Respondents were asked what places besides home they accessed the Internet. The majority access the Internet outside their home through *work* (46%), at a *restaurant/coffeeshop/bar* (45%), *public space/park* (34%), *at a friend's or family member's house* (31%), or *public library* (22%). Thirty percent (30%) said they *do not access* the Internet at all outside the home. (Q23)¹
 - Respondents with a home Internet subscription are most likely to access the Internet outside the home at *work* (50%) or at a *restaurant/coffeeshop/bar* (50%).
 - Respondents without Internet at home are also most likely to access the Internet outside the home at *work* (23%) and at a *restaurant/coffeeshop/bar* (22%). However, the highest response in this group was that they did not access the Internet outside their home either (48%).
- ❖ Respondents were asked how important it was to have places with free public access to the Internet. The majority placed a high level of importance on this, with 24% indicating it was essential, *37% indicating very important, 24% somewhat important, 14% not at all important and 1% didn't know*. (Q24)
- ❖ Respondents were asked how important it was that local government works to ensure all persons have affordable access to the Internet at home. Similar to ratings for free public access to the Internet, *25% indicated it was essential, 36% indicated very important, 24% somewhat important, 13% not at all important and 2% didn't know*. (Q25)
- ❖ Respondents were also asked whether they considered the Internet as essential to them as access to electricity (in other words an essential utility). Half of respondents indicated that it was (50%), while 48% said no. (Q26)

¹ Multiple answers were allowed.

- Those who indicated that the Internet was essential tended to:
 - be in the age range of 35-44 years old (66%)
 - have children in the home (59%)
 - have an annual household income of more than \$100K (68%)
 - have Internet in the home (55%)
 - have cable television services in the home (53%)
 - have a 4-year college degree (40%), and
 - be employed (58%)

- ❖ Respondents were also asked what they would consider a reasonable cost to pay for Internet access. Sixty-three percent (63%) provided a cost between \$1.00 and \$200.00, *with \$37.51 being the average reasonable cost and \$20.00 (N=76) being the most common answer provided.* (Q27)
 - Those who indicated \$20.00 as a reasonable cost tended to:
 - be in the age range of 50-75 years old (45%)
 - have an annual household income of more than \$100K (68%)
 - be without children in the home (53%)
 - have Internet in the home (88%)
 - be those without television services in the home (47%)
 - have a 4-year college degree (40%), and
 - be either employed or self-employed (61%)

Local Communication

- ❖ Respondents were asked how they preferred to communicate with or receive information from their local government. The most popular way to communicate was US mail at 34%, followed by email at 29%, Internet/online at 20% and telephone at 18%. (Q33)

- ❖ Respondents were also asked the most effective way to get local emergency information, and two in five respondents indicated text alerts was the most efficient, followed by television (36%) and the Internet (21%). (Q32)

Employment and the Internet

- ❖ Respondents were asked to describe their current employment status. Overall, *57% of the respondents are employed either fulltime or part-time; 37% are currently not employed; and 7% declined to answer.*
 - Fifty-eight percent (58%) of those that are employed believe that the Internet is essential.

- ❖ Respondents who indicated that they were employed were asked how often they telecommute or work from home using the Internet. *Thirteen percent (13%) indicated always, 22% indicated frequently, 30% occasionally, and 34% rarely or never.* (Q43)
 - Fifty-eight percent (58%) of those that telecommute think that Internet is essential.

Underserved Communities

People of Color (N=149)

- ❖ Over one in four (26%) respondents described themselves as a person of color.²
 - Those who indicated a race other than white tended to:
 - be cable television subscribers
 - be more likely to contact their cable provider in the past year by telephone
 - be less aware of community access channel programming, but watch it more often when they are aware and assign a high level of importance to local community access channel programming
 - for those without Internet in the home (19% of people of color), the main barrier was cost. Smartphone is all I need and no device were also barriers to Internet in the home.
 - indicate that free Internet was a reasonable cost to pay for Internet (25% of people of color responding to the question)
 - find cost and affordability as barriers to getting and using communications technologies of equal concern as for respondents overall
 - be more likely to rent their home than other survey respondents
 - be employed fulltime and telecommute for work occasionally. Frequently telecommuting for work was the same as for overall respondents and always telecommuting was lower than for overall respondents.

Persons Living with Disabilities (N=77)

- ❖ Over one in ten (12%) respondents indicated that they or a family member in their home have a disability.
 - These respondents tended to:
 - be cable television subscribers
 - have an ambulatory, vision or hearing disability
 - be more likely to contact their cable provider in the past year by telephone for vision disability and online for hearing disability
 - be equally aware of local community access channel programming as respondents overall, and view at least once or twice a month
 - find local community access channel programming important
 - equally have Internet in the home when compared to respondents overall
 - for those who used to have Internet in the home (one in five of persons living with a disability), the main reason they stopped subscribing was due to cost/expense of service
 - for those who never had Internet in the home (16% of people living with a disability), one in four reported cost of service and equipment as the number one barrier to subscribing to home Internet. They also mentioned no need / no desire as an inhibitor at 58%
 - similar to overall respondents, access the Internet outside the home from a public library or a restaurant or café

² Some respondents provided multiple categories for their race instead of mixed.

- indicate that free public access to the Internet is very important
- consider access to the Internet an essential utility (56%) similar to overall respondents
- have both a cellphone and landline
- for hearing-disabled, mostly use their landline phone while vision-disabled, mostly use their cellphone
- similar to overall respondents, find cost/affordability as a barrier to getting and using communications technologies
- largely are in the age range of 56-74 years old
- less likely to own their own home and more likely to rent
- equally as likely to have no children in the home as overall respondents
- equally have either an annual household income less than \$25K or between \$35-\$50K
- be unable to work due to their disability or retired

Seniors (N=200)

- ❖ One-third (32%) of respondents reported being seniors (in the age category of 65 and older)
 - These respondents tended to:
 - be largely cable television subscribers
 - similar to overall respondents, have a monthly cable bill more than \$150
 - be aware of community access channel programming, with one-third (33%) viewing at least once or twice a month
 - find local community access channel programming important. Three in four (76%) indicated a level of importance (Essential, Very Important, or Somewhat Important)
 - be less likely to have Internet in the home than overall respondents (71% of seniors have Internet in the home)
 - for those who never had Internet in the home (19% of seniors) indicated no need / no desire (74%) as the main reason or barrier for not having Internet in the home, this was followed by cost of service and equipment (23%)
 - mostly not access the Internet outside the home
 - express an equal level of importance for free public access to the Internet for both “somewhat important” and “very important” (32% each)
 - be more likely to not consider the Internet as an essential utility
 - highly desire free Internet (22% of seniors; 34% of seniors over 75)
 - use their landline mostly
 - own their own home
 - have no children in the home
 - have an annual household income either less than \$25K or between \$35-75K
 - be retired (80% of seniors)

Subscription Profiles

Television Services

Television Service Subscribers

- Of the Television Service Subscribers (N=375), the vast majority subscribed to Comcast's television services (80%), while just 5% were with CenturyLink, and 3% were with Frontier. (Q2)

Non-Cable Subscribers

- Of the Non-cable subscribers (13% of television service subscribers), 91% were with Dish Network or DirecTV, and the remaining respondents either noted a cell provider or didn't know. (Q1 and Q2)
- Non-cable television subscribers were also less aware of the local community access channels (36% were aware)

Non-Television Service Subscribers

- Two-fifths (40%) of survey respondents indicated that they did not have cable television or satellite video service in their home. (Q1)

Internet Services

- The vast majority of all respondents have a home Internet subscription (82%), namely with Comcast (66%) or CenturyLink (22%). Roughly one in five said they have no home Internet services (18%). (Q16 and Q17)
 - The majority of Comcast television subscribers indicated that they also subscribe to Comcast home Internet services (82%), while 4% indicated subscribing to CenturyLink Internet services and 4% chose not to answer this question (10% indicated that they did not have Internet at home).
 - Thirty-eight percent (38%) of respondents that subscribe to Comcast Internet indicated that they subscribed to the discount program "Internet Essentials". (Q18)
 - Some of those without Internet service in the home also reported having had Internet services at one time (43%). Forty percent (40%) of those that had Internet services in the home previously indicated that they had subscribed to Comcast's "Internet Essentials" discount program. (Q19 and Q20)
 - Respondents who no longer subscribed to Internet in the home (N=47), indicated that the main reason for no longer subscribing was that they had no need or desire (43%/N=20). This was followed by cost or expense of service (38%/N=18). Service issues were also reported as to why respondents had stopped subscribing to Internet in the home (11%/N=5). (Q21)
 - This group of respondents was most likely to have no children in the home, be over the age of 65, have a household income less than \$35K, and have no television service in the home.

- By demographic populations: Those without Internet is significantly related to age (older), income (lower), employment status (retired) and telecommuting (rarely/never).
 - Those without Internet services in Multnomah County are more likely to:
 - Not subscribe to cable television.
 - Report someone in the home that needs support for independent living.
 - Rate Comcast lower in regards to accurate and understandable billing statements.
 - Be less aware as a group of access programming and those that are aware only engage with the cable version of local programming.
 - Have never subscribe to the Internet
 - Engage in outside of the home Internet activity in all tested locations except private restaurant/coffee shop/bar
 - Rate free public Internet access as less important, and less important that the government ensures others have it
 - Only indicate free as how much they would be willing to pay for Internet services
 - Only use a landline for telephone service

Phone Services

- About two thirds (65%) of respondents reported having telephone service in the home, with half of those having Comcast for telephone services, while 30% use CenturyLink, 5% use Frontier and 3% were with miscellaneous providers. (Q31)
- Over one-third of respondents reported only having a cellphone (35%).
- For those respondents with both a cellphone and landline service (58%), 42% reported they mostly use their cellphone. (Q28 and Q29)
- Seven percent (7%) of those respondents without Internet service in the home (N=113) indicated that their smartphone was enough for their Internet use.

DEMOGRAPHIC PROFILES³

Demographic Characteristics	Residential Phone Survey ⁴				Census
	Total Residential	Comcast Subscribers	Other Television Subscribers	Non-Television Subscribers	Census Mult Co ²
Gender					
Male	47%	46%	46%	48%	49%
Female	51	52	52	49	51
Ethnicity					
Caucasian	66%	63%	73%	66%	69%
Latino/Hispanic	8	12	2	5	12
Asian ⁵	6	5	4	5	8
Black	6	7	7	4	6
American Indian	2	2	1	2	1
Native Hawaiian	1	2	0	1	1
Miscellaneous / Multiple ⁶	4	12	13	13	5
Living status					
Own	70%	76%	68%	64%	54%
Rent	23	18	21	29	46
Children in the home	25%	26%	21%	25%	
Employment					
Employed	57%	54%	45%	63%	54%
Unemployed	37	39	46	30%	⁷
Live in...					
Portland	83%	84%	78%	83%	80%
Gresham	11	11	18	10	14
Troutdale	2	3	1	2	2
Fairview	1	1	-	3	1
Wood Village	1	1	-	2	1
Elsewhere in Multnomah Co	2	1	2	0	2
Outside Multnomah Co	NA	NA	NA	NA	NA
Education level⁸					
High school, GED or less	12%	14%	11%	12%	24%
Some college or more	80	80	79	79	74
Age⁹					
18-25	3%	1%	3%	5%	
25-34	10	7	7	14	
35-44	18	12	16	27	
45-54	16	20	13	13	
55-64	15	16	20	12	
65+	32	38	37	23	13 ¹⁰

³ Data taken from US Census Bureau State and County QuickFacts website, July 1, 2018.

⁴ Total responses will be less than 100%, because those that declined are not shown.

⁵ Survey response percentages includes those that indicated more than one race.

⁶ Includes Middle Eastern and Northern Africa, as well as those reporting more than one ethnicity.

⁷ Unemployed data was not provided in the QuickFacts

⁸ <https://www.towncharts.com/Oregon/Education/Multnomah-County-OR-Education-data.html>

⁹ Telephone survey included the following age categories: 18-25; 25-34; 34-44; 45-54; 55-64, 65+

¹⁰ Census QuickFacts reports 65+.

ATTACHMENT 2.A
SCIENTIFICALLY-VALID COMMUNITY TECHNOLOGY RESIDENTIAL
TELEPHONE SURVEY RESULTS

Attachment 2.A
Scientifically-valid Community Technology Residential Telephone Survey Results
(N=630 survey respondents)¹

S1. In which of the following cities do you live? (N=630)

Portland	83 %
Gresham	11 %
Troutdale	2 %
Fairview	1 %
Wood Village	1 %
Elsewhere in Multnomah County?	2 %

Q1. Does your household currently subscribe to any cable television or satellite video service? (N=630)

Yes	60 %
No	40 %

Q2. Which company provides your services? (N=375)

Comcast or Xfinity (Subscriber)	80%
Frontier (Subscriber)	3%
CenturyLink (Subscriber)	5%
Dish/DirecTV	11%
Reliance	0.3%
Other (AT&T, Verizon)	0.5%
Decline	0.5%

(Comcast Subscribers N=300; Frontier Subscribers N=12; CenturyLink N=18;
Non-Cable Subscribers N=300)

Q3. Do you or does someone in your household identify with having or living with a disability? (N=77)

Yes – myself	7%
Yes - someone else in the household	5%
No	87%
(Don't recall / Decline)	1%

¹ Unless otherwise noted by "N=", all questions were asked of 630 survey respondents and represent the totality of respondents answers.

Q4. As we conduct the survey, we ask that you keep in mind the needs of your household member living with a disability. Please describe the nature of the disability. (Mark all that apply) (N=77 with 87 of the disability options chosen; “declined” was N=10)

Hearing	7%
Vision/Visual	13%
Cognitive/Intellectual/Developmental	7%
Speech/Communication	1%
Ambulatory/Mobility/Physical	53%
Self-care	1%
Independent living	1%
Mental Health	13%
Other (please specify) - Diabetes, Pain	4%
(Declined)	13%

Cable Television Subscribers (N=330)

Q5. Including all the services, taxes and fees on your cable bill, what would you estimate your average monthly bill to be? (N=220) (Don’t Know/Declined = 110)

Range: \$20.00 - \$400.00

(Mode = \$200; Average = \$157; Median = \$150)

1. \$1 - \$50	5%
2. \$51-100	22%
3. \$101-150	25%
4. \$151 – 200	31%
5. More than \$201	17%

Q6. In the past year, have you tried to contact your cable company for any reason?

Yes	58% / (N=191)
No	38%
(Don’t recall)	4%

Q7. How did you attempt to contact them? (Mark all that apply) (N=191)

Telephone	93%
Email	5%
Online / Website	6%
Online chat	5%
Virtual Assistant	1 %
Visit to retail store	4%

Q8. Did the contact method you used allow you to successfully resolve the issue? (N=191)

Yes	85%
No	13%
(Don't recall / Declined)	2%

Using a scale of excellent, good, fair or poor, how would you rate your cable company in terms of the following? (N=330)

	Excellent	Good	Fair	Poor	Don't Know/NA
Q9. Convenient local office hours	14%	57%	13%	3%	13%
Q10. Accurate and understanding billing statements	14%	56%	19%	4%	7%
Q11. Easy to use automated telephone menu options	11%	53%	14%	8%	15%

Local Community Programming

Q12. In your area, local community programming is available on cable channels and online from programmers like Portland Open Signal, Metro East Community Media and others, that show local community productions, city council and county board meetings, as well as local school and community college programs and information. Are you aware of these local community channels? (N=630)

Yes	46% (N=287)
No	53%
(Don't know [DK]/Don't remember [DR])	1%

All Cable Subscribers (N=330)	57% aware	43% unaware	
All Non-Cable Subscribers (N=300)	34% aware	64% unaware	2% DK/DR

Q13. About how frequently, would you say your household views any local community programming? (N=287)

Daily	Weekly	Once or twice a month	Less often than once or twice a month	Never
5%	8%	17%	34%	36%

Q14. Do you view the local community programming on: (N=183)

Cable	65%
Online	21%
Or both?	7%
DK/DR	7%

Ask All Respondents (N=630)

Q15. Regardless of how often you may watch, how important is it that local community programming be available? Would you say it's...

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
All Respondent	8%	30%	36%	23%	4%
All Cable Subscribers	9%	31%	36%	20%	4%
All Non-cable Subscribers	7%	28%	35%	26%	4%

Internet Services

Q16. When it comes to Internet services – besides using a smart phone with cell service – does your household subscribe to any home Internet service?

Yes 82% (N=512)
 No 18%
 (Don't recall / Decline) 1%

Q17. Which company provides your home Internet? (N=512)

Comcast / Xfinity 66% (N=341)
 Century Link 22%
 Direct TV (Satellite) 0.40 %
 Frontier 5%
 Other: (N=3) 0.5%
 (Fibersphere Communications, Earthlink, Verizon
 (Don't know / Decline) 6%

Q18. Do you have Comcast's "Internet Essentials"? (N=341)

Yes 38%
 No 32%
 (Don't recall / Decline) 30%

Q19. Has your household ever had Internet services at home? (N=115)

Yes 43% (N=50)
 No 54%
 (Don't recall) 3%

Q20. Was that service Comcast's Internet Essentials? (N=50)

Yes	40%
No	36%
(Don't recall)	24%

Q21. Why did you stop subscribing to Internet services in the home? (multiple responses) (N=50)

Cost / Expense of service	40%
Service Issues	10%
Speed of Service	4%
Didn't allow me to do what I wanted	4%
No need / No desire	42%
No device	4%
Do not know how to use	2%
Smartphone is all I need	2%
Other / Miscellaneous	6%
(Don't know)	2%

Q22. What are the main reasons or barriers you do not have Internet at home? (never had Internet at current home location) (multiple responses) (N=65)

Cost / Expense of service	29%
Cost/Expense of Equipment	5%
Security / Safety concerns	2%
No need / No desire	55%
No device	9%
Do not know how to use	5%
Smartphone is all I need	11%
Other (Specify): (N=2)	3%
Not Available in my building (Zip code: 97210); It's my personal choice	
Don't know/Decline	5%

Q23. At what places outside of your home do you access the Internet, if any? (multiple responses) N=630

Govt office / Public space / Public Park	34%
Work/Employer/Office	46%
Friend or family's house	31%
School	9%
Public: library	22%
Private: Restaurant / Coffee shop / Bar	45%
(Do not access)	30%
Other: (specify) (N=6)	1%
Cellphone; Airport; Dr.'s Office;	
Cruise Ship; Hospital; Gym	
(Don't know)	1%

Q24. How important is it that there are places with free public access to the Internet?

Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
24%	37%	24%	14%	1%

Q25. How important is it that your local government works to ensure all persons have affordable access to the Internet at home?

Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
25%	36%	24%	13%	2%

Q26. Is access to the Internet as essential to you as access to electricity (in other words an essential utility)?

Yes	50%
No	48%
Don't Know/Decline	2%

Q27. What would you consider a reasonable cost to pay for Internet access? (N=630)

Range: 1\$-\$200 (Mode =\$20/N=76; Average =\$37.51; Median =\$30)
(Also of note: N=74 indicated \$50; N=64/\$30)

Provided a response above zero	63% (N=400)
Free / Nothing / Zero	19%
Don't know/Declined	18%

Phone Services

Q28. Does your household have a cell phone, or a landline (which is a home-based telephone that isn't a cell phone) or both?

Cell only 35% Landline only 6% Both 58% (N=367) Don't recall/Decline 1%

Q29. Do you: (N=367)

Mostly use your cell phone?	42%
Mostly use your landline?	23%
Or use your cell phone and landline equally?	35%

Q30. Which company provides your landline phone service? (N=410)

Comcast/Xfinity	50%
Other Internet Phone Service	0.10 %
Century Link	30%
Frontier	5%
Other Company: AT&T	3%
(Don't know / Decline)	12%

Emergency Information

Q31. What do you consider the most effective way to get local emergency information? (multiple responses) N=630

Television	36%
Email	5%
Text alerts (Amber Alerts)	41%
Radio	13%
Internet	21%
Social media	4%
Sirens	1%
Telephone	2%
Weather App/News App	1%
Newspaper	3%
Cellphone	6%
Other: (N=5)	1%
Library, In person, I Pad, Friends, Call 911	
(Don't know / Decline)	3%

Q32. How do you prefer to communicate with or receive information from your local government? (Multiple Responses)

Telephone	18%
Internet / Online	20%
Go to that office /In-person	2%
Social media post	2%
US Mail	34%
Email	29%
Cellphone	1%
Television	7%
Text Message/alert	2%
Radio	2%
Newspaper	2%
Newsletter	6%
Attendance at a Public Meeting	0.5%
Other (Specify) (N=1) Library	0.2%
(Don't know/Decline)	7%

Consumer Protections

Q33. How important is it that there are protections against your service provider selling or sharing your personal information?

Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
44%	44%	7%	3%	2%

Q34. How important is it that your service providers do not monitor your service without your authorization? (Read list)

Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
41%	46%	7%	3%	3%

Q35. Based on everything we have talked about, what are the one or two communications products or services you don't have but really need? (Up to two responses) (N=630)

Basic Television programming	2%
On-Demand program selection	1%
Basic Internet service	2%
High / Higher-speed Internet / Broadband	4%
Telephone service	1%
Email services	0.1%
Social Media (i.e., Facebook, Twitter)	0.1%
Government information	2%
Connections to home security / Heat-AC / "Nest"	0.3%
Affordable Internet	5%
Emergency information	1%
Community information / programming	2%
A cell / mobile phone	2%
(None / Have everything I need)	82%
Other: (N=4) Computer; affordable cable, teleport, community programming on streaming service	1%
(Don't know / Decline)	2%

Q36. In terms of the products or service(s) you just mentioned, what are the reasons or barriers that are keeping you from getting or using those? (Mark all that apply) (N=108)

Cost / Affordability	49%
Don't want / need	4%
Alternatives available	3%
Not available in my area	4%
Safety / Trust	3%
Not aware of options	8%
No computer / No device / Hardware (Platform)/Software issue	3%
(None / No barriers)	13%
Education/Technology Education	1%
(Don't know / Decline)	9%
Other (Specify) (N=7)	6%
<ul style="list-style-type: none"> • I Do Not Have TV • Lack of competition among Internet service providers • lack of information, limited options and lack of Internet marketing • My service provider does not provide the High-Speed reliable Internet I want • Not available in my apartment complex • Signal Issue 	

- There is no competition among the providers which makes them charge us anything and we have no choice.

Demographics

Q37. May I ask your age? (N=468)

Range: 20 – 93 years old (Median = 54 yrs. old; Average =54.3 yrs. old)

Initial Decline (N=162) 26%

Q38. May I ask - into which of the following age groups you fall? (N=162)

	<u>N=162</u>	<u>All Respondents (N=630) Q.37 & Q.38</u>
18-24	3%	3%
25-34	6%	10%
35-44	15%	18%
45-54	14%	16%
55-64	12%	15%
Or 65+	25%	32%
(Second Decline)	25%	7% (Decline)

Q39. How would you describe your ethnicity? (multiple responses)

American Indian or Alaska Native	2%
Asian	6%
Black or African American	6%
Hispanic or Latino/a/x	8%
Native Hawaiian or Pacific Islander	1%
Middle Eastern or Northern African	0.20 %
White	66%
Mixed	4%
Unknown/Don't know	0.50 %
Decline/Don't want to answer	10%
Other (Please specify): American	0.20 %

Q40. Do you rent or own your home?

Own	70%
Rent	23%
Other (Specify) Buy in	0.10 %
(Decline)	7%

Q41). Does your household include anyone 18 years old or younger?

Yes	25%
No	70%
Decline	5%

Q.42 You indicated earlier that you or a member of your household has or is living with a disability, what communications technology-assistive devices or services, would you consider of critical importance? (multiple responses) (N=84)

Cellphones / Smartphones apps	30%
Internet access / High speed Internet	11%
Tablets / computers	4%
Devices to aid the deaf	2%
TV / Cable / TV Channels	4%
No devices / None	31%
Refused/Don't Know	8%
Other	11%

Emergency Services
Surveillance devices with cellphone
Telephone (3)
News (1)
Nebulizer
Library books on tape
Tape recording devices

Q.43 What frustrations are there in the use of communications technology, including assistive and non-assistive devices? (N=16)

1. Accuracy of data is a concern with this kind of the technology
2. Charging the Cochlear Implant batteries
3. I have taken four computer classes so far but they keep on updating the computer and cellphone technology so fast that it is hard for me to keep up
4. Just Keeping on top of everything all the new stuff that comes out
5. Radiations and the health issues related to this
6. The android operating system
7. The cost
8. Cable prices are too high
9. I do not appreciate technology companies and my service provider choosing for me what information I can access
10. other people sometimes
11. Robocalls
12. Survey calls
13. Technology should be tape recorded
14. The problem I have is not reliable all time
15. Use them and learn them
16. Charging is difficult

Q44. What is the highest level of education you have completed?

Some high school or less	0.50 %
High school graduate	12%
Some college	18%
Trade school	2%
Associate Degree / 2-year degree	10%
College / 4-year degree	32%
Postgraduate or professional degree	17%
(Decline)	8%

Q45. What describes your current employment status?

Employed / Working Full-time	40%
Employed / Working Part-time	5%
Self-Employed/Own business	7%
Working and in School	0.10 %
Retired / Working part-time	1%
Retired / Working full-time	3%
Fulltime Student	1%
Seeking employment / Looking for work	3%
Retired	31%
Disabled	2%
Volunteering	0.30 %
(Decline)	7%
Other (Specify) (N=1) Home Maker	0.10 %

Q46. How often do you telecommute or work from home using the Internet?² N=358

Always	Frequently	Occasionally	Rarely or Never	Don't Remember/NA
13%	22%	30%	34%	2%

Q47. Which of the following broad categories best describes your total annual household income, before taxes?

<\$25k	7%
\$25<\$35k	5%
\$35<50k	10%
\$50<\$75K	14%
\$75k<\$100K	13%
\$100K <\$150K	9%
\$150K or more	7%
(Don't know/Declined)	35%

² Pre-pandemic

Q48. How would you characterize your gender?

Female	51%
Male	47%
Gender Expansive	1%
Decline/don't want to answer	2%

ATTACHMENT 2.B

**SCIENTIFICALLY-VALID COMMUNITY TECHNOLOGY RESIDENTIAL
TELEPHONE SURVEY UNDERSERVED COMMUNITY RESULTS**

Attachment 2.B
Scientifically-valid Community Technology Residential Telephone Survey
Underserved Community Results

(Underserved Communities of Interest; Living with a Disability N=77)¹

Households (HH) living with a disability (N=77)

S1. In which of the following cities do you live? (N=77)

	<u>Self² (N=45)</u>	<u>HH Member³ (N=32)</u>
Portland	62%	88%
Gresham	18%	6%
Troutdale	7%	0%
Fairview	7%	0%
Wood Village	4%	3%
Elsewhere in MC	2%	3%

Q1. Does your household currently subscribe to any cable television or satellite video service? (N=77)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Yes	67 % (N=30)	63 % (N=20)
No	33 %	38 %

Q2. Which company provides your services? (N=50)

	<u>Self (N=30)</u>	<u>HH Member (N=20)</u>
Comcast or Xfinity (Subscriber)	50 % (N=16)	80 % (N=16)
Frontier (Subscriber)	13 % (N=4)	0 % (N=0)
CenturyLink (Subscriber)	13 % (N=4)	5 % (N=1)
Dish/DirecTV	20 %	15 %
Reliance	3 %	0 %

Q3. Do you or does someone in your household identify with having or living with a disability? (N=77)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Yes – myself	100%	
Yes - someone else in the household		100%

¹ Unless otherwise noted by “N=”, all questions were asked of 77 survey respondents of persons or households living with a disability and represent the totality of respondents answers.

² Respondent identified themselves as living with a disability.

³ Respondent identified a household (HH) member living with a disability.

Q4. As we conduct the survey, we ask that you keep in mind the needs of your household member living with a disability. Please describe the nature of the disability. (Mark all that apply) (N=77)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Hearing	2 %	13 %
Vision/Visual	16 %	9 %
Cognitive/Intellectual/Developmental	2 %	9 %
Speech/Communication	0 %	3 %
Ambulatory/Mobility/Physical	53 %	53 %
Self-care - difficulty bathing or dressing	4 %	0 %
Independent living	2 %	3 %
Mental Health	13 %	13 %
Other (please specify) - Diabetes, Chronic Pain	4%	0 %
(Declined)	13%	13 %

Cable Television Subscribers (N=41)

Q5. Including all the services, taxes and fees on your cable bill, what would you estimate your average monthly bill to be? (N=41)

Self - Disabled Average \$134.00; Household Member – Average \$209.00

	<u>Self (N=24)</u>	<u>HH Member (N=17)</u>
1. \$1 - \$50	6%	0%
2. \$51-100	29%	10%
3. \$101-150	35%	10%
4. More than \$151	29%	80%

Local Community Programming

Q12. In your area, local community programming is available on cable channels and online from programmers like Portland Open Signal, Metro East Community Media and others, that show local community productions, city council and county board meetings, as well as local school and community college programs and information. Are you aware of these local community channels? (N=77)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Yes	44%	47%
No	56%	50%
(Don't know [DK]/Don't remember [DR])	0%	3%

Q13. About how frequently, would you say your household views any local community programming? (N=35)

	Daily	Weekly	Once or twice a month	Less often than once or twice a month	Never
Self – Disabled (N=20)	5%	20%	20%	40%	15%
Household Member (N=15)	0%	0%	27%	53%	20%

Q14. Do you view the local community programming on: (N=29)

	<u>Self (N=17)</u>	<u>HH Member (N=12)</u>
Cable	65%	58%
Online	12%	17%
Or both?	6%	8%
DK/DR	18%	17%

Ask All Respondents (N=77)

Q15. Regardless of how often you may watch, how important is it that local community programming be available? Would you say it's... (N=77)

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
Self – Disabled (N=45)	11%	27%	29%	29%	4%
Household Member (N=32)	3%	41%	38%	19%	0%

Internet Services

Q16. When it comes to Internet services – besides using a smart phone with cell service – does your household subscribe to any home Internet service?

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Yes	76%	66%
No	24%	34%

Q17. Which company provides your home Internet? (N=55)

	<u>Self (N=34)</u>	<u>HH Member (N=21)</u>
Comcast / Xfinity	44% (N=15)	81% (N=17)
Century Link	26%	14%
Frontier	24%	0%
Direct TV (Satellite)	0%	5%
(Don't know / Decline)	6%	0%

Q18. Do you have Comcast's "Internet Essentials"? (N=32)

	<u>Self (N=15)</u>	<u>HH Member (N=17)</u>
Yes	33%	41%
No	40%	6%
(Don't recall / Decline)	27%	53%

Q19. Has your household ever had Internet services at home? (N=22)

	<u>Self (N=11)</u>	<u>HH Member (N=11)</u>
Yes	55%	36%
No	45%	64%

Q20. Was that service Comcast's Internet Essentials? (N=10)

	<u>Self (N=6)</u>	<u>HH Member (N=4)</u>
Yes	17%	25%
No	50%	25%
(Don't recall)	33%	50%

Q21. Why did you stop subscribing to Internet services in the home? (multiple responses) (N=10)

	<u>Self (N=6)</u>	<u>HH Member (N=4)</u>
Cost / Expense of service	50%	75%
Service Issues	17%	25%
No need / No desire	50%	0%
No device	0%	25%
Other (Not available)	17%	0%

Q22. What are the main reasons or barriers you do not have Internet at home? (multiple responses) (N=12)

	<u>Self (N=5)</u>	<u>HH Member (N=7)</u>
Cost / Expense of service	20%	29%
Cost/Expense of Equipment	20%	0%
No Device	0%	14%
No need / No desire	60%	57%
Do not know how to use	20%	0%
Smartphone is all I need	0%	14%

Q23. At what places outside of your home do you access the Internet, if any? (multiple responses) N=77

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Work/Employer/Office	18%	38%
Private: Restaurant / Coffee shop / Bar	29%	41%
Govt office / Public space / Public Park	33%	25%
Friend or family's house	29%	34%
Do not access	47%	38%
Public: library	20%	28%
School/University	4%	6%
Other: (specify) (N=2)	2%	3%
Gym & Health Cub; Hospital		
Don't know	4%	3%

Q24. How important is it that there are places with free public access to the Internet?

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
Self N=45	22%	44%	13%	20%	0%
HH Member N=32	22%	38%	22%	13%	6%

Q25. How important is it that your local government works to ensure all persons have affordable access to the Internet at home?

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
Self N=45	24%	38%	24%	13%	0%
HH Member N=32	25%	34%	22%	13%	6%

Q26. Is access to the Internet as essential to you as access to electricity (in other words an essential utility)? (N=77)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Yes	58%	53%
No	42%	47%

Q27. What would you consider a reasonable cost to pay for Internet access? (N=77)

Self - Range: \$10-\$200; Average = \$41.82

HH Member – Range: \$10-\$200; Average = \$38.44

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Provided a response above zero	62%	50%
Free / Nothing / Zero	22%	16%
Don't know/Declined	16%	34%

Phone Services

Q28. Does your household have a cell phone, or a landline (which is a home-based telephone that isn't a cell phone) or both? (N=72)

Self (N=45)

Cell only 18% Landline only 7% Both 76% (N=34)

HH Member (N=32)

Cell only 16% Landline only 6% Both 78% (N=25)

Q29. Do you: (N=59)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Mostly use your cell phone?	26%	32%
Mostly use your landline?	29%	24%
Or use your cell phone and landline equally?	44%	44%

Q30. Which company provides your landline phone service? (N=64)

	<u>Self (N=37)</u>	<u>HH Member (N=27)</u>
Comcast/Xfinity	30%	59%
Century Link	32%	33%
Frontier	22%	0%
Other Company: Sprint	3%	0%
(Don't know / Decline)	14%	7%

Emergency Information

Q31. What do you consider the most effective way to get local emergency information? (multiple responses) N=77

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Text alerts (Amber Alerts)	44%	41%
Television	40%	44%
Internet	16%	19%
Radio	0%	16%
Email	7%	3%
Social media	2%	6%
Newspaper	2%	6%
Telephone	0%	9%
Weather App/News App	2%	0%
Sirens	2%	3%
Other: (N=1) Call 911	0%	0%
(Don't know / Decline)	7%	3%

Q32. How do you prefer to communicate with or receive information from your local government? (Multiple Responses) (N=77)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
US Mail	20%	22%
Email	22%	22%
Internet / Online	24%	13%
Telephone	16%	25%
Newspaper	13%	9%
Television	4%	13%
Social media	0%	3%
Radio	2%	3%
Text Message/alert	0%	6%
Go to that office /In-person	0%	3%
Other (Specify) (N=1) Library	2%	0%
(Don't know/Decline)	9%	3%

Consumer Protections

Q33. How important is it that there are protections against your service provider selling or sharing your personal information?

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
Self N=45	53%	42%	4%	0%	0%
HH Member N=32	38%	53%	3%	0%	6%

Q34. How important is it that that your service providers do not monitor your service without your authorization? (Read list)

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
Self N=45	51%	44%	2%	2%	0%
HH Member N=32	44%	44%	3%	3%	6%

Q35. Based on everything we have talked about, what are the one or two communications products or services you don't have but really need? (Up to two responses)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Basic Television programming	2%	6%
On-Demand program selection	4%	6%
Basic Internet service	2%	0%
High / Higher-speed Internet / Broadband	9%	3%
Government information	7%	0%
Other wireless devices (Smartphone, Tablet)	2%	0%
Affordable Internet	7%	6%
Home Security/AC, heat/Nest	0%	3%
Community information / programming	4%	0%
(None / Have everything I need)	71%	81%
Other: (N=2) Computer; affordable cable	0%	3%
(Don't know / Decline)	4%	0%

Q36. In terms of the products or service(s) you just mentioned, what are the reasons or barriers that are keeping you from getting or using those? (Mark all that apply) (N=17)

	<u>Self (N=11)</u>	<u>HH Member (N=6)</u>
Cost / Affordability	64%	50%
Hardware or Software issue	0%	17%
Not available in my area	9%	0%
Not aware of options	9%	0%
Alternatives available	9%	0%
Safety / trust	0%	17%
(Don't know / Decline)	9%	33%

Demographics

Q37. May I ask your age? (N=77)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
18 – 24	2%	6%
25 – 34	7%	6%
35 – 44	7%	9%
45 – 54	16%	16%
55 – 64	29%	13%
65 – 74	27%	34%
75+	7%	9%
Declined	7%	6%

Q39. How would you describe your ethnicity? (multiple responses)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
American Indian or Alaska Native	7%	0%
Asian	0%	6%
Black or African American	2%	3%
Hispanic or Latino/a/x	4%	13%
White	69%	72%
Mixed	4%	3%
Decline/Don't want to answer	13%	9%

Q40. Do you rent or own your home?

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Own	47%	66%
Rent	47%	28%
Decline	7%	6%

Q41). Does your household include anyone 18 years old or younger?

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Yes	13%	28%
No	84%	66%
Decline	2%	6%

Q.42 You indicated earlier that you or a member of your household has or is living with a disability, what communications technology-assistive devices, would you consider of critical importance? (multiple answers) (N=77)

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Cellphones / Smartphones apps	33%	38%
Internet access / High speed Internet	13%	9%
Devices to aid the deaf	0%	6%
TV / Cable / TV Channels	2%	9%
No devices / None	40%	25%
Tablets/computers	2%	3%
Other	4%	6%
Emergency services, Surveillance devices with cell phone.		
Library books on cave, Tape recording; Nebulizer		
Decline	9%	6%

Q.43 What frustrations are there in the use of communications technology, including assistive and non-assistive devices? (N=3)

1. Technology should be tape recorded.
2. Other people sometimes.
3. Radiations and the health issues related to this.

Q44. What is the highest level of education you have completed?

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Some high school or less	0%	0%
High school graduate	18%	31%
Some college / trade school	24%	22%
Associate Degree / 2-year degree	11%	6%
College / 4-year degree	22%	25%
Postgraduate or professional degree	13%	9%
(Decline)	11%	6%

Q45. What describes your current employment status?

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Employed / Working Full-time	16%	25%
Employed / Working Part-time	2%	6%
Self-Employed/Own business	0%	9%
Retired / Working full-time	4%	0%
Seeking employment / Looking for work	7%	3%
Retired	38%	47%
Disabled/unable to work	24%	3%
Volunteering	2%	0%
Declined	7%	6%

Q46. How often do you telecommute or work from home using the Internet? N=24⁴

	Always	Frequently	Occasionally	Rare or Never	Don't Know/NA
Self N=11	9%	27%	27%	27%	9%
HH Member N=13	8%	38%	31%	23%	0%

Q47. Which of the following broad categories best describes your total annual household income, before taxes?

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
<\$25k	29%	16%
\$25<\$35k	9%	3%
\$35<50k	7%	19%
\$50<\$75K	2%	9%
\$75k<\$100K	11%	6%
\$100K <\$150K	0%	9%
\$150K or more	4%	3%
(Don't know/Declined)	38%	34%

Q48. How would you characterize your gender?

	<u>Self (N=45)</u>	<u>HH Member (N=32)</u>
Female	53%	66%
Male	44%	34%
Decline/don't want to answer	2%	0%

⁴ Pre-pandemic

Attachment 2.B
Scientifically-valid Community Technology Residential Telephone Survey
Underserved Community Results

(Communities of Interest: Seniors N=200 survey respondents)⁵

Seniors (N=200)

S1. In which of the following cities do you live? (N=200)

Portland	84 %
Gresham	11 %
Troutdale	4 %
Fairview	1 %
Wood Village	1 %

Q1. Does your household currently subscribe to any cable television or satellite video service? (N=200)

Yes	71 %
No	29 %

Q2. Which company provides your services? (N=141)

Comcast or Xfinity (Subscriber)	77% (N=114)
Frontier (Subscriber)	2% (N=4)
CenturyLink (Subscriber)	4% (N=5)
Dish/DirecTV	16%
Reliance	1%

Q3. Do you or does someone in your household identify with having or living with a disability? (N=77)

Yes – myself	7%
Yes - someone else in the household	7%
No	86%
(Don't recall / Decline)	1%

⁵ Unless otherwise noted by "N=", all questions were asked of 200 senior survey respondents and represent the totality of respondents answers.

Q4. As we conduct the survey, we ask that you keep in mind the needs of your household member living with a disability. Please describe the nature of the disability. (Mark all that apply) (N=28)

Hearing	10%
Vision/Visual	10%
Cognitive/Intellectual/Developmental	7%
Speech/Communication	3%
Ambulatory/Mobility/Physical	52%
Other (please specify) - Diabetes	3%
(Declined)	14%

Cable Television Subscribers (N=141)

Q5. Including all the services, taxes and fees on your cable bill, what would you estimate your average monthly bill to be? (N=123)

Range: \$29.00 - \$330.00; Average = \$167

5. \$1 - \$50	5%
6. \$51-100	14%
7. \$101-150	19%
8. \$151 – 200	44%
9. More than \$201	18%

Local Community Programming

Q12. In your area, local community programming is available on cable channels and online from programmers like Portland Open Signal, Metro East Community Media and others, that show local community productions, city council and county board meetings, as well as local school and community college programs and information. Are you aware of these local community channels? (N=200)

Yes	53% (N=106)
No	46%
(Don't know [DK]/Don't remember [DR])	1%

Q13. About how frequently, would you say your household views any local community programming? (N=106)

Daily	Weekly	Once or twice a month	Less often than once or twice a month	Never
7%	10%	16%	25%	42%

Q14. Do you view the local community programming on: (N=62)

Cable	76%
Online	10%
Or both?	3%
DK/DR	11%

Ask All Respondents (N=200)

Q15. Regardless of how often you may watch, how important is it that local community programming be available? Would you say it's... (N=200)

	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
All Respondent	8%	33%	35%	23%	3%

Internet Services

Q16. When it comes to Internet services – besides using a smart phone with cell service – does your household subscribe to any home Internet service?

Yes	71% (N=143)
No	28%
(Don't recall / Decline)	1%

Q17. Which company provides your home Internet? (N=143)

Comcast / Xfinity	63% (N=90)
Century Link	23% (N=33)
Direct TV (Satellite)	1%
Frontier	4% (N=6)
Other: (N=1)	1%
Verizon	
(Don't know / Decline)	8%

Q18. Do you have Comcast's "Internet Essentials"? (N=90)

Yes	40%
No	25%
(Don't recall / Decline)	35%

Q19. Has your household ever had Internet services at home? (N=57)

Yes	30% (N=17)
No	65%
(Don't recall)	5%

Q20. Was that service Comcast's Internet Essentials? (N=17)

Yes	47%
No	35%
(Don't recall)	18%

Q21. Why did you stop subscribing to Internet services in the home? (multiple responses) (N=17)

Cost / Expense of service	35%
Service Issues	18%
No need / No desire	65%
No device	6%
Do not know how to use	6%

Q22. What are the main reasons or barriers you do not have Internet at home? (multiple responses) (N=38)

Cost / Expense of service	18%
Cost/Expense of Equipment	5%
Security / Safety concerns	3%
No need / No desire	74%
No device	13%
Do not know how to use	5%
Smartphone is all I need	3%
Don't know/Decline	5%

Q23. At what places outside of your home do you access the Internet, if any? (multiple responses) N=200

Govt office / Public space / Public Park	25%
Work/Employer/Office	13%
Friend or family's house	22%
School/University	3%
Public: library	18%
Private: Restaurant / Coffee shop / Bar	30%
Do not access	48%
Other: (specify) (N=3)	1%
Cruise Ship; Hospital;	
Don't know	1%

Q24. How important is it that there are places with free public access to the Internet?

Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
15%	32%	32%	19%	2%

Q25. How important is it that your local government works to ensure all persons have affordable access to the Internet at home?

Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
16%	33%	31%	18%	3%

Q26. Is access to the Internet as essential to you as access to electricity (in other words an essential utility)?

Yes	37%
No	62%
Don't Know/Decline	1%

Q27. What would you consider a reasonable cost to pay for Internet access? (N=200)

Range: \$10-\$200 (Mode =\$20; Average =\$39.90)

Provided a response above zero	48% (N=45)
Free / Nothing / Zero	22%
Don't know/Declined	30%

Phone Services

Q28. Does your household have a cell phone, or a landline (which is a home-based telephone that isn't a cell phone) or both?

Cell only 6% Landline only 12% Both 83% (N=165) Don't recall/Decline 1%

Q29. Do you: (N=165)

Mostly use your cell phone?	24%
Mostly use your landline?	35%
Or use your cell phone and landline equally?	41%

Q30. Which company provides your landline phone service? (N=189)

Comcast/Xfinity	50%
Century Link	32%
Frontier	5%
Other Company: Quest, AT&T	3%
(Don't know / Decline)	10%

Emergency Information

Q31. What do you consider the most effective way to get local emergency information? (multiple responses) N=200

Television	51%
Email	5%
Text alerts (Amber Alerts)	29%
Radio	14%
Internet	13%
Social media	1%
Sirens	1%
Telephone	5%
Weather App/News App	1%
Newspaper	5%
Other: (N=1) Call 911	1%
(Don't know / Decline)	5%

Q32. How do you prefer to communicate with or receive information from your local government? (Multiple Responses)

Telephone	13%
Internet / Online	14%
Go to that office /In-person	2%
US Mail	34%
Email	21%
Television	13%
Text Message/alert	1%
Radio	3%
Newspaper	11%
Other (Specify) (N=1) Library	1%
(Don't know/Decline)	10%

Consumer Protections

Q33. How important is it that there are protections against your service provider selling or sharing your personal information?

Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
39%	48%	7%	5%	2%

Q34. How important is it that that your service providers do not monitor your service without your authorization? (Read list)

Essential	Very Important	Somewhat Important	Not at all Important	Don't Know/NA
37%	49%	7%	4%	6%

Q35. Based on everything we have talked about, what are the one or two communications products or services you don't have but really need? (Up to two responses)

Basic Television programming	1%
On-Demand program selection	1%
Basic Internet service	3%
High / Higher-speed Internet / Broadband	3%
Government information	1%
Other wireless devices (Smartphone, Tablet)	1%
Affordable Internet	3%
Emergency information	1%
Community information / programming	1%
(None / Have everything I need)	88%
Other: (N=2) Computer; affordable cable	1%
(Don't know / Decline)	2%

Q36. In terms of the products or service(s) you just mentioned, what are the reasons or barriers that are keeping you from getting or using those? (Mark all that apply) (N=22)

Cost / Affordability	68%
Hardware or Software issue	5%
Not available in my area	5%
Not aware of options	9%
(None / No barriers)	13%
(Don't know / Decline)	23%

Demographics (N=200)

Q37. May I ask your age? (N=200) all over 65 years old

Q39. How would you describe your ethnicity? (multiple responses)

American Indian or Alaska Native	1%
Asian	2%
Black or African American	6%
Hispanic or Latino/a/x	3%
Native Hawaiian or Pacific Islander	2%
White	72%
Mixed	3%
Decline/Don't want to answer	13%

Q40. Do you rent or own your home?

Own	77%
Rent	17%
(Decline)	6%

Q41). Does your household include anyone 18 years old or younger?

Yes	12%
No	87%
Decline	1%

Q.42 You indicated earlier that you or a member of your household has or lives is living with a disability, what communications technology-assistive devices, would you consider of critical importance? (N=28)

Cellphones / Smartphones apps	29%
Internet access / High speed Internet	4%
Devices to aid the deaf	7%
TV / Cable / TV Channels	15%
No devices / None	46%

Q.43 What frustrations are there in the use of communications technology, including assistive and non-assistive devices? (N=6)

4. Charging the Cochlear Implant batteries
5. I have taken four computer classes so far but they keep on updating the computer and cellphone technology so fast that it is hard for me to keep up.
6. Just Keeping on top of everything all the new stuff that comes out
7. Cable prices are too high
8. I do not appreciate technology companies and my service provider choosing for me what information I can access.
9. Use them and learn them.

Q44. What is the highest level of education you have completed?

Some high school or less	1 %
High school graduate	15%
Some college / trade school	24%
Associate Degree / 2-year degree	11%
College / 4-year degree	25%
Postgraduate or professional degree	22%
(Decline)	4%

Q45. What describes your current employment status?

Employed / Working Full-time	5%
Employed / Working Part-time	1%
Self-Employed/Own business	1%
Retired / Working part-time	2%
Retired / Working full-time	6%
Seeking employment / Looking for work	2%
Retired	80%
Disabled	2%

Q46. How often do you telecommute or work from home using the Internet? N=28

Always	Frequently	Occasionally	Rarely or Never	Don't Remember/NA
4%	22%	11%	64%	0%

Q47. Which of the following broad categories best describes your total annual household income, before taxes?

<\$25k	12%
\$25<\$35k	9%
\$35<50k	14%
\$50<\$75K	16%
\$75k<\$100K	9%
\$100K <\$150K	7%
\$150K or more	1%
(Don't know/Declined)	34%

Q48. How would you characterize your gender?

Female	60%
Male	37%
Gender Expansive	1%
Decline/don't want to answer	3%

Attachment 2.B

Scientifically-valid Community Technology Residential Telephone Survey Underserved Community Results

(Communities of Interest; People of Color N=149 survey respondents)⁶

People of Color (N=149)

S1. In which of the following cities do you live? (N=149)

Categories ⁷	White/ Caucasian American	Native American	Asian American	Black/African American	Latino/ Hispanic	Hawaiian (Haw) / Pacific Island (PI)	Other
	N=412 65%	N=10 2%	N=32 5%	N=36 6%	N=48 8%	N=7 1%	N=85 ⁸ 13%
Portland	82%	80%	84%	89%	85%	86%	80%
Gresham	12	20	16	11	2	14	13
Troutdale	2	-	-	-	6	-	2
Fairview	1	-	-	-	4	-	-
Wood Village	0	-	-	-	-	-	4
Elsewhere in MC	3	-	-	-	2	-	1

Q1. Does your household currently subscribe to any cable television or satellite video service?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Yes	59%	60%	56%	69%	75%	71%	51%
No	41	40	44	31	25	29	49

Q2. Which company provides your services?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	244 65%	6 2%	18 5%	25 7%	36 10%	5 1%	43 11%
Comcast / Xfinity	75%	100%	83%	76%	94%	100%	76%
Dish / DirecTV	13	-	6	4	6	-	22
Century Link	6	-	-	16	-	-	-
Frontier	5	-	6	-	-	-	2
Reliance	1	-	6	-	-	-	-
Other	0	-	-	-	-	-	-
Declined	-	-	-	4	-	-	-

⁶ Unless otherwise noted by “N=”, all questions were asked of 630 survey respondents and represent the totality of respondents answers.

⁷ For ease of reading: White = White/Caucasian American, Native = Native American, Asian = Asian American, Black = Black/African American, Latino = Latino/Hispanic, and Haw/PI = Hawaiian/Pacific Islander.

⁸ Ethnicity/Race included multiple answers from respondents. N=85 includes: N=65 that declined, N=3 who indicated unknown, N=16 who indicated being of mixed race and N=1 who indicated other.

Q3. Do you or does someone in your household identify with having or living with a disability?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412	10	32	36	48	7	85
	65%	2%	5%	6%	8%	1%	13%
Self	8%	30%	-	3%	4%	-	8%
Another household member	6	-	6	3	8	-	4
No	86	70	88	94	88	100	85
Declined	1	-	6	-	-	-	2

Q4. As we conduct the survey, we ask that you keep in mind the needs of your household member living with a disability. Please describe the nature of the disability? (Mark all that apply)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	395	7	29	36	48	7	81
	66%	1%	5%	6%	8%	1%	13%
Ambulatory	7%	71%	3%	6%	8%	-	1%
Vision	2	29	3	-	2	-	-
Hearing	1	-	-	-	2	-	2
Independent living	0	-	-	-	-	-	1
Other	0	-	-	-	-	-	1
None	90	-	97	94	88	100	92

Cable Television Subscribers (N=330)

Q5. Including all the services, taxes and fees on your cable bill, what would you estimate your average monthly bill to be?

	White	Native	Asian	Black	Latino	Haw / PI	Other
Average Cost	\$157	\$177	\$162	\$153	\$151	\$127	\$160

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	155	5	10	14	18	3	15
	71%	2%	5%	6%	8%	1%	7%
Less than \$50	6%	-	-	-	-	-	7%
\$51-100	23	-	30	14	17	33	27
\$101-150	20	40	30	50	50	67	13
More than \$150	51	60	40	36	33	-	53

Local Community Programming

Q12. In your area, local community programming is available on cable channels and online from programmers like Portland Open Signal, Metro East Community Media and others, that show local community productions, city council and county board meetings, as well as local school and community college programs and information. Are you aware of these local community channels?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412	10	32	36	48	7	95
	65%	2%	5%	6%	8%	1%	13%
Yes	50%	50%	31%	39%	31%	43%	41%
No	49	50	69	61	67	57	58
Declined	1	-	-	-	2	-	1

Q13. About how frequently, would you say your household views any local community programming?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	206 72%	5 2%	10 3%	14 5%	15 5%	3 1%	34 12%
Daily	5%	0%	10%	7%	7%	33%	6%
Weekly	7	20	-	14	13	33	3
Once or twice a month	16	20	30	7	33	33	19
Less often	33	40	30	29	33	-	44
Never	40	20	30	43	13	-	29

Q14. Do you view the local community programming on:

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	122 66%	4 2%	7 4%	8 4%	14 8%	3 2%	26 14%
Cable	68%	100%	43%	75%	50%	67%	58%
Online	20	-	14	25	29	-	27
Both	7	-	29	-	14	33	-
DK	4	-	14	-	7	-	15

Ask All Respondents

Q15. Regardless of how often you may watch, how important is it that local community programming be available? Would you say it's...

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Not at all important	24%	30%	19%	22%	13%	-	25%
Somewhat important	36	20	47	28	33	86	36
Very important	28	40	25	31	44	14	31
Essential	8	10	6	14	2	-	7
Declined	4	-	3	6	8	-	1

Internet Services

Q16. When it comes to Internet services – besides using a smart phone with cell service – does your household subscribe to any home Internet service?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Yes	85%	80%	81%	75%	90%	71%	68%
No	15	20%	16	22	10	14	32
Decline	0	-	3	3	-	14	-

Q17. Which company provides your home Internet?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	351	8	26	27	43	5	57
	68%	2%	5%	5%	8%	1%	11%
Comcast / Xfinity	63%	87%	69%	59%	88%	80%	63%
Century Link	23	13	23	26	12	20	24
Frontier / NWLLC	7	-	-	-	-	-	6
Other	1	-	-	4	-	-	-
DirectTV	0	-	-	-	-	-	-
Declined	7	-	8	11	-	-	7

Q18. Do you have Comcast's "Internet Essentials"?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	221	7	18	16	38	4	36
	65%	2%	5%	5%	11%	1%	11%
Yes	38%	86%	33%	38%	39%	50%	25%
No	32	14	28	31	32	50	31
Declined	30	-	39	31	29	-	44

Q19. Has your household ever had Internet services at home?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	61	2	6	9	5	2	28
	54%	2%	5%	8%	4%	2%	25%
Yes	44%	100%	50%	11%	20%	50%	43%
No	51	-	50	78	80	50	54
Declined	5	-	-	11	-	-	3

Q20. Was that service Comcast's Internet Essentials?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	27	2	3	1	1	1	12
	57%	4%	6%	2%	2%	2%	26%
Yes	56%	50%	67%	-	-	-	8%
No	22	-	-	-	100	100	83
Declined	22	50	33	100	-	-	8

Q21. Why did you stop subscribing to Internet services in the home? (multiple responses)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	27	2	3	1	1	1	12
	57%	4%	6%	2%	2%	2%	30%
No need / desire	41%	50%	-	-	-	-	58%
Cost / Expense of service	41	50	33	100	100	100	25
Service issues	15	-	-	-	-	-	8
Other	7	-	-	-	-	-	8
Speed of service	4	-	-	100	-	-	-
Did not allow me to do what I wanted	7	-	-	-	-	-	-
No device	7	-	-	-	-	-	-
Do not know how to use	-	-	33	-	-	-	-
Smartphone is all I need	-	-	33	-	-	-	-
Declined	-	-	-	-	-	-	8

Q22. What are the main reasons or barriers you do not have Internet at home? (multiple responses)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	32 52%	0 0%	3 5%	7 11%	4 6%	1 2%	15 24%
No need / desire	63%	-	-	57%	25%	-	67%
Cost / Expense of service	28	-	67	29	50	-	20
No device	6	-	-	14	25	-	20
Smartphone is all I need	6	-	67	14	25	100	-
Do not know how to use	6	-	-	14	-	-	7
Cost / expense of equipment	-	-	-	-	50	-	7
Did not allow me to do what I wanted	3	-	-	-	-	-	-
Declined	3	-	-	-	-	-	13

Q23. At what places outside of your home do you access the Internet, if any? (multiple responses)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
My work	42%	10%	31%	47%	65%	57%	58%
Restaurant, cafe or bar	43	-	38	42	58	43	49
Government office / public space	34	30	25	36	42	29	29
Family or friend's house	33	-	25	31	38	29	27
Do not access	29	50	47	33	19	29	30
Public library	23	-	13	19	21	14	25
School, college or university	8	-	13	6	6	29	13
Other	1	-	-	-	-	-	1
Declined	1	10	-	-	-	-	1

Q24. How important is it that there are places with free public access to the Internet?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Not at all important	12%	20%	19%	22%	10%	29%	21%
Somewhat important	22	20	41	17	25	29	33
Very important	41	50	28	42	35	14	21
Essential	25	10	13	19	29	29	25
Declined	1	-	-	-	-	-	-

Q25. How important is it that your local government works to ensure all persons have affordable access to the Internet at home?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Not at all important	11%	20%	6%	14%	8%	14%	24%
Somewhat important	26	10	31	14	19	14	25
Very important	36	40	44	42	48	43	26
Essential	26	30	16	28	19	29	22
Declined	1	-	3	3	6	-	3

Q26. Is access to the Internet as essential to you as access to electricity (in other words an essential utility)?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Yes	53%	60%	50%	39%	52%	43%	40%
No	46	40	41	58	48	57	59
Declined	1	-	9	3	-	-	1

Q27. What would you consider a reasonable cost to pay for Internet access?
Range: 10\$-\$200; Average =\$37.50

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Free	18%	-	22%	19%	15%	29%	26%
Other	66	90	66	58	65	57	48
Declined	16	10	13	22	21	14	26

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	348 67%	9 2%	28 5%	28 5%	38 7%	6 1%	63 12%
Free	22%	-	25%	25%	18%	33%	35%
\$1-10	7	-	7	-	8	17	14
\$11-20	18	22	11	29	11	17	11
\$21-30	19	22	18	21	21	-	19
\$31-50	24	22	25	18	37	33	19
\$51-80	6	22	4	4	-	-	0
More than \$80	4	11	11	4	5	-	2

Phone Services

Q28. Does your household have a cell phone, or a landline (which is a home-based telephone that isn't a cell phone) or both?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Cell only	32%	40	44%	36%	42%	29%	31%
Landline only	5	-	6	11	2	-	10
Both	62	60	50	53	56	71	58
Declined	0	-	-	-	-	-	1

Q29. Do you:

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	257 68%	6 2%	16 4%	19 5%	27 7%	5 1%	49 13%
Mostly use cellphone	40%	50	44%	63%	48%	20%	39%
Mostly use landline	25	17	6	21	22	40	16
Use them equally	35	33	50	16	30	40	45

Q30. Which company provides your landline phone service?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	277 67%	6 2%	18 4%	23 6%	28 7%	5 1%	58 13%
Comcast / Xfinity	51%	33%	39%	52%	68%	60%	40%
Century Link	30	33	33	26	25	40	33
Verizon / Frontier	7	-	-	-	4	-	7
AT&T	1	-	6	4	-	-	-
Quest	1	-	-	-	-	-	-
Declined	10	33	22	17	4	-	21

Emergency Information

Q31. What do you consider the most effective way to get local emergency information? (multiple responses)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 66%	10 2%	32 5%	36 6%	48 8%	7 1%	84 13%
Text alerts	44%	40%	69%	44%	50%	43%	41%
TV	36	10	34	31	46	29	43
Internet	23	10	16	11	23	14	17
Radio	13	30	9	11	15	-	12
Email	4	-	6	3	13	-	3
Social media	4	-	-	8	10	-	1
Newspaper	3	-	3	-	2	-	4
Landline telephone	1	-	3	6	2	14	2
Apps	2	10	-	3	-	-	-
Sirens	0	-	3	-	-	-	-
Other	-	-	-	3	-	-	-
Declined	3	-	-	6	-	14	4

Q32. How do you prefer to communicate with or receive information from your local government? (Multiple Responses)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
US mail	32%	20%	34%	33%	42%	29%	40%
Email	29	20	16	22	35	14	30
Internet / online	21	10	22	14	25	29	14
Telephone	18	30	28	14	25	29	9
Newspaper	8	10	13	8	2	-	8
TV	7	-	3	14	6	29	7
Social media post	2	-	3	6	2	-	3
Radio	2	-	-	-	2	-	3
Texts	2	-	3	-	2	-	2
In-person	2	-	-	-	-	-	2
Attendance at public meeting	0	-	-	-	-	-	-
Other	-	-	-	-	-	-	1
Declined	6	10	9	8	-	-	9

Consumer Protections

Q33. How important is it that there are protections against your service provider selling or sharing your personal information?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Not at all important	3%	-	3%	3%	-	-	3%
Somewhat important	7	10	13	6	-	-	8
Very important	44	50	47	25	46	29	51
Essential	44	40	34	61	50	71	35
Declined	2	-	3	6	4	-	3

Q34. How important is it that that your service providers do not monitor your service without your authorization? (Read list)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Not at all important	2%	-	6%	6%	-	-	4%
Somewhat important	7	-	16	8	-	-	8
Very important	47	60	44	22	48	29	53
Essential	42	40	31	53	48	71	33
Declined	2	-	3	11	4	-	2

Q35. Based on everything we have talked about, what are the one or two communications products or services you don't have but really need? (Up to two responses)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Nothing	82%	100%	88%	86%	83%	86%	80%
Affordable Internet	4	-	3	-	10	-	9
High speed / broadband Internet	4	-	3	3	4	-	4
Basic TV	2	-	-	6	2	-	2
Government information	2	-	-	3	2	-	1
Basic Internet service	2	-	-	-	-	-	2
Community information	1	-	-	3	-	14	2
Other wireless devices (Smart phone, Tablet)	2	-	-	-	-	-	1
On demand Tv	1	-	-	-	-	-	1
Emergency information	1	-	-	3	-	-	1
Telephone	-	-	3	3	2	-	1
Email	0	-	-	3	-	-	-
Other	1	-	-	-	-	-	-
Apps like Reddit, Spotify, etc.	-	-	-	3%	-	-	-
Declined	2	-	3	-	-	-	1

Q36. In terms of the products or service(s) you just mentioned, what are the reasons or barriers that are keeping you from getting or using those? (Mark all that apply)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	67 66%	0 0%	3 3%	5 5%	8 8%	1 1%	16 16%
Cost / affordability	52%	-	67%	20%	63%	-	56%
Not aware of options	15	-	-	-	-	-	-
Alternatives available	6	-	-	20	-	-	6
Unavailable in my area	4	-	-	-	13	-	6
Do not want or need	4	-	-	-	13	-	-
Hardware or software issue	4	-	-	20	-	-	-
Safety / trust	3	-	-	-	13	-	-
No barriers	1	-	-	-	-	-	-
Declined	18	-	33	40	-	100	31

Demographics

Q37. May I ask your age?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
18-24	3%	-	3%	8%	4%	-	1%
25-34	8	20	13	6	19	14	9
35-44	20	20	25	8	19	14	14
45-54	15	20	16	25	29	-	12
55-64	16	10	19	17	15	14	9
65-74	25	10	9	17	10	14	25
75+	9	10	3	14	2	29	7
Declined	3	10	13	6	2	14	22

Q39. How would you describe your ethnicity? (multiple responses)

	Total	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	630	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
White	65%	100%	-	13%	3%	6%	14%	-
Hispanic / Latino	8	1	-	-	-	100	-	-
Black / African American	6	0	-	-	100	-	-	-
Asian	5	1	-	100	-	-	14	-
Mixed - categories not specified	4	-	-	-	-	-	-	26
American Indian	2	0	100	-	3	-	-	-
Native Hawaiian / Pacific Islander	1	0	-	3	-	-	100	-
Middle Eastern / North African	0	-	-	-	-	-	-	-
Unknown	11	-	-	-	-	-	-	74

Q40. Do you rent or own your home?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412 65%	10 2%	32 5%	36 6%	48 8%	7 1%	85 13%
Own	78%	70%	69%	56%	44%	71%	57%
Rent	19	20	22	36	48	29	20
Declined	3	10	9	8	8	-	23

Q41). Does your household include anyone 18 years old or younger?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412	10	32	36	48	7	85
	65%	2%	5%	6%	8%	1%	13%
Yes	25%	30%	28%	19%	46%	43%	19%
No	73	70	63	72	48	57	68
Decline	2	-	9	8	6	-	13

Q.42 You indicated earlier that you or a member of your household has or lives is living with a disability, what communications technology-assistive devices, would you consider of critical importance? (multiple responses)

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	54	3	2	2	6	0	10
	70%	4%	3%	3%	8%	0%	16%
Cell phone or Smartphone apps	30%	67%	100%	-	50%	-	20%
No devices / None	35	-	-	50	33	-	50
Internet access / High speed Internet	11	-	-	-	17	-	20
TV / cable	6	-	-	-	-	-	10
Other	6	-	-	-	-	-	-
Tablets / computers	4	-	-	50	-	-	-
Devices to aid the deaf	4	-	-	-	-	-	-
Declined	9	33	-	-	-	-	-

Q.43 What frustrations are there in the use of communications technology, including assistive and non-assistive devices ?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	54	3	2	2	6	0	10
	70%	2%	3%	3%	8%	0%	16%
None	46%	33%	50%	100%	83%	-	58%
Unreliable technology	7	33	-	-	-	-	8
Charging batteries for devices	6	-	-	-	-	-	-
Other	6	-	-	-	-	-	-
High prices/costs	4	-	-	-	-	-	-
Robocalls/Information hackers	-	-	-	-	-	-	8
Declined	31	33	50	-	17	-	25

Q44. What is the highest level of education you have completed?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412	10	32	36	48	7	85
	65%	2%	5%	6%	8%	1%	13%
High school or less	0%	-	-	6%	-	-	-
High school graduate	12	20	13	11	29	-	5
Some college / trade school	19	20	19	19	21	14	27
Associate / 2 year degree	11	-	6	8	13	14	6
College / 4 year degree	34	40	28	33	25	29	23
PG or professional degree	19	20	25	14	6	29	13
Declined	4	-	9	8	6	14	26

Q45. What describes your current employment status?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412	10	32	36	48	7	85
	65%	2%	5%	6%	8%	1%	13%
Employed	56%	60%	53%	64%	79%	57%	44%
Employed FT	36%	60%	34%	53%	67%	57%	33%
Employed PT	6%	-	9%	3%	8%	-	3%
Self Employed	8%	-	9%	8%	2%	-	4%
Working and in school	0%	-	-	-	-	-	-
Retired but working PT	1%	-	-	-	2%	-	-
Retired but working FT	3%	-	-	-	-	-	3%
Not employed	39%	40%	34%	33%	21%	29%	33%
Student FT	0%	-	6%	-	-	-	1%
Looking for work	3%	10	3%	3%	2%	-	1%
Retired	33%	10	25%	31%	17%	29%	31%
Disabled / Unable to work	2%	20	-	-	2%	-	-
Volunteering	0%	-	-	-	-	-	-

Q46. How often do you telecommute or work from home using the Internet?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	227	6	17	23	38	4	37
	64%	2%	5%	7%	11%	1%	10%
Rarely or never	34%	50%	24%	17%	47%	50%	27%
Occasionally	27	50	41	39	29	25	35
Frequently	22	-	18	35	16	25	24
Always	15	-	12	9	8	-	11
Declined	1	-	6	-	-	-	3

Q47. Which of the following broad categories best describes your total annual household income, before taxes?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412	10	32	36	48	7	85
	65%	2%	5%	6%	8%	1%	13%
Less than \$25k	7%	20%	-	14%	6%	-	5%
\$25-35k	6	-	3	6	8	29	2
\$35-50k	11	-	9	8	13	-	5
\$50-75k	15	10	16	25	27	29	3
\$75-100k	12	30	9	14	13	14	11
\$100-150K	9	10	-	8	4	-	11
More than \$150K	8	-	19	6	4	14	1
Declined	32	30	44	19	25	14	62

Q48. How would you characterize your gender?

	White	Native	Asian	Black	Latino	Haw / PI	Other
N=	412	10	32	36	48	7	85
	65%	2%	5%	6%	8%	1%	13%
Female	51%	30%	53%	61%	50%	29%	53%
Male	47	60	47	39	50	71	42
Gender Expansive	1	10	-	-	-	-	-
Declined	1	-	-	-	-	-	5

ATTACHMENT 3
QUALITATIVE COMMUNITY TECHNOLOGY PUBLIC
ONLINE SURVEY REPORT

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Attachment 3

Qualitative Community Technology Public Online Survey Report

INTRODUCTION

As part of a broad community communications technology needs ascertainment on behalf of the Mt. Hood Regulatory Commission (MHCRC), CBG Communications, Inc. (CBG) conducted an online public survey.

The goals of the online public survey were to:

- Qualitatively assess current and future local communications technology, including cable-related, needs and interests
- Understand technology access and use
- Gather insights into community media centers and access channel awareness and preferences
- Create demographic and satisfaction profiles of the self-selected respondents

METHODOLOGY

MHCRC and CBG developed a questionnaire designed to address a wide range of community technology-related issues, including questions designed for several key audiences; namely seniors, persons living with disabilities, people of color, and technology users. Several drafts were created until the questionnaire was finalized.

CBG used an online survey collection tool to conduct the survey (SurveyMonkey). Responses were collected between January 21st and April 13th, 2020. A total of 477 responses were collected. In order to make the survey accessible for all respondents, not all questions were mandatory, therefore some questions have a lower response rate. A Spanish language version of the online survey was also available for residents to participate.

Respondents were considered qualified if they lived and/or worked in Multnomah County. Of the total sample, 12 respondents were removed for not meeting the qualifying criteria (442 of the qualified respondents live in Multnomah County and 23 live outside Multnomah County but work in Multnomah County).

Following are tables delineating those respondents who live in Multnomah County and those who work in Multnomah County but live outside of the County¹. Cross-tabulations and verbatim responses are bound separately in Attachment 3.B.

¹ Frequency report for those working in Multnomah County but living outside can be found in the Cross tabulations Attachment 3.B

EXECUTIVE OVERVIEW

Subscription Profiles

Television Services

Cable Television Service Subscribers

- Of the Cable Television Service Subscribers (N=154/37%), the vast majority subscribed to Comcast’s television services (87%), while 10% were with CenturyLink, and 3% were with Frontier (now “Ziplay” as of 5/1/2020). (Q9)

Non-Cable Television Subscribers

- Of the Non-cable subscribers (N=267/63%), 2% indicated other (with a couple noting satellite TV with Dish Network or DirecTV), 2% Didn’t Know, and the remaining respondents (59%) indicated that they had No Cable TV service in the home. (Q9)
- Non-cable television subscribers chose not to subscribe to cable TV service in the home primarily because of cost/expense/poor value at 80%. (Q10)
- Non-cable television subscribers were also less aware (55%) than cable subscribers (66%) of the local community access channels.

Subscribers to Cable Television Service

Customer Service

- ❖ Cable Subscribers were asked to rate their television service provider on a variety of customer service and general service characteristics (on a scale from Excellent to Poor). Overall, subscribers rated their providers very negatively, spanning from the highest excellent and good score at 46% for *the ability of their cable company to successfully resolve a problem with their service within 1-2 business days*, to the highest negative rating of fair and poor at 68% for *overall satisfaction with your cable company*. On the rating scale, a negative score $\geq 20\%$, indicates that there is an opportunity for improvement. Every category had a combined negative score of at least 29% (this score was for *the hours the local cable company office is open*). (Q12 and Q13)

Q12. How would you rate the following over the last year? (N=138)	Excellent	Good	Fair	Poor	Don't Know/ NA
The ability of the cable company to successfully resolve a problem with your service within 1-2 business days	17%	29%	25%	19%	10%
The ability of the cable company to resolve an outage within the next business day	14%	31%	23%	10%	21%
The accuracy and understanding of your monthly cable bill	13%	27%	37%	22%	1%
The ability of the cable company to explain and address billing questions	9%	23%	25%	29%	14%

Q12. How would you rate the following over the last year? (N=138)	Excellent	Good	Fair	Poor	Don't Know/ NA
The helpfulness of customer service assistance accessed through the company's website or online.	9%	19%	32%	28%	12%
You receiving a notice at least 30-days in advance of a rate or fee change	7%	13%	21%	29%	31%
The ease of use of the automated telephone menu options when calling your cable company	7%	11%	25%	38%	20%

Q13. How would you rate the following over the last year? (N=138)	Excellent	Good	Fair	Poor	Don't Know/NA
The cable company's notification to you 30-days prior to changes in programming	7%	10%	21%	31%	31%
The helpfulness of the cable company's employees	12%	30%	35%	14%	9%
The variety of cable programming packages offered	7%	25%	28%	28%	12%
The convenience of the location of the local cable company office	9%	22%	20%	19%	29%
The hours the local cable company office is open	8%	25%	19%	10%	38%
Overall satisfaction with your cable company	8%	23%	43%	25%	1%

Service Cost

- ❖ Cable Television Subscribers were asked, including all the services, taxes and fees on their cable bill, what would they estimate their average monthly bill to be? Eighty-nine percent (89%) provided a response. The average cost per month was \$151.42 with the most common answer being \$200.00 a month. (Q11)

All Respondents who Live in Multnomah County

Local Community Programming

- ❖ Almost three in five (58%) of Multnomah County online survey respondents indicated that they were aware of the local community access channels provided over the cable channels. Two-thirds (66%) of cable subscribers were aware of the access channels, with 55% of non-cable subscribers being aware of the channels. (Q14)
 - Almost two-thirds (64%) of Multnomah County survey respondents who are aware of the community access channels were most likely to:
 - mostly watch the local community access channel programming by Desktop/Laptop Computer (53%) or via TV (50%). (Q15)

- watch at least once or twice a week on multiple devices, with 28% watching via TV, 27% watching via Desktop/Laptop Computer, 23% via Smartphone, 13% via Tablet, and 1% via Game Console. (Q15)
 - Those that watched the local programming on the Television (72%/N=65) were both cable and home Internet service subscribers.
 - Of interest is the highest frequency of viewership measured versus each device, spanning from the highest daily viewership of 7% via television to the highest once or twice a year viewership of 21% via Desktop/Laptop computer. (Q15)

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=232)	Daily	Weekly	Once or Twice a Month	Once or Twice a Year	Never	N/A
via Television	7%	8%	13%	18%	50%	4%
via Smartphone (iPhone, Android)	4%	5%	14%	14%	58%	5%
via Tablet (iPad, Kindle)	1%	4%	8%	7%	70%	10%
via Desktop/Laptop Computer	3%	8%	16%	21%	47%	5%
via Game Console	0%	0%	1%	1%	82%	15%

- ❖ A substantial amount (87%) of Multnomah County online survey respondents believe it is important for local community access channel programming to be available to all area residents, with 25% *considering it essential*, 34% *saying very important*, and 28% *saying somewhat important*. Nine percent (9%) said it was not at all important, and 5% were unsure. (Q16)
 - Both cable subscribers and non-cable subscribers indicated a high rating of importance, with cable subscribers indicating a slightly higher level of importance (90%) than non-cable subscribers (85%) for local community access channel programming being available.
 - Those whose households watch local channels daily were most likely to consider the channels to be *essential* (63%).
 - Those with Internet in the home were most likely to consider the channels as *essential* (26%) or *very important* (33%).
- ❖ Multnomah County online survey respondents were asked what types of local programs and content they considered most relevant and important to them. The following programming content were considered the most relevant and important: (Q17)
 - Community and neighborhood news (72%)
 - Local government information and services (71%)
 - Art and culture (63%)
 - Educational (62%)
- ❖ Multnomah County online survey respondents were asked if local programming was offered on various platforms which device would make it more likely for them to watch local community access channel programming. From three in 10 (30%) to just under 5 in 10 (49%) selected on-demand online streaming video with a variety of devices being utilized to watch online. (Q18)

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=365)	via Cable TV real-time (live TV)	via Cable TV on-demand	via Live streaming video online	via On-demand streaming video online	via Languages other than English
On Television	17%	13%	10%	30%	0%
Through Smart TV App	6%	4%	10%	32%	0%
Through HDMI TV Plug-in (i.e. Chromecast, Apple TV, Fire Stick, etc.)	3%	3%	13%	35%	0%
On Smartphone	2%	2%	17%	45%	2%
Through Smartphone App	2%	3%	14%	44%	1%
On Tablet (iPad, Kindle)	2%	1%	13%	34%	1%
On Desktop/Laptop	5%	4%	18%	49%	0%
On Game Console	1%	0%	5%	17%	0%

- ❖ Multnomah County online survey respondents were asked what they considered to be their most trusted sources for local news and neighborhood content and information (Q19). The six (6) most trusted sources were:
 - Oregon Public Broadcasting (OPB)/OPB Radio (28%)
 - Local News (TV and Newspaper) (27%)
 - Oregonian (11%)
 - KGW (8%)
 - Willamette Week (5%)
 - Nextdoor.com (5%)

Phone Service

- ❖ Three in four (74%) Multnomah County online survey respondents indicated having a cellphone only, with 22% of residents indicating that they had a cellphone and a landline, and 1% indicated they had a landline phone only. Sixty-six percent (66%) of residents that had both types of phones indicated that they mostly use their cellphone. (Q41 and Q42)

Local Communication

- ❖ Respondents were asked the most effective way to receive local emergency information, other than the local air siren and nine in ten (89%) indicated that text alerts on their cellphone was the most effective, followed by radio (48%), the Internet (47%), television and social media (both 45%). (Q43)
 - Respondents who only owned a cellphone (76%) or mostly used a cellphone (74%) were mostly likely to indicate that the most effective way to get local emergency information was via text alerts on their cellphone.

- ❖ Respondents were also asked how they preferred to communicate with, or receive information from, their local government. The most popular ways to communicate were via the Internet/Online (73%), followed by email at 65%, US Mail (45%) and texts on their cellphone (45%). (Q44)
 - The top five answers for choosing the above ways to communicate were ease of use, convenience, accessibility, fast, and reliable. (Q45)

Internet/Broadband Access & Usage

Internet Service Profile

- ❖ The vast majority of all respondents have a home Internet subscription (91%), namely with Comcast (63%) or CenturyLink (23%), with 5% having Frontier (Ziplay) Internet. Almost one in seventeen said they have no home Internet services or only had Internet through their cellphone (6%). (Q20)
 - The majority of Comcast television subscribers indicated that they also subscribe to Comcast home Internet services (96%), while 4% indicated subscribing to CenturyLink Internet services.

Multnomah County Respondents With and Without Internet at Home

- ❖ All Respondents were asked about their home Internet service. Ninety-one percent (91%) of respondents indicated that they had a home Internet service with a cable television provider. Three percent (3%) indicated having Internet service through their cellphone, 3% also indicate having no Internet service at their home, 1% didn't know, and 2% indicated another type of service. (Q20)
- ❖ Seventy-seven percent (77%) of respondents without Internet service in their home said they had Internet service at one time. (Q22)
 - Twelve percent (12%) of those that had Internet service before indicated that it was through a reduced cost Internet program such as Comcast Internet Essentials. (Q23)
 - All of these respondents indicating being dissatisfied with the service. (Q24)
- ❖ Respondents who used their smartphone for Internet at home were asked how often their data limit kept them from using the Internet. Eight percent (8%) indicated *A lot*, followed by *Sometimes* (33%), *Not very often* (17%), *Never* (33%) and *Don't Know* (8%). (Q21)
- ❖ Respondents with no Internet service in their home were asked what the main reasons or barriers were that prevented them from having Internet. Multiple answers were allowed and the most popular answer was *cost/expense of service* (95%), followed by *cost/expense of equipment* (65%). (Q25)
- ❖ Those without Internet at home also indicated that the *required contract terms* and *no ability to pay as they go* for home Internet were barriers that kept them from having Internet in the home. (Q26)

Internet/Broadband Affordability and Cost

- ❖ Respondents with Internet in the home were asked what they currently pay per month for Internet service in the home. Eighty four percent (84%) of residents with Internet in the home indicated a *range of costs between \$9.95 and \$300*. The average cost currently paid is \$82.88 with \$60 being the most common answer provided. (Q29)
 - Fifteen percent (15%) of residents with Internet in the home indicated that the amount they pay for Internet service causes them sometimes to delay or avoid other important bills or purchases. (Q30)
 - The top four bills or purchases that the residents go without are *Food/Groceries (49%), Utilities (21%), Clothing (19%) and Gas (7%)*. (Q31)
 - Twenty-five percent (25%) of residents with Internet in the home also indicated that they have had *trouble paying their Internet bill*. (Q32)

- ❖ Eighty percent (80%) of respondents without Internet in the home indicated that if home Internet cost less they would be more likely to sign up for it. (Q27)

- ❖ All Multnomah County online survey respondents were asked what they would consider a reasonable cost to pay for Internet access.
 - Ninety-four percent (94%) of those with no Internet in the home provided a cost between \$0 and \$50.00, *with \$17.50 being the average reasonable cost and Free (N=5) being the most common answer provided*. (Q28)
 - Ninety-seven percent (97%) of those with Internet in the home provided a cost between \$0 and \$200.00, *with \$44.18 being the average reasonable cost and \$50.00 (N=74) being the most common answer provided*. (Q33)

- ❖ Respondents were asked how important it was to have places with free public access to the Internet. The majority placed a high level of importance on this, with *43% indicating it was essential, 36% indicating very important, 15% somewhat important, 5% not at all important and 1% didn't know*. (Q40a)

- ❖ Respondents were also asked how important it was that local government works to ensure all persons have affordable access to the Internet at home. Respondents here saw even greater importance than for free public access to the Internet. Specifically, *55% indicated it was essential, 28% indicated very important, 10% somewhat important, 5% not at all important and 2% didn't know*. (Q40b)

Q40. How important are the following to you? (N=355)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
a. That there are places with free public access to the Internet	43%	36%	15%	5%	1%
b. That your local government works to ensure all persons have affordable access to the Internet at home	55%	28%	10%	5%	2%

Internet/Broadband Use

- ❖ All Respondents were asked what places besides home they accessed the Internet and how often. On a daily basis, the majority access the Internet outside their home using *their data plan on their mobile device* (61%), followed by through *their place of employment/work* (46%), and *at a government office* (11%). (Q34)

Q34. How often do you use the Internet services at the following locations outside of the home: (N=367)	Daily	Several times a week	Once a week	Monthly	Rarely
At a Government office	11%	4%	2%	4%	26%
At a Public space / Public park	7%	13%	10%	10%	27%
At your place of work / Employer	58%	10%	2%	1%	3%
At a friend or relative's house	3%	14%	22%	19%	26%
At a School / College / University	9%	5%	4%	7%	17%
At the Public library	3%	7%	6%	13%	38%
At a Restaurant / Coffee shop / Bar / Hotel	4%	20%	23%	19%	18%
At another business	3%	14%	13%	16%	26%
Through your Data Plan on your Mobile Device	61%	12%	6%	3%	6%

- ❖ Fifty-one percent (51%) of respondents indicated that they had problems using the Internet services at the locations they indicated in Q34 above. (Q35)
 - The problems cited most were *connection issues* (49%), *slow service* (28%), and *lack of access* (10%). (Q36)
- ❖ The top three most common devices used to access the Internet outside the home were the *Smartphone* (89%), followed by *computer/laptop* (61%), and *iPad/tablet* (30%). (Q37)
- ❖ Respondents were also asked whether they considered the Internet as essential to them as access to electricity (in other words an essential utility). Almost 9 in ten (87%) of respondents indicated that it was, while 11% indicated No. (Q38)

Internet/Broadband Connectivity

- ❖ Respondents were asked to rate several different characteristics of Internet connectivity and services (on a scale from *essential* to *not at all important*). Overall respondents rated the Internet characteristics and service important, spanning from 81% essential for *security and privacy*, to an essential rating of 41% for *cost*. (Q39)

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=356)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
Fast Speed	52%	39%	9%	1%	0%
Unlimited or plentiful data	48%	40%	11%	1%	0%
Reliability	76%	24%	0%	0%	0%
Security and privacy	81%	17%	2%	0%	0%
Cost	41%	45%	14%	1%	0%

Technology Needs and Barriers

- ❖ Respondents were asked to name one or two technologies they really need, but don't currently have. While almost half answered *none* (46%), those who could name a technology most frequently mentioned *affordable Internet* (28%), followed by *high-speed Internet/Broadband* (16%), and *connections to home security/Heat and AC/"Nest"* (10%). (Q46)
 - Respondents who mentioned a technology that they needed (N=192/54%) were asked what barriers they faced in terms of obtaining or using those technologies. The majority named *cost/affordability* as a barrier (76%), followed by 39% indicating a lack of available choices / options. (Q47)

Local Government/Public Safety/Privacy Protection Issues

- ❖ All respondents were asked to rate the importance of two privacy protection issues. The *no monitoring of service without authorization* was the most important issue tested with a 99% importance level (79% essential), while *protections against sharing, or sale of personal information* was also considered highly important with a 99% importance level (76% essential). These levels of importance indicate that an oversight role concerning these privacy protection issues continues to be an important issue. (Q40c and Q40d)
- ❖ All respondents were asked how important it was to have free computers and classes to learn to use the Internet. Almost two in three (63%) indicated that it was either *essential* (31%) or *very important* (32%). (Q40e)
- ❖ All respondents were asked how important it was to have their local government ensure that you have a choice of more than one Internet service provider. More than four in five (83%) indicated that it was either *essential* (58%) or *very important* (25%). (Q40g)
- ❖ All respondents were also asked how important it was for their local government to ensure that both public safety and aesthetics are not negatively impacted by new technology in their neighborhood. Similar to ensuring Internet competition in the County, more than four in five (81%) residents indicated that public safety was either *essential* (55%) or *very important* (26%). Almost two thirds of residents (63%) indicated that aesthetics was either *essential* (37%) or *very important* (26%). (Q40g and Q40h)

Q40. How important are the following to you? (N=355)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
c. There are protections against your service provider selling or sharing your personal information	76%	20%	3%	1%	1%
d. That your service providers do not monitor your service without your authorization	79%	16%	4%	0%	1%
e. There are free computers and classes to learn to use the Internet	31%	32%	25%	10%	2%
f. Your local government ensures that you have a choice of more than one Internet service provider	58%	25%	11%	4%	2%
g. Your local government ensures that public safety is not negatively impacted by new technology in your neighborhood	55%	26%	14%	3%	3%
h. Your local government ensures that aesthetics and overall quality of life are not negatively impacted by new technology in your neighborhood	37%	26%	26%	7%	3%

Employment and the Internet

- ❖ Respondents were asked to describe their current employment status. Overall, 72% of the respondents are employed either fulltime or part-time; 24% are currently not employed; 2% declined to answer, and 3% gave another description. (Q53)
- ❖ Respondents who indicated that they were employed were asked how often they telecommute or work from home using the Internet. Nine percent (9%) indicated always, 31% indicated frequently, 27% occasionally, 14% rarely and 20% never. (Q54)

UNDERSERVED COMMUNITIES

People of Color (N=74)

- ❖ Over one in five (21%) respondents described themselves as a person of color.²
 - Those who indicated a race other than white tended to:
 - subscribe to video entertainment streaming services
 - not subscribe to cable TV services
 - not subscribe to cable TV service due to cost similar to that for respondents overall
 - rate the cable companies' ability to successfully resolve a problem with service within 1-2 business days higher than respondents overall if they had cable TV service in the home
 - rate the location of the local cable office higher than the respondents overall
 - be more aware of local community access channel programming, and watch it more often than respondents overall via TV and their Smartphone
 - assign a higher level of importance to local community access channel programming than respondents overall. Those that were unaware also placed a high level of importance for local community access channel programming being available (81%)
 - be more likely to delay or avoid other bills due to the cost of Internet and be more likely to have trouble paying their Internet bill. This group tends to:
 - overwhelming pay more than \$50 for home Internet and feel that \$20.00 or \$25.00 is a reasonable amount to pay for home Internet
 - be between the age of 25-34
 - have a household income less than \$25K
 - find having access to the Internet as essential a utility as respondents overall
 - find it more essential than overall respondents that their local government should ensure all persons have affordable access to the Internet at home, as well as ensure that they have a choice of more than one Internet service provider in their area.
 - be mostly cellphone-only homes
 - find cost/affordability and lack of available choices/options as barriers to getting and using communications technologies of higher concern than respondents overall (80% and 42% respectively)
 - be under 55 years old
 - be more likely to rent their home
 - have similar income categories as respondents overall
 - be employed fulltime or own their own business and telecommute for work frequently or occasionally.

² Some respondents provided multiple categories for their race instead of mixed. This group does not include "Another Race" category.

Persons Living with Disabilities (N=99)

- ❖ Having an *ambulatory/physical or mobile disability* was the number one disability noted (46%), followed by *mental health problem* (41%), and *cognitive or developmental problem* (37%). (Q4)
- ❖ *Internet access/high speed Internet* (82%) was the number one communications technology device or software that was considered of critical importance. This was followed by a *Cellphone/Smartphone/Apps* (80%) and *Tablets/Computers* (67%). (Q5)
- ❖ *High prices/costs* (68%) was the number one frustration identified by persons living with disabilities in the use of communications technologies. This was followed by *Robocalls* (52%), and *Keeping up with changing technologies* (40%). (Q6)
- ❖ Almost one-quarter of online survey respondents (23%) indicated that they or a family member in their home live with a disability. Fifteen percent (15%) of the Multnomah County online survey respondents indicate that they themselves were living with a disability. (Q3)
 - These respondents tended to:
 - be equally cable subscribers or non-cable TV subscribers as respondents overall
 - pay over \$100 on a monthly basis for cable, Internet and phone services combined.
 - have much higher dissatisfaction ratings for all customer service and service characteristics tested in the survey related to cable providers. The highest dissatisfaction ratings were received for:
 - The variety of cable programming packages offered (Poor=54%)
 - The cable company's notification to you 30-days prior to changes in programming (Poor=43%)
 - The ability of the cable company to explain and address billing questions (Poor=43%)
 - The helpfulness of customer service assistance accessed through the company's website or online (Poor=43%)
 - be equally aware of local community access channel programming as respondents overall, with, at minimum, 20% viewing at least on a weekly basis
 - find local community access channel programming equally as important as respondents overall as respondents overall
 - equally find the same types of local content/programming important to them
 - equally want local community access channel programming available on-demand through online streaming videos
 - equally have Internet in the home when compared to respondents overall

- for those who used to have Internet in the home (<1%), the main reason they stopped subscribing was due to cost/expense of service and equipment
- pay between \$51 and \$75 for home Internet and of this group, have trouble paying for their Internet (46%)
- for those without Internet in the home believe “free” as a reasonable price to pay for home Internet, with those with Internet in the home choosing between \$41-\$50 as a reasonable amount to pay
- similar to overall respondents, accessing the Internet outside the home using their data plan on their cellphone and at their place of employment/work
- equal to the overall group, believe that access to the Internet is as essential as electricity.
- indicate that free public access to the Internet is *essential* (56%)
- indicate that local government working to ensure that all persons have affordable access to the Internet at home is *essential* (68%), and that having a choice of more than one Internet service provider is *essential* (62%)
- similar to overall respondents, find cost/affordability as a barrier to getting and using communications technologies
- be respondents with similar age distribution as the overall group
- be more likely to rent their home
- be equally as likely to have children in the home as overall respondents
- have a household income under \$25,000 (30%)
- be employed (49%); however, have a larger number than respondents overall that are unable to work (19%)
- be a white female

Seniors (N=69)

- ❖ One in five respondents (20%) reported being seniors (in the age category of 65 and older)
 - These respondents tended to:
 - be more likely to live with a disability and have that disability be a mental health or physical disability
 - be less likely to subscribe to a video streaming entertainment service than survey respondents overall
 - be more likely to have only free-over-the-air broadcast TV or be a cable television subscriber than respondents overall
 - be similar to overall respondents in having a monthly cable bill more than \$100
 - be less aware of local community access channel programming; however, those that are aware, watch at least once or twice a week, in similar numbers to respondents overall
 - find local community access channel programming important (90%)
 - find the same types of local content/programming important to them as respondents overall

- want local community access channel programming available on-demand through online streaming videos similar in number to respondents overall
- have Internet in the home similar to respondents overall. For those who don't have Internet in the home but used to have Internet in the home (<1%), the main reason they stopped subscribing was due to cost/expense of service and equipment
- indicate that for those without Internet in the home “free” is a reasonable price to pay, and for those with Internet in the home (who currently pay on average between \$76-\$100 for home Internet), between \$41-\$50 is reasonable cost to pay for Internet.
- be prevented from subscribing to Internet at home due to *an inability to pay as you go, the provider requires access to their bank account or the provider's want contract terms.*
- indicate that access to the Internet is as essential (87%) as access to electricity (an essential utility) similar to respondents overall
- indicate that free public access to the Internet is important (93%) similar to respondents overall
- indicate that it is *essential* (59%) that local government work to ensure public safety is not negatively impacted by new technology in their neighborhood
- indicate that it is *essential* (83%) that service providers do not monitor their service without their authorization
- have a cellphone only (49%) or a landline and cellphone (43%)
- find cost/affordability as a barrier to getting and using communications technologies, similar to overall respondents
- be more likely to own their home
- have no children in the home
- have a 4-year college degree or higher level of education
- be retired (54%), or retired/working part-time (16%)
- be a white female

Respondents Who Live Outside and Work Inside Multnomah County

- ❖ Twenty-three survey respondents indicated that they live outside the County but work within the County.
- ❖ Five indicated having a disability, mostly a physical disability or a mental health issue; one indicated having a family member in the house with a disability
 - The cellphone was the most critical device noted for communications technology
 - The most frustrating issue with the use of communications technology was *keeping up with changing technologies.*
- ❖ Forty-six percent (46%) had cable television service (41% Comcast; 5% Frontier/Ziply) in their home, and 89% had Internet in the home
- ❖ Both cable TV characteristics and Internet service and use characteristics were rated higher by those living outside Multnomah County

- ❖ Almost 9 in 10 (88%) indicated that access to the Internet was as essential as access to electricity
- ❖ They placed high importance on there being places with free public access to the Internet (88%)
- ❖ They were mostly between the age of 55-64 years old
- ❖ They had a 4-year college degree or higher
- ❖ They earn over \$75K in household income

Respondent Residency and Employment Characteristics

- ❖ A majority of the Multnomah online survey respondents live in Portland:

Area	Live
Portland	80%
Gresham	9
Troutdale	3
Fairview	6
Wood Village	1
Elsewhere in Multnomah County	1

- ❖ The vast majority of the online sample identified themselves as being employed (72%), while 12% were retired, 9% were not employed, 4% were unable to work, 3% were seeking employment, 3% were volunteering, 2% were students, 2% declined, and 3% indicated Other.

ATTACHMENT 3.A

**QUALITATIVE COMMUNITY TECHNOLOGY PUBLIC ONLINE
SURVEY RESULTS**

Q1. Where in Multnomah County do you live? (N=442)

Portland	80%
Gresham	9%
Troutdale	3%
Fairview	6%
Wood Village	1%
Elsewhere in Multnomah County	1%

Q2. What is your five-digit zip code? (N=434)

97019	0%
97024	6%
97030	4%
97060	4%
97080	3%
97201	1%
97202	5%
97203	5%
97204	2%
97205	3%
97206	6%
97209	3%
97210	2%
97211	5%
97212	5%
97213	7%
97214	3%
97215	3%
97216	2%
97217	3%
97218	0%
97219	3%
97220	3%
97221	1%
97227	1%
97229	1%
97230	4%
97231	1%
97232	3%
97233	2%
97236	2%
97239	1%
97266	4%

Q3. Do you or does a member of your household live with a disability? (N=434)

Yes, Myself	15%
Yes, another household member	8%
No	76%
Don't Know	1%

Q4. As you complete the survey, please keep in mind your needs or the needs of your household member living with a disability. Please describe the nature of the disability? (Mark all that apply) (N=97)

Hearing - deaf or having serious difficulty hearing, use ASL, cochlears	12%
Vision/Visual - blind or difficulty seeing, even when wearing glasses, use a screen reader, large print	16%
Cognitive/Developmental – mental, or emotional, remembering, concentrating, decisions	30%
Speech/Communication – communicating, verbal social interaction	10%
Ambulatory/Mobile/Physical - difficulty walking or climbing stairs (mobility or physical disability)	42%
Self-care - difficulty bathing or dressing	6%
Independent living – difficulty doing errands, visiting a doctor, shopping	15%
Mental Health – difficulty with mood, behavior or thinking even with medication	39%
Decline	4%
Other (please specify)	19%

*I have diabetes and a high blood pressure and one single Kidney
Dyslexia
Issues with visual and auditory processing, but not acuity
Chronic migraine and fibromyalgia
Too hard to even try to describe the nature of even one small disability area
HIV+, Chronic condition
End stage renal failure
Work and driving limitations due to neurological condition; no impact to ambulation or independent living
Autoimmune and neurological
I'm sort of offended by this list. Here are specifics: Autism and Dyslexia.
Type 1 diabetic
Autoimmune
Chronic pain, sometimes limits mental health, mobility
Seizures
Acromegaly,
Epilepsy
Incontinence, stiff joints edema
PTSD*

Q5. You indicated that you or a member of your household is living with a disability. What communications technology-assistive devices would you consider of critical importance? (Mark all that apply) (N=95)

Cell phones / Smartphones / Apps	80%
Internet access / High speed Internet	82%
Tablets / Computers	67%
Devices to aid in hearing	14%
TV / Cable	25%
Devices to aid with speech	8%
Devices to aid with vision	20%
None/NA	7%
Other Devices (please specify)	13%

*Wii
Speech to text, audiobooks
Child - speech therapy
Captioning real time, especially for phone calls with stupid people who do not know what ADA is or what accommodation means
Security cameras for elderly
Closed captioning on Cable TV/videos
OCR Pens, text to speech, speech to text, screen readers
Bluetooth connected, closed loop insulin pump and continuous glucose monitor
Standard devices work fine.
Smart watch
Bars in bathroom
Captioning*

Q6. What frustrations are there in the use of communications technology, including assistive and non-assistive devices? (Mark all that apply) (N=95)

High prices / Costs	68%
Charging batteries for devices	24%
Robocalls	53%
Lack of changes in technology related to assistive devices	18%
Lack of inclusion of assistive technologies in devices or apps	29%
Keeping up with changing technology	40%
Unreliable technology	26%
Information Hackers	37%
Lack of technology compat bility of assistive device features with current technology	19%
None/NA	7%
Other (please specify)	9%

Advertisements everywhere. It's a capitalist hellscape out there.
Wheelchair charging
Lack of getting help, lack of getting information, lack of accurate current information, and assistance , being forced to make myself sick because of lack of accommodation and needs and no help when needed
The only way to reach out for help is the Internet and the cost is so high for seniors; many do not have it.
People who don't respect that I need assisted communication technology
Peoples' lack of awareness
Complexity of installing/maintaining tech and communicating with providers
Lack of training
Gang violence especially when vulnerable people have a health crisis and are in hospital care. Residents do ganglike violations including unlawful entry to residents apt and theft, crank phone calls etc.!!!

Q7. Does your household currently subscribe to any news and entertainment streaming services, such as Netflix, Amazon prime video, or others (not including Internet Live TV services)? (N=424)

Yes	80%
No	20%
Don't Know	0%

Q8. Does your household currently have free-over-the-air TV, or subscribe to Satellite TV or Internet streaming TV services? (such as, Dish/DirectTV, Hulu+LiveTV, Sling TV, AT&T TV NOW, YouTube TV, etc.) (Mark all that apply) (N=424)

Yes, Free-over-the-air broadcast TV	32%
Yes, Satellite TV	4%
Yes, Internet Streaming Live TV	22%
No	46%
Don't Know	3%

Q9. Does your household currently subscribe to any cable television services? (such as, Comcast/Xfinity, Frontier, or CenturyLink) (Mark only one) (N=421)

		<u>Cable TV=154</u>
Yes, Comcast / Xfinity	32%	87%
Yes, Frontier	1%	3%
Yes, CenturyLink	4%	10%
Yes, Reliance	0%	
No Cable TV service at home	59%	
Yes, Reliance	0%	
No TV Service	0%	
Don't Know/Don't Remember	2%	
Other (please specify)	2%	

Apartment provides Xfinity cable tv for free of charge.
Direct TV; but planning to change in near future
Free Xfinity flex because we use their wifi. It sucks.
Comcast but only basic cable to get Internet service, no premium channels
Only Internet
Direct TV / AT&T
Frontier Fios
YouTube TV
Dish

Q10. Why have you chosen not to subscribe to cable television services? (check all that apply) (N=259)

Cost/ Expense/Poor value	80%
Not available in my area	1%
Poor picture/sound quality	2%
Better options	29%
Less expensive options	39%
Customer service issue	17%
Don't Know/Don't Remember	0%
Dissatisfaction with cable company	38%
Unhappy with programming/content	29%
Switched to only video over the Internet	29%
Didn't watch much/enough TV	38%
Switched to satellite service	4%
Dissatisfaction with cable package (want a la carte option)	28%
Lack of stable housing	2%
Other (please specify)	10%

Too many unavoidable commercials!!!

Xfinity cable included in rent

Don't spend enough time at home to warrant cost; have higher priorities for my time at home

Don't have the time to justify it

Despise commercials with a passion

Cable news is gross and right wing

Not interested in watching anything on cable TV

I've managed to never have cable, And I don't want to add the expense. However, when Netflix, Prime, and Hulu came along, I subscribe to those. I have

Language barrier

Local news programing is way too biased

I hate commercials

Comcast sucks; comcast too expensive

Advertisements are annoying

Cost is biggest issue

I've always been Internet only

Don't want to rent cable box

Borrow DVDs from Multicolib

Doesn't offer the NFL package

Don't like watching commercials

Too many channels when we tried it

Have young children and trying not to expose them to screens

Media is promoting violence and Racist behaviors and glorifies through repetition the violent acts through Breaking news repetition esp against children!!!

Comcast is the devil

Nothing on tv

Don't even see the need to have a TV when I have a computer

Q11. Including all the services, taxes and fees on your cable bill, what would you estimate your average monthly bill to be? (N=137)¹

Range (\$0-\$385); Mode: \$200.00 Average: \$151.42

a. \$0 (Free)	1%
b. \$1-10	1%
c. \$21-30	1%
d. \$31-40	3%
e. \$41-50	2%
f. \$51-75	7%
g. \$76-100	12%
h. \$101-150	29%
i. \$151-200	23%
j. \$201-250	14%
k. \$251-300	3%
l. \$301+	4%
Don't Know	1%

¹ Individual cost amounts were provided by survey respondents. These were combined into ranges of costs for evaluation purposes.

Q12. How would you rate the following over the last year? (N=138)

	Excellent	Good	Fair	Poor	Don't Know/NA
The ability of the cable company to successfully resolve a problem with your service within 1-2 business days	17%	29%	25%	19%	10%
The ability of the cable company to resolve an outage within the next business day	14%	31%	23%	10%	21%
The accuracy and understanding of your monthly cable bill	13%	27%	37%	22%	1%
The ability of the cable company to explain and address billing	9%	23%	25%	29%	14%
The helpfulness of customer service assistance accessed through the company's website or online.	9%	19%	32%	28%	12%
You receiving a notice at least 30-days in advance of a rate or fee change	7%	13%	21%	29%	31%
The ease of use of the automated telephone menu options when calling your cable company	7%	11%	25%	38%	20%

Q13. How would you rate the following over the last year? (N=138)

	Excellent	Good	Fair	Poor	Don't Know/NA
The cable company's notification to you 30-days prior to changes in programming	7%	10%	21%	31%	31%
The helpfulness of the cable company's employees	12%	30%	35%	14%	9%
The variety of cable programming packages offered	7%	25%	28%	28%	12%
The convenience of the location of the local cable company office	9%	22%	20%	19%	29%
The hours the local cable company office is open	8%	25%	19%	10%	38%
Overall satisfaction with your cable company	8%	23%	43%	25%	1%

Q14. In your area, local community programming is available on cable television channels and the Internet from community media centers like Open Signal in Portland and MetroEast Community Media in Gresham. These organizations, and others, show local community productions, city council and county board meetings, as well as local school and community college programs and information. Are you aware of these local community channels? (N=402)

Yes 58%
No 39%
Don't Know/Don't Remember 2%

Cable Subscribers (N=136)

Yes 66%
No 31%
Don't Know/Don't Remember 3%

Non-Cable Subscribers (N=266)

Yes 55%
No 44%
Don't Know/Don't Remember 2%

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=232)

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=232)	Daily	Weekly	Once or Twice a Month	Once or Twice a Year	Never	N/A
via Television	7%	8%	13%	18%	50%	4%
via Smartphone (iPhone, Android)	4%	5%	14%	14%	58%	5%
via Tablet (iPad, Kindle)	1%	4%	8%	7%	70%	10%
via Desktop/Laptop Computer	3%	8%	16%	21%	47%	5%
via Game Console	0%	0%	1%	1%	82%	15%

Q16. How important is it that local community programming be available? Would you say ... (N=399)

Essential 25%
Very Important 34%
Somewhat Important 28%
Not at all Important 9%
Don't Know 5%

Q17. What types of local programs and content do you consider most relevant and important to you? (mark all that apply) (N=390)

Local business	32%
Educational	62%
Art and culture	63%
Local sports	20%
Senior citizens	22%
Non-Profit organization	39%
Local medical and wellness	31%
Community or neighborhood news	72%
Local children and youth	27%
Local government information and services	71%
Religious and faith-based, spiritual	7%
Reflect my own ethnicity, culture or experience	16%
Available in my first language (other than English)	8%
None	5%
Other (please specify)	4%

People of color who identify as LGBTQ

Comedy, Portland has a really active community of comedians trying to entertain people, they do shows throughout the week, many of them for free, and

Under-represented cultures such as First Nations

School district broadcasts

Outdoors

Literary Arts

City council meeting

The local city government is only concerned about their own agenda, so much so the Mayor and the commissioners office don't even answer their phone

to receive concerns from citizens. Again the Mayors and commissioners office dont answer their office phone or return phone calls after leaving NPR

Religious groups can provide their own platforms.

Community information in a variety of languages

Non-Bias

YouTube covers all of this now.

Reflective of non dominant culture experience

Choices facing the community, how to make the community better.

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=365)

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=365)	via Cable TV real-time (live TV)	via Cable TV on-demand	via Live streaming video online	via On-demand streaming video online	via Languages other than English	N/A
On Television	17%	13%	10%	30%	0%	31%
Through Smart TV App	6%	4%	10%	32%	0%	47%
Through HDMI TV Plug-in (i.e. Chromecast, Apple TV, Fire Stick, etc.)	3%	3%	13%	35%	0%	46%
On Smartphone	2%	2%	17%	45%	2%	32%
Through Smartphone App	2%	3%	14%	44%	1%	38%
On Tablet (iPad, Kindle)	2%	1%	13%	34%	1%	49%
On Desktop/Laptop	5%	4%	18%	49%	0%	25%
On Game Console	1%	0%	5%	17%	0%	77%

Q19. What do you consider your most trusted sources for local news and neighborhood content and information? (N=289)²

Top six (6) Answers

Oregon Public Broadcasting (OPB)/OPB Radio	28%
Local News (TV and Newspaper)	27%
Oregonian	11%
KGW	8%
Willamette Week	5%
Nextdoor.com	5%

Q20. Please tell us about your home Internet service. (Mark only one) (N=375)

I have Comcast/Xfinity Internet	61%	
I have Comcast Internet Essentials	2%	
I have CenturyLink Internet	23%	
I have Frontier Internet	5%	91%
I have Reliance Connects Internet	0%	
I have Satellite Internet (Dish/DirecTV)	0%	
I have Not Internet Service at Home	0%	
Don't Know	0%	
DirecTV (Satellite)	0%	
Frontier/NWLLC	0%	
I have Internet through my cell phone service ONLY (such as Verizon, Clear, Cricket, Sprint, T-Mobile, AT&T, etc.)	3%	
I have No Internet Service at Home	3%	6%
Don't Know	1%	
Other (please specify)	2%	

T-Mobile hot-spot

I have Century Link currently but service delivery is so bad (late) that I will be changing soon

I have Internet service through Verizon but it is not ONLY through my cell phone.

All I have tried are VERY VERY expensive with poor customer service and poor functioning. Currently using StepHouse because it is the best of all the poor choices

T-Mobile, Earthlink

Fibersphere

*My computer room not safe because residents stalk me and *I believe know how to get info even when I delete my history also inaccessible to legal help*

I have Comcast/Xfinity Internet, as well as Frontier FiOS

A different local company

For Those that Don't Have Internet at Home

Q21. If you only use a smartphone for Internet at home, how often does your data limit keep you from using the Internet? (N=12)

A lot	8%
Sometimes	33%
Not very often	17%
Never	33%
Don't Know	8%

Q22. Even though you don't have internet at home now, has your household ever had Internet services at home? (N=22)

Yes	77%
No	23%
Don't Know	0%

Q23. Have you ever signed up for Internet service through a program that provides Internet services at a reduced cost for low-income households or veterans, such as Comcast's Internet Essentials? (N=17)

Yes	12%
No	88%
Don't Know	0%

² Survey Respondents provided individual open coded answers that were combined to determine the top answers. Individual open coded responses can be found in Attachment 3 B.

For Those that Don't Have Internet at Home

Q24. How satisfied were you with that Internet service? (N=2)

Very Satisfied	0%
Satisfied	0%
Dissatisfied	50%
Very Dissatisfied	50%
Don't Know	0%

Q25. What are the main reasons or barriers you do not have Internet at home? (Mark all that apply) (N=20)

Service issues / Not reliable	20%
Speed of service	20%
Do not know how to use it	0%
Cost / Expense of service	95%
<i>Not available in my area (zip codes: 97204 and 97233)</i>	10%
Cost / Expense of equipment	65%
Technical problem	10%
Smartphone is all I need	5%
Wasn't eligible for special offers, or was rejected when applying	10%
Didn't allow me to do what I wanted	0%
Don't have a computer or other device	10%
Security / Safety / Privacy concerns	10%
No need / No desire	10%
Service plans offered are confusing	25%
Support is not available in my primary language	0%
Service doesn't work well	10%
Service is frustrating to use	20%
Lack of stable housing	5%
Don't Know	0%
Other (please specify)	15%

*Disability prevented from using computers due to extensive tremors.
Not home enough to warrant, higher priorities for time at home
Limited options. Companies I refuse to do business with.*

Q26. Have any of the following prevented you from subscribing to Internet at home? (Mark all that apply) (N=19)

No ability to pay as you go	26%
Required credit check	11%
Required access to bank account	11%
Required contract terms	32%
State or Federal ID was required	5%
There was no one to help in my language	0%
No in-person signup option	0%
Lack of stable housing	0%
No / NA	37%
Other (please specify)	16%

*Terrible internet companies and practices.
Use the public library. Prefer to make video versus watch.
Housing situation--on campus of a church that doesn't want to work with us*

Q27. Would you be more likely to sign up for Internet service at home if it cost less? (N=20)

Yes	80%
No	5%
Don't Know	15%

For Those that Don't Have Internet at Home

Q28. What is an affordable Internet cost for you on a monthly basis? (N=17)³

Range: (\$0-50); Mode=Free; Average: \$17.50

a. \$0 (Free)	29%
b. \$1-5	6%
c. \$6-10	12%
d. \$11-20	18%
e. \$21-30	12%
f. \$31-40	6%
g. \$41-50	12%
h. Other	6%
<i>Choose not to buy</i>	

For Those with Internet in the Home

Q29. How much do you currently pay per month for Internet service at home? (N=303)⁴

Range: (\$9.95-\$300); Mode= \$60 ; Average= \$82.88

a. \$1-10	2%
b. \$11-20	1%
c. \$21-30	1%
d. \$31-40	9%
e. \$41-50	11%
f. \$51-75	28%
g. \$76-100	20%
h. \$101-150	10%
i. \$151-200	5%
j. \$201-250	2%
k. \$251+	1%
l. Bundled	6%
j. Don't Know	5%
k. Other	1%
<i>Reimbursed by employer</i>	
<i>None of your business</i>	
<i>Business corp</i>	

Q30. Does the amount you pay for Internet service ever cause you to delay or avoid other important bills or purchases? (N=336)

Yes	15%
No	82%
Don't Know	4%

Q31. What things have you done without or delayed purchasing because you paid your Internet bill? (N=43)⁵

Top Four (4) Answers

Food/Groceries	49%
Utilities	21%
Clothing	19%
Gas	7%

Q32. Have you ever had trouble paying your Internet bill? (N=334)

Yes	25%
No	74%
Don't Know	2%

^{3 and 4} See footnote 1.

⁵ See footnote 2.

Q33. What would you consider a reasonable cost to pay for home Internet service per month? (N=318)⁶ (multiple responses)

Range (\$0-\$200) ; Mode= \$50.00 (N=74) ; Average: \$44.18

a. \$0 (Free)	2%
b. \$1-10	3%
c. \$11-20	7%
d. \$21-30	21%
e. \$31-40	22%
f. \$41-50	28%
g. \$51-75	10%
h. \$76-100	6%
i. \$101-150	1%
j. \$151-200	1%
k. Don't Know	4%
l. Other	1%

Depends on your budget.

I think the amount I currently pay is pretty reasonable, but I know it is a temporary deal for new customers and will increase significantly after a year.

Q34. How often do you use the Internet services at the following locations outside of the home: (N=367)

Q34. How often do you use the Internet services at the following locations outside of the home: (N=367)	Daily	Several times a week	Once a week	Monthly	Rarely	Never
At a Government office	11%	4%	2%	4%	26%	38%
At a Public space / Public park	7%	13%	10%	10%	27%	27%
At your place of work / Employer	58%	10%	2%	1%	3%	11%
At a friend or relative's house	3%	14%	22%	19%	26%	12%
At a School / College / University	9%	5%	4%	7%	17%	29%
At the Public Library	3%	7%	6%	13%	38%	22%
At a Restaurant / Coffee shop / Bar / Hotel	4%	20%	23%	19%	18%	12%
At another business	3%	14%	13%	16%	26%	17%
Through your Data Plan on your Mobile Device	61%	12%	6%	3%	6%	7%
Other (please specify)						

Q35. Have you ever had any problems using the Internet services at the locations you indicated above? (N=369)

Yes	51%
No	40%
Don't Know/Don't Remember	8%

Q36. What types of problems? (N=178)⁷

Top Three (3) Answers

Connection issue	49%
Slow service	28%
Lack of access	10%

Q37. What devices do you use to connect to the Internet outside your home? (Mark all that apply) (N=364)

Computer/laptop	61%
Smartphone	89%
I don't own a device to connect to the Internet	1%
iPad/tablet	30%
Game console	3%
None	2%
Other (please specify)	2%

I do not take my own computer out- this question is badly phrased

Library and my bank have computers available

Husband has smartphone.

I do not connect to the internet outside the home with my own device.

Only use wifi signals but don't leave house often

Desktop computer at the library

Hotspot

Library computer

⁶ See footnote 1.

⁷ See footnote 2.

Q38. Is access to the Internet as essential to you as access to electricity (in other words an essential utility)? (N=365)

Yes	87%
No	11%
Don't Know	2%

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=356)

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=356)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
Fast Speed	52%	39%	9%	1%	0%
Unlimited or plentiful data	48%	40%	11%	1%	0%
Reliability	76%	24%	0%	0%	0%
Security and privacy	81%	17%	2%	0%	0%
Cost	41%	45%	14%	1%	0%

Other (please specify)

Location - universal access

Publicly owned municipal broadband

CenturyLink does not offer written pricing so it is very confusing what speeds will cost how much money.

This survey is too long and complicated

I already pay Comcast for Internet and mobile broadband and both are slow outside of my network.

Net neutrality.

Must be very low since we are moving to mobile devices, apps and other means for financial and business communications and information

Search engine that does not track individual preferences.

Get rid of all this 4G, 5G crap

Low/reasonable cost is essential. The way the question is worded doesn't specify if costs should be high or low.

Accountability to the environment (5G possible disruption to wildlife based on frequency) I would rather have a less fast internet than destroy ecosystems

Back up systems in place to keep communication system up

Good and fair peering is very important to me also.

Freedom and enforceable rights.

Q40. How important are the following to you? (N=355)

Q40. How important are the following to you? (N=355)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
That there are places with free public access to the Internet	43%	36%	15%	5%	1%
That your local government works to ensure all persons have affordable access to the Internet at home	55%	28%	10%	5%	2%
There are protections against your service provider selling or sharing your personal information	76%	20%	3%	1%	1%
That your service providers do not monitor your service without your authorization	79%	16%	4%	0%	1%
There are free computers and classes to learn to use the Internet	31%	32%	25%	10%	2%
Your local government ensures that you have a choice of more than one Internet service provider	58%	25%	11%	4%	2%
Your local government ensures that public safety is not negatively impacted by new technology in your neighborhood	55%	26%	14%	3%	3%
Your local government ensures that aesthetics and overall quality of life are not negatively impacted by new technology in your neighborhood	37%	26%	26%	7%	3%

Q41. Does your household have a cell phone, a landline phone, or both? (N=356)

Cell phone only	74%
Landline phone only	1%
Both	22%
Don't Have either	0%
Don't Know	0%
Other (please specify)	3%

Cell phone and Ooma (computer-based phone)

I have both. The landline is to reduce the huge/daily numbers of scam/sales calls and keep them off of my cell phone.

Non-smart cell phone with no internet connection possible

Cell and OOMA

It's under my dad's account, he lives elsewhere

Cell phone + ham radio

VOIP and Cell

I have no cell phone coverage at my home so rely on wifi calling only.

Internet line.

Q42. Do you: (N=80)

Mostly use your cell phone	66%
Mostly use your landline phone	15%
Use your cell phone and landline phone equally	19%

Q43. What do you consider the most effective ways to receive local emergency information, other than the local air siren? (Mark all that apply) (N=354)

Television	45%
Email	40%
<i>Text Alerts on cell phone</i>	89%
Radio	48%
Internet	47%
Weather App	23%
Local Government App	10%
Newspaper	11%
Landline phone	10%
Social Media	45%
Don't Know	1%
Other (please specify)	3%

Street speaker to warn about earthquakes

Did you mean "web" when you listed "internet"

Door-to-door

Neighborhood Emergency Teams

Messages left at text relay number (tty), and the online options need to have ASL versions of their messages

Depends on whether it's a real emergency. Don't want to receive Amber alerts or anything like that, just things that affect our household directly.

NOAA Weather Alert radio

Those emergency texts you sometimes get

Word of mouth

OPB

Q44. How do you prefer to communicate with, or receive information from, your local government? (mark all that apply) (N=350)

Telephone call/voice message	22%
US Mail	45%
Go to an office / In-person	18%
Attendance at a Public Meeting	22%
Cable TV or over-the-air broadcast TV	21%
Print Newsletter / Newspaper	29%
Internet / Online	73%
Social media post	39%
Email	65%
Radio	23%
Texts on a cell phone	45%
Don't Know	1%
Other (please specify)	2%

Schools and libraries

A police department that actually solves when arriving on a call instead of relating how many calls they have waiting and how busy they are. After all they are at the call so why not do something to fix the problem instead of 100 others Agencies that are supposed to help and don't.

App specifically from organization

Diverse systems that give me options.

Depends on the type or content of information; different channels for different communications

Unfortunately, most media is consumed via Facebook which is not monitored by fact checking which makes it a very unreliable resource, yet reaches the masses.

Q45. Why do you prefer the methods you indicated above? (N=271)⁸

Top Five (5) Answers

Easy/Ease of use	17%
Convenient/Convenience	13%
Accessible/Accessibility	13%
Fast/Quick	11%
Reliable	5%

⁸ See footnote 2.

Q46. What top one or two technologies do you really need, but don't have now? (Mark up to two choices) (N=353)

Television / cable TV service	7%	
On-Demand TV / video program service	3%	
Basic Internet service	2%	
High / Higher-speed Internet / Broadband	16%	
Telephone service	1%	
Email	0%	
Affordable Internet	28%	
Desktop / Computer in the Home	2%	
Laptop	3%	
A cell / mobile phone	2%	
Other wireless device / Smartphone / Tablet	4%	
Social Media (i.e, Facebook, Twitter)	0%	
Connections to home security / Heat-AC / "Nest"	10%	
None	46%	(N=161)
Other (please specify)	6%	

I wish I had the ability to operate cameras for pets and control heat and lights remotely
Internet service that is reliable. Comcast is not reliable at all and is getting markedly worse.
Municipal broadband, this is important, I support it 100%
Programmable thermostat (to lower heating costs). Rental, so controlled by landlord.
Over the air TV is sporadic due to the way digital antennas work. There' is not a choice for "a la carte cable tv service" but seriously we'd pay Comcast the same amount of money if we could choose to get rid of some channels (like sports) and add others (like access to shows on Netflix)
Security system
We all need this, these days.
I don't need much as I'm privileged enough to speak English and be able to afford internet. When I think about my parents however, I think having more language options would be a great benefit.
Fiber Optic
At this time, I already have what I need/want
An app that does live captioning so I can understand my friends better in spoken conversations
Security cameras/Ring doorbell
Choice in internet provider that prioritizes privacy
Need to replace our old HDTV with a SmartTV that has streaming channels. Our Roku unit is no longer supported.
None
True broadband speeds (100Mbps+) for a reasonable price
Free over-the-air TV or access to local channels, we can't access it in our home even with an antenna
5G wireless connectivity in the City of Portland
The ability to not have Fox or CNN included in basic packages. If you want that crap, you should have to pay for it.
No matter how much I pay, my internet is still too slow
Enforceable rights. Freedom from Monopoly power. A local government that will stand up for their constituents instead of looking out for themselves.

**Q47. What are the reasons or barriers keeping you from getting or using the technologies you don't have now? (Mark all that apply)
(N=334) (This question asked of everyone)**

		(N=192/54%) Those who indicated a technology in Q46
Cost / Affordability	50%	76%
Lack of available choices / options	25%	39%
Not available in my area	9%	14%
Safety / Trust	10%	14%
Don't Know how to obtain them	4%	7%
Hardware (Platform)/Software issue	4%	6%
Training / Don't Know how to use them or where to start	6%	10%
Not aware of options	7%	12%
Lack of stable housing	2%	3%
Nothing / No barriers / No reasons	36%	8%
Don't Know	3%	1%
Other (please specify)	7%	8%

My family has streaming services & they pay the bill. I would like cable but can't afford it. Plus CenturyLink isn't very good & Comcast is evil. I'm lucky in having few barriers right now but that could change easily. I know I am paying more for internet now than I should and need to find something more sustainable.

I don't want to pay twice what I currently pay for a feature phone to use a smartphone.

*Landlord has no incentive to lower *my* energy costs.*

Accessible to low/no vision users

Just not home enough to warrant monthly cost of service and want to limit already excessive screen time due to working on a computer all day

I honestly do not know why I don't have a landline.

I have all that I need.

As an old person, my income beyond Social Security requires freelance work. I need affordable software and affordable, reliable Net connectivity. I also need this for getting medical information and other necessary information.

Easy ability to use

Comcast is charging too much for their services.

Have everything I need

My fear of the company monitoring me in my house.

Continuous changing of how to run apps.

Software is constantly updated/changed forcing allegiance to the companies' products.

Not sure which model/brand to select.

Have what I need

In need of a new television and can't afford one

No desire to use them

<https://statescoop.com/portland-oregon-mayor-rallies-support-for-5g-lawsuit-with-fcc/>

This question should have asked people if accessibility of products to people with disabilities kept them from having something they need. Cable monopolies control implementation and cost of high speed internet

Q48. What is your age?⁹

Range: (18 yrs. Old - 82 yrs. Old); Average: 50 yrs. Old

18-24 yrs. old	1%
25-34 yrs old	19%
35-44 yrs. old	21%
45-54 yrs. old	20%
55-64 yrs. old	18%
65-74 yrs. old	16%
75+ yrs.	4%

Q49. Do you rent or own your home? (N=351)

Own	62%
Rent	36%
Don't Know	0%
Other (please specify)	2%

Job Corps student

Live in home with owner

n/a

Rent 1/2 the house

Mobile home, so own home but rent space please protect us from being kicked out if land is sold sale-leaseback

Q50. Does your household include anyone 18 years old or younger? (N=351)

Yes	26%
No	74%

Q51. What is the highest level of education you have completed? (N=350)

Some High School or less	0%
High School Graduate	3%
Some College	14%
Trade School	1%
Associate Degree / 2-year degree	7%
College / 4-year degree	34%
Postgraduate or professional degree	39%
Don't Know / Decline	1%
Other (please specify)	1%

PHD MPH

Many conferences and workshops for survival and technical communication etc.

Masters Degree

Some college and some graduate certificates.

400+ semester hours - no degree

Q52. Which of the following categories best describes your total annual household income, before taxes? (N=347)

Under \$25,000	10%
Between \$25,000 and \$34,999	5%
Between \$35,000 and \$49,999	9%
Between \$50,000 and \$74,999	16%
Between \$75,000 and \$99,999	18%
Between \$100,000 and \$150,000	19%
Over \$150,000	10%
Don't Know / Decline	13%

⁹ See footnote 1.

Q53. What describes your current employment status? (N=350)

Employed / Working Full-time	51%	
Employed / Working Part-time	6%	
Self-Employed / Own Business	9%	
Working and in school	0%	
Retired / Working Full-time	1%	
Retired / Working Part-time	5%	72% Employed
Full-time Student	2%	
Seeking employment / Looking for work	3%	
Retired	12%	
Unable to work	4%	
Looking for work	0%	
Volunteering	3%	24% Not Employed
Decline	2%	
Other (please specify)	3%	

Laid off because of COVID-19

Recently employed, have not started job yet.

Volunteer, Artist, & SAHM

Medically retired

retired/self-employed

Working full-time and full-time student.

Unofficially retired

Working 1 F/T, 1 P/T job and periodic side hustle to help support family member.

Employed

Have been hampered for many years by physical health issues as well as anxiety and depression and am not working currently.

Volunteering AND seeking employment AND self-underemployed

Q54. How often do you telecommute or work from home using the Internet? (N=250)

Always	9%
Frequently	31%
Occasionally	27%
Rarely	14%
Never	20%

Q55. What is your gender? (N=347)

Female	54%
Male	40%
Gender Expansive (e.g., Non Binary, agender, gender fluid)	2%
Transfeminine	0%
Transmasculine	0%
Two Spirit	0%
Questioning	0%
Decline	4%
Other (please specify)	0%

Q56. Which of these is closest to describing your race and ethnicity? (N=346)

American Indian or Alaska Native	1%
Asian or Asian American	3%
Black or African American	4%
Hispanic or Latino	5%
Native Hawaiian or other Pacific Islander	0%
Middle Eastern or Northern African	1%
White	72%
Mixed	7%
Unkown/Don't Know/Decline	5%
Another Race (please specify)	2%

European American

Northern European - pink

Jewish - that is, mixed white and Middle Eastern

Russian Siberian

Euro American

Human

Europid hybrid

ATTACHMENT 3.B

**QUALITATIVE COMMUNITY TECHNOLOGY PUBLIC ONLINE
SURVEY OPEN CODES/UNDERSERVED COMMUNITY RESULTS**

Q19. What do you consider your most trusted sources for local news and neighborhood content and information? (N=289)²

1) The Oregonian ☐

2) People who I know are trustworthy posting on our community Facebook page
Apps on cellphone.

City emails, kgw

City of Portland Website

Combination of the local tv stations, newspaper and radio. no one tv station is reporting accurately. no one newspaper is writing well or accurately. radio does not report on issues long enough.

Community access tv, street roots, skanner, mercury blog, opb

Computer and cellphone

Direct website for PPS, the Southeast Examiner seems to be good. The local news channels are trusted for stories that occur in the moment, such as accidents, storms, sports, etc. Stories that are "researched" are less trusted after seeing this process play out (my boss is the media contact for my employer and "reporters" typically give less than 15 minutes notice (on voicemail) asking if they would
Don't trust any sources as of now.

Facebook (2)

Facebook group, flash alerts, Gresham Outlook

Fairview Point Newsletter

Fox 12

Free local papers

neighborhood content.

Gresham Outlook (3)

Gresham Outlook, Mayor Cooper

Gresham Outlook; Troutdale Canfield blog; oregonlive

Have not determined

Haven't found one.

Haven't watched enough local TV yet to decide

Hollywood Star, Scanner newspaper, OPB when news is local (but mostly national, international)

I actually get a lot of updates on Facebook that are posted by people running for City Council.

I don't trust local media anymore. I just watch OPB and listen to NPR.

newsletters, and community media to be my most trusted sources,

Willamette Week and my local neighborhood newspaper.

I go online to KGW and KATU as well as OregonLive

I listen to OPB and I read the Southwest News newspaper.

I pick up Willamette Week and Portland Tribune from time to time, but basically I don't pursue or get local news much. I subscribe to the New York Times which often, when I lived in Old Town, reported on "news" that was not available locally like the increase in meth use on our streets. I often use the Web

I prefer print, radio

I trust KBOO and the Skanner and Asian Reporter and Observer for local news and the neighborhood papers for neighborhood content. I listen to OPB for the radio coverage and national picture

I wouldn't say I have a "trusted source"

I'm not really sure I trust any of them fully so I read everything so I get a wide scope.

Instagram

Internet.

Internet. Non-mainstream news outlets (epic times, other third party news).

KATU Channel 2 News

KBOO, OPB (2)

Kboo.fm 90.7, kopb.fm 91.5

KGW (2)

KGW 8

KGW and KOIN, Oregonian

KGW local broadcast station

KGW news on TV and online

KGW news, other local news programs

KGW, Oregonian

KOIN

Koin 6, Willamette week

KOIN daily digest, Good Morning from CNN, newsletters@wweek.com, the Skimm, Nextdoor

KOIN News

KPTV (3)

KPTV, WW, Tribune, OPB

Live tv, internet local news sites, newspapers

Local (online) news papers,

Local broadcast and network on free tv and newspapers viewed online

Local broadcast news

Local broadcast stations (KATU, KOIN, KGW, KPTV)

Local broadcast TV news programs (ABC, CBS, NBC), NPR and local newspapers (including regional and neighborhood papers). Also websites like NextDoor which is where I found this survey.

Local broadcasting of city council and planning commission

Local channels associated with larger news broadcasting agencies, like ABC.

Local independent producers.

Local meetings and social media

Local newspapers and their websites: Oregonian, Willamette Week, Tribune and The Sellwood Bee

Local radio programs on KBOO and OPB

TV: OPB

Local news

Local news and Facebook, which is now more used.

Local news app alerts

Local news apps

Local news channels and emails from my neighborhood association

Local news channels articles and video clips on my phone. Sometimes the evening news on TV.
fewer publications)

local news station

Local news stations -- KATU, KOIN, KGW,

Local news stations such as KGW or KOIN.

local news websites like katu and kgw

Local newspaper, online groups posting first hand information

Local newspapers (Oregonian, WW, Street Roots, NW Examiner, Portland Tribune); NPR

Local newspapers and following the journalists on Twitter.

Local newspapers and news channels

Local paper, local television, public channels

Local papers online

Local radio stations such as OPB, Xray fm, and KBOO

local TV and local newspapers

Local TV news (5)

Local tv stations, libraries

Local TV stations, local newspapers

Local/neighborhood newspapers and newsletters

Neighborhood association free newspaper delivered to my door.

Neighborhood association newspaper, Bridgeliner, Willamette Week

Neighborhood Newsletter, Neighborhood Newspaper, Oregonian, OPB Radio

Neighborhood newspaper, Mercury

media channels

Neighborhood newspapers through Pamplin Media, like Southeast Examiner, Sellwood Bee and the Portland Tribune, and Oregonian. Also Willamette Week and occasionally, Portland Mercury.

Neighborhood papers, neighborhood groups, Media publications (Oregonian, OPB, Tribune)

Neighborhood/community social media, neighborhood associations, local service organizations

Neighborhood: Faceook. Local: newspaper

NETWORK LOCAL NEWS, Facebook

News paper (9)

News sites (like KOIN, KGW, etc) on the Internet

Newspaper and NPR

Newspaper or phone.

Newspapers and news pieces on local news websites

Next Door App

Troutdale City web site

Next door app, Twitter, local news broadcast on Facebook, emails

NextDoor app, local news station

Nextdoor including government agencies' and neighborhood association posts.

Nextdoor, Willamette Week, Facebook groups.

NextDoor.com; local broadcast affiliates, except for KATU (Sinclair Broadcasting), OPB

No single source, compare two to three sources.

very few choices offered at any cost, let alone for free

biased

no longer rely on any one source. No longer get the Oregonian, weekly papers are poor, don't watch any TV news, OPB has gotten terrible.

not sure there is one :(

Not the slightest idea (But NOT FOX!)

NPR

NPR - OPB (2)

NPR or Oregonian

OCCL Facebook, Neighborhood Association Facebook, nonprofit newsletters, bureau newsletters

Online

Online access to local newspapers and the r/Portland subreddit.

OPB (20)

OPB (radio and online), Willamette Weekly

OPB / NPR (3)
 OPB public broadcasting
 OPB Radio (4)
 OPB radio and TV, KGW TV,
 OPB TV station and then The Bee newspaper
 OPB!!! Skanner and NextDoor are good, too
 OPB, and Gresham Outlook
 OPB, Gresham Observer (I work in East County)
 OPB, KATU, KPTV, Oregonian, Willamette Week, Portland Mercury
 News, The Oregonian, Portland Mercury, KGW, KOIN, KATU
 OPB, KGW, KBOO, Willy Week. OLive
 OPB, KGW, YouTube watching City Council, Nextdoor
 OPB, local news channels, OregonLive
 Opb, neighborhood newsletter, twitter
 OPB, neighbors
 OPB, NPR, XRAY.FM
 OPB, Oregonian?
 OPB, OregonLive, Portland Tribune, NW Examiner
 OPB, Portland Mercury, KOIN
 OPB, Skanner, community group social media accounts.
 OPB, SW Community News, Oregonian
 OPB, the Mercury, Local government meetings
 OPB, Willamette Week, Portland Tribune, and the neighborhood newsletter.
 OPB, X-RAY, Hollywood Reporter, Portland Monthly
 OPBNews for Oregon based and Gresham Outlook for hyper local
 Oregon Live, Portland Tribune, OPB
 Oregon Public Broadcasting, KBOO
 Oregon Public Broadcasting, Twitter, and Nextdoor.com
 Oregon Public Broadcasting, Twitter, and Nextdoor.com
 Oregonian (4)
 Oregonian and local TV stations
 Oregonian but on internet not watched
 Community Voices on YouTube.
 Oregonian, OPB
 Oregonian, Willamette Week, OPB
 Oregonlive
 OregonLive website, neighborhood list serve (NOT NextDoor)
 Oregonlive.com, OPB radio, opb.org, wweek.com, KGW
 of which I get online, I know of no broadcast or online or other media source for local news and
 neighborhood content and information.
 Outlook newspaper, TV news on CNN,
 Over the airwaves NBC/MSNBC
 Over the fence discussions and at coffee shops
 Pamplin/Outlook
 PBS for local news, Pamplin media, KBoo radio, what people share on FB.
 Portland Mercury

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Portland Mercury, Portland Skanner, KBOO, Open Signal/Portland Community Media
Portland Tribune
Portland Tribune and NW Observer Neighborhood News
Portland Tribune and OPB
Print and local station television news
Print media; Oregonian, Laurelhurst news □
Radio
Radio, newspaper, local tv
Reading on line or in print
Reddit
Reports from neighborhood association committees and conversations with neighbors
SE Examiner, Oregonlive website, conversations with neighbors
Smart phone internet news.
Social media posts, and email from the policy makers themselves. Joann Hardesty is really good at keeping people informed on a local level. The Portland Mercury, and Willamette Weekly are alright, taken with a grain of salt. Most local news channels are owned by Sinclair Media group, and as such, Street Roots has the best journalism frankly. The Mercury, Willamette Week, and Tribune are good. The Oregonian is garbage. Local TV news is toxic garbage. OPB has good local news, generally, though they filter things through their own political acceptability lens. Most of their week day
Street Roots, Portland Mercury
Television
Television or Google news
Television, Radio, Internet
The common citizen
The communication is so poor it leaves citizens bot believing in any system set forth by the city. Mayor swears up and down he cares but, me personally trying to get some answers I have never received a call back or an attempt to rectify a situation the entire time he has been Mayor. Its as if you aren't a part of his social group for instance A DEMOCRAT OR A SANCTUARY CITY SUPPORTER, you dont
The Hollywood Reporter, Rose City Park Community newsletter
The interwebs. Local newspaper.
hyper local news.
The Mercury, Willamette Week, and Southeast Examiner
The news paper
The older ladies who attend the church where I work.
longer get my neighborhood news , in depth, because we no longer have the newspaper Mid-County Memo newspaper . I miss this little newspaper . I miss this little newspaper.
ended we no longer have neighborhood content.
The Oregonian, OPB, Gresham Outlook
The Oregonian, Willamette Week, Portland Tribune
The Outlook newspaper; Portland Tribune
The Skanner, Oregon Live, Hey Neighbor Newspaper
There are none
Too hard to say in this climate.
Tribune, WW, Mercury, KBOO
TV news channels
Tv, phone, tablet

TV/internet news. free local papers such as pamplin media or st johns review

Twitter (3)

Twitter, articles written by local news organizations online, and OPB.

Watch the news on Channel 2, and news on my phone from CNN, Apple and Google.

We chat

Weather channel, Trimet, TripChek, NextDoor, and not many others

websites.

Websites, community newspapers

Weekly papers

Willamette Week (4)

Willamette week (read online only)

Willamette Week / Portland Business Journal

Willamette week and the mercury newspapers and our opb radio station
grain of salt.

Willamette Week, Mercury, Reddit, Nextdoor

Willamette Week, Portland Mercury, Tribune, Oregonian, Apps like Nextdoor

Willamette Week, Portland Tribune

Willamette Week, The Oregonian, Bike Portland

Willamette Week, the Portland Tribune, and the Oregonian.

Willamette Week, Tribune, Bike Portland blog, Nextdoor

Willamette Weekly, OPB

Word of mouth. (3)

WW Newspaper

were removed without permission!!!

Q31. What things have you done without or delayed purchasing because you paid your Internet bill? (N=43)⁵

internet is important.

Anything that isn't essential. Sometimes I work from home. Internet is essential.

Bounce a check or I try to move out the due date

Credit card, Medical bills

Delayed other utility bills

Didn't attend community and volunteer events. Not enough money for gas or transit ticket.

Discretionary clothing spending

Discretionary purchases

Electricity, food

Entertainment such as dining out locally

Fast food, movies (theater), mall visits, giving in charity

Food and other essentials

Food choices

Food, clothing (2)

Food, clothing, tried to decrease heating bill via having colder than desired house,

Food, Fuel.

Food, prescriptions incontinence needs, OTC medicine.

Food. Entertainment

Gas

Gas, groceries

Groceries

Groceries

Paid less on credit cards

Paid other bills late

Groceries, laundry, eating out, clothing

It has limited the purchasing of clothing and certain quality foods (just limited our budget)

Items for work such as clothing, medication, animal and car maintenance

juggle bills

Less food and delayed other bills, like want to cancel the house security system.

Medical bills, food and hygiene items.

movies.

Nothing basic or necessary, things like a meal out or something else for pleasure

Other bills

Other bills.

Other utilities, car/home repairs, clothes, groceries. Haven't been able to afford things like dental work since 2007. That's not the fault of the Internet -- but I have to have the Internet to stay current with my activities and interests. They tend to cut off my service if I'm late with my payment -- which makes it

Our mortgage. Orthodonture. Exterior house maintenance.

PGE and nw natural gas.

Phone, usual weekend trips, like going to the movies or shopping.

Presents

Rent, electric, food

Repair work, eating out

Restaurants, food and drink.

Utility bills.

Water bill

Q36. What types of problems have you had using the Internet services at the locations you indicated in you use the Internet? (N=178)⁷

Ability to connect to WiFi

Connection speeds

Security concerns

Access at local pool

Access on buses using bandwidth on my cellular service is D+ or C- and if you want to improve satisfaction levels among

bus riders provide high-speed access on all public transportation. It will lessen complaints on how long

Access to service, limited data and speed, quality of service.

Access, bandwidth, stability

agreement portals, passwords, having to buy things to use the internet

All of them. Slow connection, and/or no connection.

downtown.

Bad connection (3)

Bad connectivity through guest wifi at work
 Bad signal, internet with no privacy/protection, no access to passwords
 can't connect, slow service
 Can't connect. Hard to connect. Everything seems locked.
 Cell tower issues to 5G for AT&T in certain areas without the option of joining wifi
 Comcast is such a large company when it goes down its down but more than that they have tripled my bill in the last 5 years and I have eco internet and basic TV and it costs over 90.00.
 complicated passwords, running out of time at the library
 Connecting to Wi-Fi-, fear of security issues, slow speeds
 Connection (3)
 connection failed, very slow loading
 Connection issues
 connection issues, permissions issues, firewall issues
 Connection issues, running out of data, not having the password, unreliable work wifi
 Connection issues/ fast-slow internet
 Connectivity (2)
 Connectivity and access
 connectivity
 Connectivity during peak hours. This would be considered an occasional problem.
 Connectivity is poor in some areas. Pay walls
 Connectivity issues (2)
 Connectivity issues on occasion
 Connectivity issues with xfinitywifi
 Connectivity issues, data security
 Connectivity mostly. And I worry about safety so I try to be extra careful.
 Connectivity of wifi.
 Connectivity, dropping connection. No service available.
 Connectivity, speed
 Data plan unlimited, but reception spotty for phone data plan, especially in urban areas.
 Difficult to access, usually because too many people or devices are connected.
 Difficulty connecting with Data plan. Wifi unavailable.
 Dropping connection, low bandwidth (buffering)
 Extremely slow access
 Friends, public places, phone
 Getting a connection with my smart phone
 Hard to keep a connection, so poor service. much of downtown Portland and several areas in SE Portland are in what the providers like Century Link and Verizon call "dead zones". it is very sad
 Hard to login to WiFi, bad connection, security issue
 I have to go to med appts at Kaiser often and I use it then. Kaiser keeps asking me to log in, repeatedly. It is really annoying. Other places sometimes ask for a password and then I have to figure out how to get the password and sometimes it's difficult. Like, having to get back up and go to the I often have very slow internet access when not at work or at home. I also worry about it being safe to use internet sources at coffee shops and restaurants. I wish there was a safe way for me to get online regularly when not at home. It would allow me to work outside my house or office more often without true in my own school district...we need a days ahead approval process to get a visitor online (not great for community and family collaboration work).

use them

In public spaces or retail business/restaurants, insufficient bandwidth or no login info.

In public spaces service can be hit or miss.

Inability to connect; lack of bandwidth

Internet wouldn't function.

Interrupted services

Lack of access.

Lack of security. Speed. Limited by time/purchases. Internet filters.

Lack of service

Lag, occasional dropped service. Fees. Uncertainty of safe connections.

Lagging connection/ logging on

Limited access, unreliable

Login issues, e.g., passwords. Sometimes the speed of the connection is way too slow.

Login, speed

Loss of connectivity, slow streaming and downloading

to use. I distrust open wifi connections so I don't want to do everything on them that I would through a normal, secure connection.

Mostly connectivity performance or reliability, sometimes login process

My data plan doesn't always connect me in certain places I travel.

Need to accept T&Cs first but device says I'm already connected. Cumbersome WiFi passwords.

Concerns about WiFi security. Poor cellular data connection forces me to use a WiFi connection.

Needing to use a certificate to login

No connection or slow throughput

No connection, slow speed.

No LTE reception availability. No free wi-fi.

NO service.

No signal available, run out the battery

No/bad signal, very low data rates,

Not able to finance the wifi usage fee.

Not enough data.

Not secure, dropped service (pinwheeling)

work.

On the max, the internet slows way down, especially crossing the bridges provider.

Outages or no coverage.

Password □Os

Password issue, connectivity between device and hotspot issues, device issues, latency issues.... then.

Poor cell coverage in underground/public areas (malls, etc). Poor connection using in-store wifi.

Poor connection (5)

Poor connection speed and reliability

Poor connectivity with my cell service provider

Poor connectivity, slow.

Poor signal

Poor wifi connection, or unable to join easily

Poor/weak/slow connections

Problems connecting through to the internet.

Range distance, unsecured, strength of signal.

Reliability of connection. Need for daily configuration and permissions.

Safeway wifi is unreliable.

Security; Ability to access computer at library

Service down.

Service drops out, or is slow/overloaded

Signal

Signal strength

Slow

slow connection or broken connection

Slow connection or unable to connect

Slow connections, not able to connect.

Slow connections.

slow downloading, sometimes cannot connect, am afraid of being hacked.

Slow internet

Slow internet access, being kicked off the network periodically

Slow internet and security problems

Slow internet. Trouble with connectivity.

Slow or bad connections

Slow service

phone Data plan

Slow service of dropped service

Slow service to the point of crashing

my cell phone data.

Slow speed and or interruptions.

Slow speeds or lack of connectivity, especially on the North side.

Slow speeds, poor Wi-Fi coverage, or data caps (mostly for mobile).

slow speeds; unable to keep connection

Slow☐

Can't connect☐

Fear of vulnerabilities from virus/hackers

SLOW, connectivity, access throughout building/space

Slow, intermittent connection.

Slow, or did not connect even with correct password

Slowness

(sometimes the business does not offer customer specific access), fear of hackers and information thieves,

Slowness☐

Inconsistent connection

Some places it's difficult to get WiFi

sometimes cannot get service through carrier's data or through WiFi

Sometimes the internet disconnects or goes down. It's not always reliable or fast. At home, I often have to switch frequencies/channels because I live in an apartment complex. As I need internet for work, I am willing to pay as much as needed to have it but I think the quality of my service is bad which is why I sometimes the internet signal is not very strong

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Sometimes there isn't a good signal.
Sometimes wifi is unreliable or I'm unable to connect. I'm hesitant to use free wifi because it's open.
Sometimes wifi too slow at the mall or grocery store or some places, so I turn wifi off and use data
Speed
Speed or being able to connect at all.
speed, connectivity
spotty and dropped service
spotty coverage
Spotty service at commercial venues
Spotty WiFi access. Spotty Cell data signal.
System error in not recognizing sign-in.
Temp signal drop outs
The wifi is advertised as free but I have to provide contact information and is actually a scam. Also, it will request credit card information. In other circumstances, I will get cut off or only connect intermittently.
There's just no signal.
Too many people causing traffic issues with wifi
Trouble staying logged in, slow internet, internet failing
Unable to connect
Unable to connect wirelessly via my phone
Charge
Concern about security
No computer available at library
Unavailability.
Unreliable connections, uncertain about security of networks, slow speeds
Unreliable or slow wifi
Use phone data soon and no wifi
the municipality of Gresham, for instance, provide Internet service for \$30/month or so, as the rural electric cooperative out in the Hood River Valley can do?
Very extremely slow connections, inability to actually get to desired sites, inability to display site as intended, problems with site so information is unavailable , unable to interact with site
Very slow service at times. Time limits on availability (usually one hour).
Very slow, especially since net neutrality ended
Weak or no signal
Weak reception/unable to go to websites
Weak signal - unable to connect
Weak signal or lack of wi-fi
Websites not configured for mobile phones.
Too long a wait at the library to access a computer.
When I used Wi-Fi I could not disconnect from it when finished like McDonald's.
not open a browser to accept the terms of the network login screen.
Whenever I have issues with Internet outside of the home it's usually just a slow connection.
Wifi passwords, cell reception
Work policies prohibit personal use.

Q45. Why do you prefer the method you indicated above for communicating with, or receive information from, your local government? (N=271)⁸

A government should use all forms of communication to reach out to it's constitutes.

Ability to get our information quickly and/or in detail.

Access

Access points at my convenience + public meets to attend for voice to be heard

accessibility

All are available at home

least--to allow for feedback.

Always check my mail

Always have a cell phone with me.

all

am more likely to get the information

Anything that presents an immediate threat to life/safety should be delivered via reverse 911 text to ensure timely receipt backed by news and social media releases for verification. Ex - evacuation orders.

Asynchronous communication means I can fit it into my schedule much easier.

At my fingertips

and radio regularly

Availability

Available everywhere (not just at home), easy access without needing a specific service.

Because

information.

Because I can read them or get them at my leisure

abused by them/hacked by others.

Because it gets the information out without spamming my phone all day

Because that is how I consume information, so that makes it easiest. For emergencies, I respond to texts quicker than anything else, so I would be aware of it fastest that way. For information that is specifically relevant to me, I always check my email and my US mail daily. For general news, I look up

Because they are comprehensive

Because they are the easiest way to get a hold of me.

Because they are the ones I'm most likely to pay attention to.

Because they're easy an accessible to use

Best way to contact

Both for emergency services infor

By using a variety of methods it is more likely the message will get to me one way or another.

Can access whenever it's convenient.

Can view these at my leisure, except for public meetings, of course. Public meetings are vital.

cell phone is always with me, convenient

check phone every day

Combination of speed and reliability

benefit to communicating with people face-to-face.

Convenience (6)

messages. Portland Public Schools has a super annoying robocall system that alerts people to things that aren't pertinent. Don't do that.

Convenience and readily available

Convenience and speed of delivery

Convenience and there is a record which can either be kept or printed.

convenience for me

Convenience or my ability to choose to engage

Convenience, flexibility, and more likely to meet me.

Convenience. (2)

Convenient (2)

convenient and more likely to get it

convenient, quick, easy

Convenient; widely accessible

Convenience

Cost (2)

Covering all bases.

attention.

Direct communication

Direct, fast, easy

Diversity.

the messages might be.

Don't like human interaction.

listens to voicemails or checks email. Prefer in person or online.

Ease

Ease and accessibility.

Ease of access (2)

ease of access and credibility

Ease of access to info.

Ease of access, don't need to go outside to get info, it comes to me

Ease of use (4)

Ease, time-savers.

Easier

Easier and I can get them "on the go"

Easiest to acces

Easy access

Easy access to information and clarity/ease of sourcing information without privacy invasions.

Easy access, little effort on my part

Easy accessibility and availability.

Easy and clean

Easy and reliable

Easy to access outside of the home on mobile

Easy to access when it is convenient for me

Easy to assess

easy to read and know if it applies to me or not

Easy, reliable, multi-faceted

Efficient

Qualitative Community Technology Public Online Survey
Open Codes/Underserved Community Results

Efficient ways to communicate.

Efficient, easy to access. I love reading the newspaper.

Email because I can read it when I have time. Public meetings when I am particularly interested and would also like to hear from others in attendance to understand multiple perspectives

Email is less obtrusive and is a permanent receipt of a communication. It is also paper free.

Email is reliable; I check it frequently.

the IRS.

Familiarity/comfort.

Fast access and targeted.

Fast access, push information

Fast, convenient, and reliable.

Faster (2)

Fits into my life routines easily so I'll actually use it

Flexible on when receive/review them and don't have to speak to a live person.

necessary reliant on internet which is important during emergencies for alternate ways to communicate, in my opinion.

Generally is the quickest, most accurate way to get info.

Hard for me to leave the house, save trees

information. I hate talking on the phone. I don't listen to radio. If I saw a post on social media I wouldn't know whether it was legit.

I already use social media daily and my phone daily

I already use these channels so it's quick and easy.

I am most likely to see the communications and respond if needed.

I am most likely to see those

meetings, and I do not utilize social media. I read papers, listen to the radio, and watch minimal programming on OPB. I read my emails and utilize the internet.

I believe it is my responsibility to look for and obtain the information I want. Not the government. smartphone

I can check it at my convenience.

I can easily choose how I receive notification. I prefer to not receive phone calls. Notifications and texts are efficient because I can read them quickly rather than having to listen to a voice message.

I can filter it more easily. I want to be in control of what information I have to see.

I can opt in to getting (non-emergency) information, and it is available when I need it.

I check my email a lot. I ignore texts from numbers I don't know. My phone is not for calling.

I do not want my privacy invaded by unsolicited contact from government agencies.

TVs.

I don't pick up phone calls from phone numbers I don't already have in my contacts lists

I don't use a smartphone, nor listen to the radio unless (infrequently) I'm in a car.

interact.

I don't want to interact with people unless I have to.

I don't watch television or go to government offices

I get written communication so I post it at home like on the cupboard or refrigerator.

I hate phoning, and do not want to travel to an office.

I hate receiving lengthy info by text. The font is too small, the screen is too small, and I get cognitively overwhelmed by it. I prefer email to print mail to save paper and postage, and it's faster.

I hate telephone calls.

Qualitative Community Technology Public Online Survey
Open Codes/Underserved Community Results

I have smart phone with me at all times. I also like to read local news via local newspapers
I like having records of my communications with the government (like regarding meetings, classes, or neighborhood information) as I often forget things. That's why I prefer email/internet/social media/texts.

□

However, if I'm having a problem I prefer to call or meet in person as it's hard at times to explain the
I like human connection, and being able to get direct answers. By having a conversation via in person, telephone, or email, it allows for there to always be clarity, nothing gets "lost in translation"
I like the Southwest Newspaper because I can have it at the kitchen table and page through it as I have time, then show things to my partner. When I get texted, I want it to be something immediately actionable. Emails are helpful, though I likely miss some due to how many I get. I just don't have the
I like there to be a record of the information, radio seems to spread quickly, texts are direct texts. I just don't want to be contacted more than I already am unless it's an emergency. It's information overload.

are common and readily available.

I prefer not to be interrupted unless it's an emergency. I don't read email outside of work much.

I prefer not to interact with the government whenever possible.

control over the phone than the laptop.

I rarely watch TV. Emails or internet posts from newspapers much more likely to get my attention

I subscribe to a daily newspaper, everyone receives US mail and I have email.

will see the information quickly. I trust my radio station (OPB, NPR) to provide me with correct, timely information.

getting important information from government agencies.

I use them most.

I want to be able to access the info when it is convenient for me.

I want to be able to check when I like. Only absolute emergencies should be sent unrequested.

I want to know my local government

pay attention.

making decisions for me, my family and community. Additionally, I am a visual, auditory and hands on learner and want to consume information and contribute my perspective through multiple sources.
possible.

I'll definitely receive a text, I'm already on social media. I don't need more mail.

engagement to get buy-in on an already chosen plan.

immediate and/or interactive

In an emergency they are the quickest way.

Inclusive information for everyone despite access to resources.

Information can be read at my convenience

Instant and non intrusive

Internet

methods because I can refer back to them as needed.

It is easy and fast.

It is sent directly to me and I can look at it when I have the time or is just part of my social media feed

It's the easiest and quickest to access.

It's the most likely options that I will see the quickest

It's what I know best

It's a more interactive way to engage

its easiest for me

Qualitative Community Technology Public Online Survey
Open Codes/Underserved Community Results

It's easy and I have my phone at all times.
It's not biased or edited. No opinions from a reporter. Literally what was said in meetings.
fastest.
Lack of time
least amount of work/what is available to me/trusted sources of info communication
Least annoying methods.
Least intrusive
materials I have to recycle.
Less amount of interruption
lets me respond/review at my own time
either respond or delete; convenience
More likely for me to actually get the message/news in a timely manner
Most accessible
Most immediate and broadly distributed
Most immediate.
Most likely to be seen by me
Most likely to reach me
Most likely to see the information in one of these formats.
Most likely to use
might miss something important.
Most trustworthy
Multiple places in case to make sure it is seen
Need emergency info in all media forms. Along with sirens.
Not a bother
Not into local government news.
Not intrusive
not invasive. easy for me to do during hours that work for me.
On my own schedule
concerns, radio for high level updates, print newsletter for customized actionable info, texts on cell
phone for urgent matters.
Our local agencies are doing well communicating, have apps to download, and neighbor meetings
are well announced. Formal or official business is best done by mail.
prefer to limit screen time, and concerned about privacy issues and data mining
privacy
privacy & efficiency
Privacy and a hard-copy record from the source.
Push notification, dedicated medium
Quick, easy, and point me to further info if I am interested
Quick. Easy. Prompt.
Reach the people where they're at.
Reliable and direct. I have to open my mail. I can delay the rest.
Reliable info sources. In the past, I would have included telephone but now there are too many scams.
Reliable, I always have my phone-- don't have to tune in to something special or different.
Reliable, secure, fast, full range of media interaction (videos, photos, sound, print, etc.) available.
Reliable, time-tested
Retain copies to reread

the other options.

Simple

required to hold elected officials accountable for their actions that are mismatched from the greater tech savvy community

be easier

Speed (2)

Speed and efficiency

Speed and immediacy, I don't check email all the time but I get notified immediately of text messages.

Targeted and pushed by the source

text can get to me ASAP if important and mail if not urgent

Text if something is emergency, other things I things I can do on my own time

Text is good, because I always have my phone with me. Mail is good because it's good to have things on paper. Going to a government office is good for more comprehensive information explained by a human, when needed. □

Radio is good because it comes across the airwaves. I listen to the radio a lot when I'm at home. □

even own a radio anymore, I stream everything on my phone so if the internet was down, I wouldn't be able to access it.

widely broadcast notifications via Facebook, an app, etc.

Texts are good for quick and urgent updates. Mail or print updates allow me to have a reasonable level of detail, time to process the information, and ability to easily share it with my household.

the above 3 ways would ensure I received it.

hang a letter on the door as a reminder, and when I need more assistance I like the option of talking with someone in person

the IRS phone scams....its already hard to tell official things apart from scams

The method of delivery should fit the nature of the information being given. This survey announcement should be made via email, radio, social media and mail for example.

faster.

These are guaranteed to reach me. Meetings, social media posts, newspapers, radio, and TV are not.

These are the communication preferences of mine, which I consistently use.

These methods feel the most verifiable and consistent. Receiving info from these sources indicates to me that the communication is concrete and actionable, not subject to change.

They are accessible from more locations around the city, and support public employees.

They are efficient and don't expose me to tracking.

method — text or other alert.

They are more convenient

They are most convenient for my lifestyle and ensure that I would see it most immediately

They are the easiest to access for me.

they are the methods I currently use

they are the most convenient/accessible as these are accessible at home and outside the home

They are the most direct and are not lost among other media distractions.

They are the technologies that I use the most that are transmitted without the use of paper products

they are what I do

they can work and I use them

They'll reach me wherever I happen to be quickly

They're all methods I use consistently for work/entertainment.

They're comfortable for me and traditional.

Qualitative Community Technology Public Online Survey
Open Codes/Underserved Community Results

They're more accessible and faster.

They're the methods I encounter daily

I would want to get information. For instance, if there is an emergency, then every kind of communication should be utilized. If I am trying to get specific information, I might call or email the office.

This is what I'm used to personally

Those are mediums I regularly use

Timeliness

Timely, convenient

Too many things demand our attention constantly. I want the option (in non-emergency situations) to read things at my leisure, and not have to verbally speak with strangers.

Top preference is radio. Cellular service does not work in several types of emergencies.

responses are required, they can be much quicker. The downside to internet/email is that groups like PBOT simply do not respond.

Use most often

Variety of choice. especially as I interact with the city for different things - some complicated, some easy.

Variety of means to get information allows for less possibility of missing something

Want a local source that is able to stay very current and is accurate

We can consume it at our convenience.

Written document needed

People of Color

Q1. Where in Multnomah County do you live? (N=74)

Portland	68%
Gresham	18%
Troutdale	7%
Fairview	4%
Wood Village	3%
Elsewhere in Multnomah County	1%

Q2. What is your five-digit zip code? (N=74)

97024
97030
97060
97080
97202
97203
97206
97209
97211
97212
97213
97216
97219
97220
97227
97229
97230
97232
97233
97239
97266

Q3. Do you or does a member of your household live with a disability? (N=74)

Yes, Myself	22%
Yes, another household member	4%
No	72%
Don't Know	3%

Q4. As you complete the survey, please keep in mind your needs or the needs of your household member living with a disability. Please describe the nature of the disability? (Mark all that apply) (N=18)

Hearing - deaf or having serious difficulty hearing, use ASL, cochlears	22%
Vision/Visual - blind or difficulty seeing, even when wearing glasses, use a screen reader, large print	28%
Cognitive/Developmental – mental, or emotional, remembering, concentrating, decisions	33%
Speech/Communication – communicating, verbal social interaction	22%
Ambulatory/Mobile/Physical - difficulty walking or climbing stairs (mobility or physical disability)	50%
Self-care - difficulty bathing or dressing	11%
Independent living – difficulty doing errands, visiting a doctor, shopping	11%
Mental Health – difficulty with mood, behavior or thinking even with medication	44%
Decline	6%
Other (please specify)	22%

Too hard to even try to describe the nature of even one small disability area
Autoimmune
Incontinence, stiff joints edema
PTSD

Open Codes/Underserved Community Results

Q5. You indicated that you or a member of your household is living with a disability. What communications technology-assistive devices would you consider of critical importance? (Mark all that apply) (N=19)

Cell phones / Smartphones / Apps	79%
Internet access / High speed Internet	79%
Tablets / Computers	74%
Devices to aid in hearing	16%
TV / Cable	26%
Devices to aid with speech	5%
Devices to aid with vision	26%
None/NA	11%
Other Devices (please specify)	21%
<i>Child - speech therapy</i>	
<i>captioning real time especially for phone calls with stupid people who do not know what ADA is or what accommodation means</i>	
<i>Bars in bathroom</i>	
<i>Captioning</i>	

Q6. What frustrations are there in the use of communications technology, including assistive and non-assistive devices? (Mark all that apply) (N=19)

High prices / Costs	89%
Charging batteries for devices	21%
Robocalls	53%
Lack of changes in technology related to assistive devices	21%
Lack of inclusion of assistive technologies in devices or apps	42%
Keeping up with changing technology	47%
Unreliable technology	37%
Information Hackers	42%
Lack of compatibility of assistive device features with current tech	11%
None/NA	5%
Other (please specify)	11%
<i>Lack of getting help, lack of getting information, lack of accurate current information, and assistance , being forced to make myself sick because of lack of accommodation and needs and no help when needed</i>	
<i>Gang violence especially when vulnerable people have health crisis and are in hospital care residents do ganglike violations including unlawful entry to residents apt and theft, crank phone calls etc.!!!</i>	

Q7. Does your household currently subscribe to any news and entertainment streaming services, such as Netflix, Amazon prime video, or others (not including Internet Live TV services)? (N=74)

Yes	84%
No	16%
Don't Know	0%

Q8. Does your household currently have free-over-the-air TV, or subscribe to Satellite TV or Internet streaming TV services? (such as, Dish/DirecTV, Hulu+LiveTV, Sling TV, AT&T TV NOW, YouTube TV, etc.) (Mark all that apply) (N=74)

Yes, Free-over-the-air broadcast TV	23%
Yes, Satellite TV	3%
Yes, Internet Streaming Live TV	26%
No	57%
Don't Know	1%

Q9. Does your household currently subscribe to any cable television services? (such as, Comcast/Xfinity, Frontier, or CenturyLink) (Mark only one) (N=74)

Yes, Comcast / Xfinity	24%
Yes, Frontier	4%
Yes, CenturyLink	4%
Yes, Reliance	0%
No Cable TV service at home	62%
Yes, Reliance	0%
No TV Service	0%
Don't Know/Don't Remember	3%
Other (please specify)	3%
<i>Apartment provides xfinity cable tv for free of charge.</i>	
<i>Youtubetv</i>	

Open Codes/Underserved Community Results

Q10. Why have you chosen not to subscribe to cable television services? (check all that apply) (N=48)

Cost/ Expense/Poor value	81%
Not available in my area	2%
Poor picture/sound quality	2%
Better options	21%
Less expensive options	44%
Customer service issue	21%
Don't Know/Don't Remember	0%
Dissatisfaction with cable company	31%
Unhappy with programming/content	33%
Switched to only video over the Internet	35%
Didn't watch much/enough TV	38%
Switched to satellite service	2%
Dissatisfaction with cable package (want a la carte option)	31%
Lack of stable housing	8%
Other (please specify)	13%
<i>Xfinity cable included in rent</i>	
<i>Dislike commercials with a passion</i>	
<i>Cost is biggest issue</i>	
<i>Don't like watching commercials</i>	
<i>Have young children and trying not to expose them to screens</i>	
<i>Media is promoting violence and Racist behaviors and glorifies through repetition the violent acts through Breaking news repetition esp against children!!!</i>	

Q11. Including all the services, taxes and fees on your cable bill, what would you estimate your average monthly bill to be? (N=22)

d. \$31-40	9%
e. \$41-50	9%
f. \$51-75	5%
g. \$76-100	5%
h. \$101-150	27%
i. \$151-200	27%
j. \$201-250	14%
l. \$301+	5%

Q12. How would you rate the following over the last year? (N=24)

Q12. How would you rate the following over the last year? (N=24)	Excellent	Good	Fair	Poor	Don't Know/NA
The ability of the cable company to successfully resolve a problem with your service within 1-2 business days	8%	42%	38%	13%	0%
The ability of the cable company to resolve an outage within the next business day	13%	38%	29%	8%	13%
The accuracy and understanding of your monthly cable bill	17%	25%	38%	21%	0%
The ability of the cable company to explain and address billing questions	8%	25%	33%	25%	8%
The helpfulness of customer service assistance accessed through the company's website or online.	8%	25%	25%	38%	4%
You receiving a notice at least 30-days in advance of a rate or fee change	9%	22%	17%	30%	22%
The ease of use of the automated telephone menu options when calling your cable company	8%	4%	33%	29%	25%

Open Codes/Underserved Community Results

Q13. How would you rate the following over the last year? (N=24)

Q13. How would you rate the following over the last year? (N=24)	Excellent	Good	Fair	Poor	Don't Know/NA
The cable company's notification to you 30-days prior to changes in programming	8%	21%	29%	29%	13%
The helpfulness of the cable company's employees	8%	29%	50%	8%	4%
The variety of cable programming packages offered	4%	29%	25%	33%	8%
The convenience of the location of the local cable company office	17%	13%	25%	29%	17%
The hours the local cable company office is open	13%	17%	29%	17%	25%
Overall satisfaction with your cable company	13%	17%	43%	26%	0%

Q14. In your area, local community programming is available on cable television channels and the Internet from community media centers like Open Signal in Portland and MetroEast Community Media in Gresham. These organizations, and others, show local community productions, city council and county board meetings, as well as local school and community college programs and information. Are you aware of these local community channels? (N=74)

Yes	65%
No	32%
Don't Know/Don't Remember	3%

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=48)

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=48)	Daily	Weekly	Once or Twice a Month	Once or Twice a Year	Never	N/A
via Television	13%	7%	15%	11%	48%	7%
via Smartphone (iPhone, Android)	9%	7%	24%	9%	48%	4%
via Tablet (iPad, Kindle)	4%	2%	11%	7%	62%	13%
via Desktop/Laptop Computer	4%	6%	26%	23%	38%	2%
via Game Console	0%	0%	4%	2%	73%	20%

Q16. How important is it that local community programming be available? Would you say ... (N=74)

Essential	32%
Very Important	34%
Somewhat Important	23%
Not at all Important	7%
Don't Know	4%

Q17. What types of local programs and content do you consider most relevant and important to you? (mark all that apply) (N=74)

Local business	36%
Educational	68%
Art and culture	61%
Local sports	28%
Senior citizens	24%
Non-Profit organization	54%
Local medical and wellness	42%
Community or neighborhood news	76%
Local children and youth	41%
Local government information and services	65%
Religious and faith-based, spiritual	15%
Reflect my own ethnicity, culture or experience	39%
Available in my first language (other than English)	22%
None	5%
Other (please specify)	3%
<i>People of color who identify as LGBTQ</i>	
<i>Reflective of non dominant culture experience</i>	

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=72)

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=72)	via Cable TV real-time (live TV)	via Cable TV on-demand	via Live streaming video online	via On-demand streaming video	via Languages other than English	N/A
On Television	24%	10%	15%	25%	0%	25%
Through Smart TV App	14%	10%	16%	26%	0%	34%
Through HDMI TV Plug-in (i.e. Chromecast, Apple TV, Fire Stick)	8%	6%	20%	28%	0%	38%
On Smartphone	4%	1%	26%	43%	7%	19%
Through Smartphone App	3%	2%	18%	47%	3%	27%
On Tablet (iPad, Kindle)	3%	2%	23%	33%	5%	35%
On Desktop/Laptop	6%	3%	23%	46%	0%	22%
On Game Console	2%	2%	8%	16%	0%	73%

Q19. What do you consider your most trusted sources for local news and neighborhood content and information? (N=48)

Top four (4) Answers

Local broadcast stations (KATU, KOIN, KGW, KPTV)
Local radio stations such as OPB, Xray fm, and KBOO
Neighborhood Newsletter, Oregonian, OPB Radio, Portland Monthly
Neighborhood association newspaper, Bridgeline, Willamette Week, Portland Mercury

Q20. Please tell us about your home Internet service. (Mark only one) (N=74)

I have Comcast/Xfinity Internet 57%
I have Comcast Internet Essentials 1%
I have CenturyLink Internet 20%
I have Frontier Internet 8%
I have Internet through my cell phone service ONLY (such as Verizon, Clear, Cricket, Sprint, T-Mobile, AT&T, etc.) 5%
I have No Internet Service at Home 1%
Don't Know 3%
Other (please specify) 4%

T Mobile hot spot

All I have tried are VERY VERY expensive with poor customer service and poor functioning. currently using StepHouse because it is the best of all the poor choices

*My computer room not safe because residents stalk me and *I believe know how to get info even when I delete my history also inaccessible to legal help websites essential to baby boomers who are major scammer targets due to our large population.*

For Those that Don't Have Internet at Home

Q21. If you only use a smartphone for Internet at home, how often does your data limit keep you from using the Internet? (N=4)

A lot 0%
Sometimes 50%
Not very often 50%
Never 0%
Don't Know 0%

Q22. Has your household ever had Internet services at home? (N=5)

Yes 80%
No 20%
Don't Know 0%

Q23. Have you ever signed up for Internet service through a program that provides Internet services at a reduced cost for low-income households or veterans, such as Comcast's Internet Essentials? (N=4)

Yes 25%
No 75%
Don't Know 0%

For Those that Don't Have Internet at Home

Q24. How satisfied were you with that Internet service? (N=1)

Very Satisfied	0%
Satisfied	0%
Dissatisfied	0%
Very Dissatisfied	100%
Don't Know	0%

Q25. What are the main reasons or barriers you do not have Internet at home? (Mark all that apply) (N=5)

Service issues / Not reliable	40%
Speed of service	40%
Cost / Expense of service	100%
Not available in my area	20%
Cost / Expense of equipment	60%
Service doesn't work well	20%

Q26. Have any of the following prevented you from subscribing to Internet at home? (Mark all that apply) (N=4)

No / NA	100%
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Q27. Would you be more likely to sign up for Internet service at home if it cost less? (N=5)

Yes	80%
No	0%
Don't Know	20%

For Those that Don't Have Internet at Home

Q28. What is an affordable Internet cost for you on a monthly basis? (N=4)

Range: \$20 - \$50; Average = \$35.00

d. \$11-20	25%
e. \$21-30	25%
f. \$31-40	25%
g. \$41-50	25%

For Those with Internet in the Home

Q29. How much do you currently pay per month for Internet service at home? (N=55)

Range: \$15 - \$200 Average = \$71.85

b. \$11-20	2%
d. \$31-40	13%
e. \$41-50	18%
f. \$51-75	36%
g. \$76-100	16%
h. \$101-150	13%
i. \$151-200	2%

Q30. Does the amount you pay for Internet service ever cause you to delay or avoid other important bills or purchases? (N=64)

Yes	23%
No	77%

Q31. What things have you done without or delayed purchasing because you paid your Internet bill? (N=12)

Phone, usual weekend trips, like going to the movies or shopping.
Water bill
Gas, groceries
Rent, electric, food
Electricity, food
PGE and nw natural gas.
Didn't attend community and volunteer events. Not enough money for gas or transit ticket.
Food. Entertainment
Food, Fuel.
Food, clothing, tried to decrease heating bill via having colder than desired house,
Gas
Other bills

Q32. Have you ever had trouble paying your Internet bill? (N=64)

Yes 31%
No 67%
Don't Know 2%

Q33. What would you consider a reasonable cost to pay for home Internet service per month? (N=61)

Range: Free - \$75.00; Average = \$38.95

a. \$0 (Free) 2%
c. \$11-20 13%
d. \$21-30 20%
e. \$31-40 22%
f. \$41-50 38%
g. \$51-75 5%

Q34. How often do you use the Internet services at the following locations outside of the home: (N=74)

Q34. How often do you use the Internet services at the following locations outside of the home: (N=74)	Daily	Several times a week	Once a week	Monthly	Rarely	Never	N/A
At a Government office	16%	7%	3%	4%	20%	33%	17%
At a Public space / Public park	6%	19%	17%	7%	17%	28%	6%
At your place of work / Employer	70%	10%	1%	1%	4%	1%	11%
At a friend or relative's house	3%	27%	16%	17%	24%	6%	7%
At a School / College / University	15%	3%	3%	4%	10%	26%	39%
At the Public library	7%	10%	6%	16%	25%	16%	20%
At a Restaurant / Coffee shop / Bar / Hotel	3%	23%	20%	21%	10%	15%	8%
At another business	4%	20%	14%	14%	17%	16%	14%
Through your Data Plan on your Mobile Device	68%	10%	6%	1%	6%	3%	7%

Q35. Have you ever had any problems using the Internet services at the locations you indicated above? (N=74)

Yes 57%
No 36%
Don't Know/Don't Remember 7%

Q36. What types of problems? (N=40)

Top Three (3) Answers (multiple responses)

Connection issue 50%
Slow service 45%
Lack of access 13%

Open Codes/Underserved Community Results

Q37. What devices do you use to connect to the Internet outside your home? (Mark all that apply) (N=74)

Computer/laptop	73%
Smartphone	92%
I don't own a device to connect to the Internet	1%
iPad/tablet	34%
Game console	4%
None	0%
Other (please specify)	3%
<i>desktop computer at the library</i>	
<i>library computer</i>	

Q38. Is access to the Internet as essential to you as access to electricity (in other words an essential utility)? (N=74)

Yes	88%
No	9%
Don't Know	3%

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=74)

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=74)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
Fast Speed	53%	41%	7%	0%	0%
Unlimited or plentiful data	51%	42%	6%	0%	1%
Reliability	80%	20%	0%	0%	0%
Security and privacy	85%	14%	1%	0%	0%
Cost	53%	41%	7%	0%	0%

Other (please specify)

Location - universal access

Accountability to the environment (5G possible disruption to wildlife based on frequency) I would rather have a less fast internet than destroy ecosystems

Q40. How important are the following to you? (N=74)

Q40. How important are the following to you? (N=74)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
That there are places with free public access to the Internet	47%	39%	8%	5%	0%
That your local government works to ensure all persons have affordable access to the Internet at home	64%	24%	5%	3%	4%
There are protections against your service provider selling or sharing your personal information	80%	16%	0%	1%	3%
That your service providers do not monitor your service without your authorization	77%	15%	5%	0%	3%
There are free computers and classes to learn to use the Internet	28%	34%	23%	9%	5%
Your local government ensures that you have a choice of more than one Internet service provider	64%	19%	12%	0%	5%
Your local government ensures that public safety is not negatively impacted by new technology in your neighborhood	53%	24%	14%	3%	7%
Your local government ensures that aesthetics and overall quality of life are not negatively impacted by new technology in your neighborhood	39%	20%	24%	9%	7%

Q41. Does your household have a cell phone, a landline phone, or both? (N=74)

Cell phone only	81%
Both	16%
Other (please specify)	3%
<i>non smart cell phone with no internet connection possible</i>	
<i>cell phone + ham radio</i>	

Q42. Do you: (N=12)

Mostly use your cell phone	100.00%
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Q43. What do you consider the most effective ways to receive local emergency information, other than the local air siren? (Mark all that apply) (N=74)

Television	45%
Email	43%
Text Alerts on cell phone	91%
Radio	43%
Internet	49%
Weather App	35%
Local Government App	8%
Newspaper	14%
Landline phone	5%
Social Media	58%
Other (please specify)	1%
<i>Street speaker to warn about earthquakes</i>	

Q44. How do you prefer to communicate with, or receive information from, your local government? (mark all that apply) (N=73)

Telephone call/voice message	27%
US Mail	42%
Go to an office / In-person	21%
Attendance at a Public Meeting	26%
Cable TV or over-the-air broadcast TV	23%
Print Newsletter / Newspaper	30%
Internet / Online	74%
Social media post	44%
Email	62%
Radio	21%
Texts on a cell phone	49%
Don't Know	1%
Other (please specify)	1%
<i>Schools and libraries</i>	

Q45. Why do you prefer the methods you indicated above? (N=57)

Top Five (5) Answers

Easy/Ease of use	37%
Convenient/Convenience	12%
Access ble/Accessibility	19%
Fast/Quick	12%

Q46. What top one or two technologies do you really need, but don't have now? (Mark up to two choices) (N=74)

Television / cable TV service	14%
On-Demand TV / video program service	5%
Basic Internet service	3%
High / Higher-speed Internet / Broadband	19%
Affordable Internet	23%
Desktop / Computer in the Home	5%
Laptop	4%
A cell / mobile phone	3%
Other wireless device / Smartphone / Tablet	1%
Social Media (i.e, Facebook, Twitter)	1%
Connections to home security / Heat-AC / "Nest"	16%
None	41%
Other (please specify)	5%

I don't need much as I'm privileged enough to speak English and be able to afford internet. When I think about my parents however, I think having more language options would be a great benefit.

Fiber Optic

Choice in internet provider that prioritizes privacy

No matter how much I pay, my internet is still too slow

Q47. What are the reasons or barriers keeping you from getting or using the technologies you don't have now? (Mark all that apply) (N=70)

Cost / Affordability	54%
Lack of available choices / options	29%
Not available in my area	13%
Safety / Trust	11%
Don't Know how to obtain them	4%
Hardware (Platform)/Software issue	1%
Training / Don't Know how to use them or where to start	6%
Not aware of options	4%
Lack of stable housing	4%
Nothing / No barriers / No reasons	36%
Don't Know	6%
Other (please specify)	3%

Easy ability to use

In need of a new television and can't afford one

Q48. What is your age? (N=73)

Range 23 yrs. Old - 72 yrs. Old; Average = 42 yrs. Old

18-24 yrs. old	3%
25-34 yrs old	33%
35-44 yrs. old	23%
45-54 yrs. old	22%
55-64 yrs. old	12%
65-74 yrs. old	7%

Q49. Do you rent or own your home? (N=74)

Own	42%
Rent	55%
Other (please specify)	3%

Job Corps student

Rent 1/2 the house

Q50. Does your household include anyone 18 years old or younger? (N=74)

Yes	39%
No	61%

Q51. What is the highest level of education you have completed? (N=74)

High School Graduate	4%
Some College	15%
Trade School	4%
Associate Degree / 2-year degree	9%
College / 4-year degree	28%
Postgraduate or professional degree	35%
Don't Know / Decline	1%
Other (please specify)	3%

*Many conferences and workshops for survival and technical communication etc.
400+ semester hours - no degree*

Q52. Which of the following categories best describes your total annual household income, before taxes? (N=74)

Under \$25,000	16%
Between \$25,000 and \$34,999	7%
Between \$35,000 and \$49,999	8%
Between \$50,000 and \$74,999	20%
Between \$75,000 and \$99,999	19%
Between \$100,000 and \$150,000	16%
Over \$150,000	7%
Don't Know / Decline	7%

Q53. What describes your current employment status? (N=74)

Employed / Working Full-time	57%
Employed / Working Part-time	7%
Self-Employed / Own Business	11%
Working and in school	1%
Retired / Working Full-time	0%
Retired / Working Part-time	1%
Full-time Student	3%
Seeking employment / Looking for work	5%
Retired	5%
Unable to work	4%
Looking for work	0%
Volunteering	3%
Decline	1%
Other (please specify)	1%

Recently employed, have not started job yet.

Q54. How often do you telecommute or work from home using the Internet? (N=57)

Always	7%
Frequently	33%
Occasionally	30%
Rarely	12%
Never	18%

Q55. What is your gender? (N=74)

Female	53%
Male	45%
Decline	3%

Q56. Which of these is closest to describing your race and ethnicity? (N=74)

American Indian or Alaska Native	5%
Asian or Asian American	14%
Black or African American	19%
Hispanic or Latino	26%
Middle Eastern or Northern African	4%
Mixed	32%

Residents Living with Disabilities

Q1. Where in Multnomah County do you live? (N=99)

Portland	77%
Gresham	9%
Troutdale	3%
Fairview	6%
Wood Village	2%
Elsewhere in Multnomah County	3%

Q2. What is your five-digit zip code? (N=99)

- 97019
- 97024
- 97030
- 97060
- 97080
- 97201
- 97202
- 97203
- 97204
- 97205
- 97206
- 97209
- 97210
- 97211
- 97212
- 97213
- 97214
- 97215
- 97216
- 97217
- 97219
- 97220
- 97227
- 97230
- 97231
- 97232
- 97233
- 97236
- 97239
- 97266

Q3. Do you or does a member of your household live with a disability? (N=99)

Yes, Myself	64%
Yes, another household member	36%
No	0%
Don't Know	0%

Open Codes/Underserved Community Results

Q4. As you complete the survey, please keep in mind your needs or the needs of your household member living with a disability. Please describe the nature of the disability? (Mark all that apply) (N=95)

Hearing - deaf or having serious difficulty hearing, use ASL, cochlears	13%
Vision/Visual - blind or difficulty seeing, even when wearing glasses, use a screen reader, large print	18%
Cognitive/Developmental – mental, or emotional, remembering, concentrating, decisions	37%
Speech/Communication – communicating, verbal social interaction	11%
Ambulatory/Mobile/Physical - difficulty walking or climbing stairs (mobility or physical disability)	46%
Self-care - difficulty bathing or dressing	6%
Independent living – difficulty doing errands, visiting a doctor, shopping	16%
Mental Health – difficulty with mood, behavior or thinking even with medication	41%
Decline	4%
Other (please specify)	19%

*I have diabete anda highblood pressure and one single Kidney
Dyslexia
issues with visual and auditory processing, but not acuity
Chronic migraine and fibromyalgia
describe?? too hard to even try to describe the nature of even one small disability area
HIV+, Chronic condition
End stage renal failure
Work and driving limitations due to neurological condition; no impact to ambulation or independent living
autoimmune and neurological
I'm sort of offended by this list. here are specifics Autism and Dyslexia.
type 1 diabetic
Autoimmune
chronic pain, sometimes limits mental health, mobility
Seizures
Acromegaly,
epilepsy
Incontinence, stiff joints edema
PTSD*

Q5. You indicated that you or a member of your household is living with a disability. What communications technology-assistive devices would you consider of critical importance? (Mark all that apply) (N=94)

Cell phones / Smartphones / Apps	80%
Internet access / High speed Internet	82%
Tablets / Computers	67%
Devices to aid in hearing	14%
TV / Cable	24%
Devices to aid with speech	9%
Devices to aid with vision	20%
None/NA	7%
Other Devices (please specify)	13%

*We
Speech to text, audiobooks
Child - speech therapy
captioning real time especially for phone calls with stupid people who do not know what ADA is or what accommodation means
security cameras for elderly
Closed captioning on Cable TV/videos
OCR Pens, text to speech, speech to text, screen readers
bluetooth connected closed loop insulin pump and continuous glucose monitor
Standard devices work fine.
Smart watch
Bars in bathroom
Captioning*

Open Codes/Underserved Community Results

Q6. What frustrations are there in the use of communications technology, including assistive and non-assistive devices?

(Mark all that apply) (N=94)

High prices / Costs	68%
Charging batteries for devices	23%
Robocalls	52%
Lack of changes in technology related to assistive devices	18%
Lack of inclusion of assistive technologies in devices or apps	30%
Keeping up with changing technology	40%
Unreliable technology	27%
Information Hackers	37%
Lack of compatibility of assistive device features with current technolog	19%
None/NA	7%
Other (please specify)	10%

Advertisements everywhere. It's a capitalist hellscape out there.

Wheelchair charging

Lack of getting help, lack of getting information, lack of accurate current information, and assistance , being forced to make myself sick because of lack of accommodation and needs and no help when needed

The only way to reach out for help is the internet and the cost is so high for seniors many do not have it.

Ableism from people who don't respect that i need assisted communication technology

Peoples' lack of awareness

Complexity of installing/maintaining tech and communicating with providers

Lack of training

Gang violence especially when vulnerable people have health crisis and are in hospital care residents do ganglike violations including unlawful entry to residents apt and theft, crank phone calls etc.!!!

Q7. Does your household currently subscribe to any news and entertainment streaming services, such as Netflix, Amazon prime video, or others (not including Internet Live TV services)? (N=92)

Yes	77%
No	22%
Don't Know	1%

Q8. Does your household currently have free-over-the-air TV, or subscribe to Satellite TV or Internet streaming TV services? (such as, Dish/DirecTV, Hulu+LiveTV, Sling TV, AT&T TV NOW, YouTube TV, etc.) (Mark all that apply) (N=92)

Yes, Free-over-the-air broadcast TV	29%
Yes, Satellite TV	5%
Yes, Internet Streaming Live TV	23%
No	47%
Don't Know	4%

Q9. Does your household currently subscribe to any cable television services? (such as, Comcast/Xfinity, Frontier, or CenturyLink) (Mark only one) (N=90)

Yes, Comcast / Xfinity	31%
Yes, Frontier	0%
Yes, CenturyLink	1%
Yes, Reliance	0%
No Cable TV service at home	59%
Yes, Reliance	0%
No TV Service	0%
Don't Know/Don't Remember	3%
Other (please specify)	6%

Free Xfinity flex because we use their wifi. It sucks.

Comcast but only basic cable to get internet service, no premium channels

Only internet

Frontier Fios

Dish

Open Codes/Underserved Community Results

Q10. Why have you chosen not to subscribe to cable television services? (check all that apply) (N=58)

Cost/ Expense/Poor value	81%
Not available in my area	2%
Poor picture/sound quality	2%
Better options	24%
Less expensive options	33%
Customer service issue	17%
Don't Know/Don't Remember	0%
Dissatisfaction with cable company	40%
Unhappy with programming/content	26%
Switched to only video over the Internet	31%
Didn't watch much/enough TV	33%
Switched to satellite service	5%
Dissatisfaction with cable package (want a la carte option)	26%
Lack of stable housing	5%
Other (please specify)	10%

Too many unavoidable commercials!!!

Cable news is gross and right wing

Not interested in watching anything on cable TV

Comcast sucks; comcast too expensive

Cost is biggest issue

Media is promoting violence and Racist behaviors and glorifies through repetition the violent acts through Breaking news repetition esp against children!!!

Q11. Including all the services, taxes and fees on your cable bill, what would you estimate your average monthly bill to be? (N=26)

b. \$1-10	8%
c. \$21-30	4%
e. \$41-50	4%
g. \$76-100	8%
h. \$101-150	23%
i. \$151-200	15%
j. \$201-250	27%
l. \$301+	12%

Q12. How would you rate the following over the last year? (N=28)

Q12. How would you rate the following over the last year? (N=28)	Excellent	Good	Fair	Poor	Don't Know/N A
The ability of the cable company to successfully resolve a problem with your service within 1-2 business days	7%	32%	25%	36%	0%
The ability of the cable company to resolve an outage within the next business day	4%	32%	29%	25%	11%
The accuracy and understanding of your monthly cable bill	0%	18%	46%	32%	4%
The ability of the cable company to explain and address billing questions	0%	14%	32%	43%	11%
The helpfulness of customer service assistance accessed through the company's website or online.	0%	11%	39%	43%	7%
You receiving a notice at least 30-days in advance of a rate or fee change	4%	14%	21%	36%	25%
The ease of use of the automated telephone menu options when calling your cable company	0%	7%	50%	32%	11%

Q13. How would you rate the following over the last year? (N=28)

Q13. How would you rate the following over the last year? (N=28)	Excellent	Good	Fair	Poor	Don't Know/N A
The cable company's notification to you 30-days prior to changes in programming	4%	7%	25%	43%	21%
The helpfulness of the cable company's employees	4%	25%	50%	21%	0%
The variety of cable programming packages offered	7%	11%	21%	54%	7%
The convenience of the location of the local cable company office	4%	18%	25%	36%	18%
The hours the local cable company office is open	0%	29%	21%	14%	36%
Overall satisfaction with your cable company	0%	7%	54%	39%	0%

Open Codes/Underserved Community Results

Q14. In your area, local community programming is available on cable television channels and the Internet from community media centers like Open Signal in Portland and MetroEast Community Media in Gresham. These organizations, and others, show local community productions, city council and county board meetings, as well as local school and community college programs and information. Are you aware of these local community channels? (N=89)

Yes	58%
No	38%
Don't Know/Don't Remember	3%

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=50)

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=50)	Daily	Weekly	Once or Twice a Month	Once or Twice a Year	Never	N/A
via Television	11%	9%	9%	21%	49%	2%
via Smartphone (iPhone, Android)	11%	6%	9%	17%	55%	2%
via Tablet (iPad, Kindle)	7%	4%	7%	4%	71%	7%
via Desktop/Laptop Computer	2%	11%	13%	15%	57%	2%
via Game Console	0%	0%	5%	0%	79%	17%

Q16. How important is it that local community programming be available? Would you say ... (N=88)

Essential	35%
Very Important	25%
Somewhat Important	26%
Not at all Important	10%
Don't Know	3%

Q17. What types of local programs and content do you consider most relevant and important to you? (mark all that apply) (N=87)

Local business	34%
Educational	66%
Art and culture	57%
Local sports	14%
Senior citizens	30%
Non-Profit organization	39%
Local medical and wellness	33%
Community or neighborhood news	69%
Local children and youth	32%
Local government information and services	72%
Religious and faith-based, spiritual	13%
Reflect my own ethnicity, culture or experience	20%
Available in my first language (other than English)	10%
None	7%
Other (please specify)	7%

Under represented cultures such as First Nations

Scool district broadcasts

city council meeting

The local city government is only concerned about their own agenda so much so the Mayor and the commissioners office dont even answer their phone to recieves concerns from citizens. Again the Mayors and commissioners office dont answer their office phone or return phone calls after leaving messages. Unbelievalbe.

NPR

Religious groups can provide their own platforms.

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=84)

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=84)	via Cable TV real-time (live TV)	via Cable TV on-demand	via Live streaming video online	via On-demand streaming video online	via Languages other than English	N/A
On Television	21%	14%	10%	29%	0%	26%
Through Smart TV App	13%	3%	7%	32%	0%	46%
Through HDMI TV Plug-in (i.e. Chromecast, Apple TV, Fire Stick, etc.)	7%	6%	14%	30%	0%	43%
On Smartphone	7%	5%	12%	49%	0%	27%
Through Smartphone App	6%	6%	9%	49%	0%	31%
On Tablet (iPad, Kindle)	7%	1%	10%	38%	0%	44%
On Desktop/Laptop	11%	5%	6%	49%	0%	28%
On Game Console	1%	0%	6%	21%	0%	71%

Q19. What do you consider your most trusted sources for local news and neighborhood content and information? (N=71)

Top four (4) Answers

Oregon Public Broadcasting (OPB)/OPB Radio	25%
Local News (TV and Newspaper)	21%
Oregonian	6%
KGW	4%

Q20. Please tell us about your home Internet service. (Mark only one) (N=87)

I have Comcast/Xfinity Internet	57%
I have Comcast Internet Essentials	5%
I have CenturyLink Internet	17%
I have Frontier Internet	5%
I have Reliance Connects Internet	1%
I have Satellite Internet (Dish/DirecTV)	1%
I have Internet through my cell phone service ONLY (such as Verizon, Clear, Cricket, Sprint, T-Mobile, AT&T, etc.)	3%
I have No Internet Service at Home	5%
Don't Know	2%
Other (please specify)	3%

All I have tried are VERY VERY expensive with poor customer service and poor functioning. currently using StepHouse because it is the best of all the poor choices

*My computer room not safe because residents stalk me and *I believe know how to get info even when I delete my history also inaccessible to legal help websites essential to baby boomers who are major scammer targets due to our large population.*

A different local company

For Those that Don't Have Internet at Home

Q21. If you only use a smartphone for Internet at home, how often does your data limit keep you from using the Internet? (N=3)

A lot	0%
Sometimes	33%
Never	67%

Q22. Has your household ever had Internet services at home? (N=7)

Yes	86%
No	14%

Q23. Have you ever signed up for Internet service through a program that provides Internet services at a reduced cost for low-income households or veterans, such as Comcast's Internet Essentials? (N=6)

Yes	33%
No	67%

For Those that Don't Have Internet at Home

Q24. How satisfied were you with that Internet service? (N=2)

Dissatisfied	50%
Very Dissatisfied	50%

Q25. What are the main reasons or barriers you do not have Internet at home? (Mark all that apply) (N=7)

Service issues / Not reliable	29%
Speed of service	14%
Cost / Expense of service	86%
Not available in my area	14%
Cost / Expense of equipment	71%
Smartphone is all I need	14%
Service plans offered are confusing	43%
Service doesn't work well	29%
Service is frustrating to use	29%
Other (please specify)	14%

Disability prevented from using computers due to essential tremors.

Open Codes/Underserved Community Results

Q26. Have any of the following prevented you from subscribing to Internet at home? (Mark all that apply) (N=7)

No ability to pay as you go	43%
Required credit check	14%
Required access to bank account	14%
Required contract terms	29%
No / NA	29%
Other (please specify)	14%
<i>Terrible internet companies and practices.</i>	

Q27. Would you be more likely to sign up for Internet service at home if it cost less? (N=7)

Yes	86%
No	0%
Don't Know	14%

For Those that Don't Have Internet at Home

Q28. What is an affordable Internet cost for you on a monthly basis? (N=6)

Range: \$9.95 - \$250; Average = \$4.00

a. \$0 (Free)	67%
b. \$1-5	17%
d. \$11-20	17%

For Those with Internet in the Home

Q29. How much do you currently pay per month for Internet service at home? (N=62)

Range: \$9.95 - \$250; Average = \$81.40

a. \$1-10	8%
b. \$11-20	2%
c. \$21-30	2%
d. \$31-40	8%
e. \$41-50	6%
f. \$51-75	29%
g. \$76-100	13%
h. \$101-150	15%
i. \$151-200	3%
j. \$201-250	3%
Don't Know	11%

Q30. Does the amount you pay for Internet service ever cause you to delay or avoid other important bills or purchases? (N=74)

Yes	28%
No	64%
Don't Know	8%

Q31. What things have you done without or delayed purchasing because you paid your Internet bill? (N=21)

Phone, usual weekend trips, like going to the movies or shopping.
Medical bills, food and hygiene items.
Repair work, eating out
Rent, electric, food
Groceries
Presents
Nothing basic or necessary, things like a meal out or something else for pleasure
Food choices
not buying more food or other household goods. delaying going for other entertainment such as movies.
Other bills.
Food and other essentials
Food, prescriptions incontinence needs, OTC medicine.
Discretionary clothing spending
PGE and nw natural gas.
Credit card, Medical bills
delayed other utility bills
Food. Entertainment
Items for work such as clothing, medication, animal and car maintenance
Food, clothing
Bounce a check or I try to move out the due date
other bills

Q32. Have you ever had trouble paying your Internet bill? (N=73)

Yes	47%
No	51%
Don't Know	3%

Q33. What would you consider a reasonable cost to pay for home Internet service per month? (N=58)

Range: Free - \$200; Average = \$42.00

a. \$0 (Free)	5%
b. \$1-10	9%
c. \$11-20	9%
d. \$21-30	21%
e. \$31-40	19%
f. \$41-50	24%
g. \$51-75	10%
h. \$76-100	3%
j. \$151-200	3%

Q34. How often do you use the Internet services at the following locations outside of the home: (N=84)

Q34. How often do you use the Internet services at the following locations outside of the home: (N=84)	Daily	Several times a week	Once a week	Monthly	Rarely	Never	N/A
At a Government office	11%	5%	3%	5%	24%	43%	10%
At a Public space / Public park	12%	7%	11%	10%	26%	27%	6%
At your place of work / Employer	46%	10%	1%	1%	4%	14%	25%
At a friend or relative's house	4%	15%	18%	14%	33%	14%	4%
At a School / College / University	13%	6%	7%	7%	10%	34%	22%
At the Public library	3%	9%	11%	15%	38%	19%	6%
At a Restaurant / Coffee shop / Bar / Hotel	5%	19%	18%	16%	21%	16%	5%
At another business	4%	16%	8%	20%	22%	23%	8%
Through your Data Plan on your Mobile Device	64%	9%	6%	3%	8%	5%	6%

Q35. Have you ever had any problems using the Internet services at the locations you indicated above? (N=85)

Yes	59%
No	32%
Don't Know/Don't Remember	9%

Q36. What types of problems? (N=46)

There's just no signal.

Lagging connection/ logging on

All of them. Slow connection, and/or no connection.

NO service.

Need to accept T&Cs first but device says I'm already connected. Cumbersome WiFi passwords. Concerns about WiFi security. Poor cellular data connection forces me to use a WiFi connection.

Internet wouldn't function.

connection issues, permissions issues, firewall issues

Lack of access.

Bad connections

Work policies prohibit personal use.

Slow speed and or interruptions.

Slow service

I have to go to med appts at Kaiser often and I use it then. Kaiser keeps asking me to log in, repeatedly. It is really annoying. Other places sometimes ask for a password and then I have to figure out how to get the password and sometimes it's difficult. Like, having to get back up and go to the counter

Slow internet

Phone's data: I experience dead spots when I'm on the bus. I got to know where so I try not to use it then.

Connecting to Wi-Fi-, fear of security issues, slow speeds

No signal available, run out the battery

Signal

slowness of access, spotty connection, needing special password to access internet but don't have it (sometimes the business does not offer customer specific access), fear of hackers and information thieves,

Poor connection

Range distance, unsecured, strength of signal.

very extremely slow connections, inability to actually get to desired sites, inability to display site as intended, problems with site so information is unavailable , unable to interact with site

Unreliable connections, uncertain about security of networks, slow speeds

Comcast is such a large company when it goes down its down but more than that they have tripled my bill in the last 5 years and I have eco internet and basic TV and it costs over 90.00.

Sometimes wifi is unreliable or I'm unable to connect. I'm hesitant to use free wifi because it's open.

Reliability of connection. Need for daily configuration and permissions.

Weak signal or lack of wi-fi

Slow internet and security problems

Ability to connect to WiFiConnection speedsSecurity concerns

sometimes cannot get service through carrier's data or through WiFi

slow connection or broken connection

slow downloading, sometimes cannot connect, am afraid of being hacked.

slow speeds; unable to keep connection

Difficulty connecting with Data plan. Wifi unavailable.

In public spaces service can be hit or miss.

Signal strength

I often have very slow internet access when not at work or at home. I also worry about it being safe to use internet sources at coffee shops and restaurants. I wish there was a safe way for me to get online regularly when not at home. It would allow me to work outside my house or

Outages or no coverage.

Connectivity issues, data security

Poor connection

When I used Wi-Fi I could not disconnect from it when finished like McDonald's.

trouble staying logged in, slow internet, internet failing

Hard to keep a connection, so poor service. much of downtown Portland and several areas in SE Portland are in what the providers like Century Link and Verizon call "dead zones". it is very sad

Connection

Spotty and dropped service

Slow service at government/hospital buildings. Many times I turn off WiFi at these locations and use phone Data plan

Open Codes/Underserved Community Results

Q37. What devices do you use to connect to the Internet outside your home? (Mark all that apply) (N=82)

Computer/laptop	49%
Smartphone	87%
I don't own a device to connect to the Internet	1%
iPad/tablet	32%
Game console	2%
None	0%
Other (please specify)	4%

*I do not take my own computer out- this question is badly phrased
only use wifi signals but don't leave house often
library computer*

Q38. Is access to the Internet as essential to you as access to electricity (in other words an essential utility)? (N=83)

Yes	87%
No	11%
Don't Know	2%

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=81)

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=81)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
Fast Speed	57%	37%	6%	0%	0%
Unlimited or plentiful data	58%	32%	9%	1%	0%
Reliability	81%	17%	1%	0%	0%
Security and privacy	75%	21%	4%	0%	0%
Cost	51%	41%	9%	0%	0%

Other (please specify)

*Centurylink does not offer written pricing so it is very confusing what speeds will cost how much money.
must be very low since we are moving to mobile devices, apps and other means for financial and business communciations and information
Get rid of all this 4G, 5G crap*

Q40. How important are the following to you? (N=81)

Q40. How important are the following to you? (N=81)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
That there are places with free public access to the Internet	56%	26%	17%	0%	1%
That your local government works to ensure all persons have affordable access to the Internet at home	68%	22%	5%	1%	4%
There are protections against your service provider selling or sharing your personal information	68%	26%	5%	0%	1%
That your service providers do not monitor your service without your authorization	77%	19%	4%	0%	1%
There are free computers and classes to learn to use the Internet	32%	36%	25%	4%	4%
Your local government ensures that you have a choice of more than one Internet service provider	62%	22%	9%	4%	4%
Your local government ensures that public safety is not negatively impacted by new technology in your neighborhood	59%	21%	14%	1%	5%
Your local government ensures that aesthetics and overall quality of life are not negatively impacted by new technology in your neighborhood	39%	21%	24%	10%	6%

Q41. Does your household have a cell phone, a landline phone, or both? (N=82)

Cell phone only	71%
Landline phone only	1%
Both	24%
Other (please specify)	4%

*Non smart cell phone with no internet connection possible
It's under my dad's account, he lives elsewhere
I have no cell phone coverage at my home so rely on wifi calling only.*

Q42. Do you: (N=20)

Mostly use your cell phone	80%
Mostly use your landline phone	15%
Use your cell phone and landline phone equally	5%

Q43. What do you consider the most effective ways to receive local emergency information, other than the local air siren? (Mark all that apply) (N=82)

Television	41%
Email	49%
Text Alerts on cell phone	90%
Radio	39%
Internet	54%
Weather App	26%
Local Government App	18%
Newspaper	15%
Landline phone	17%
Social Media	56%
Other (please specify)	4%

Messages left at text relay number (tty), and the online options need to have ASL versions of their messages

Depends on whether it's a real emergency. don't want to receive Amber alerts or anything like that, just things that affect our household directly.

NOAA Weather Alert radio

Q44. How do you prefer to communicate with, or receive information from, your local government? (mark all that apply) (N=79)

Telephone call/voice message	29%
US Mail	51%
Go to an office / In-person	18%
Attendance at a Public Meeting	22%
Cable TV or over-the-air broadcast TV	19%
Print Newsletter / Newspaper	25%
Internet / Online	72%
Social media post	48%
Email	58%
Radio	20%
Texts on a cell phone	52%
Other (please specify)	3%

A police department that actually solves when arriving on a call onstead of relating how many calls they have waiting and how busy they are.

After all they are at the call so why not do something to fix the problem instaed of 100 other s agencies that are supposed to help and dont.

App specifically from organization

Q45. Why do you prefer the methods you indicated above? (N=63)

Top Four (4) Answers

Access ble/Accessibility	24%
Easy/Ease of use	21%
Fast/Quick	12%
Convenient/Convenience	10%

Q46. What top one or two technologies do you really need, but don't have now? (Mark up to two choices) (N=81)

Television / cable TV service	12%
On-Demand TV / video program service	7%
Basic Internet service	2%
High / Higher-speed Internet / Broadband	20%
Telephone service	2%
Email	1%
Affordable Internet	33%
Desktop / Computer in the Home	4%
Laptop	6%
A cell / mobile phone	5%
Other wireless device / Smartphone / Tablet	6%
Social Media (i.e, Facebook, Twitter)	0%
Connections to home security / Heat-AC / "Nest"	17%
None	23%
Other (please specify)	4%

Programmable thermostat (to lower heating costs). Rental, so controlled by landlord.

Over the air TV is sporadic due to the way digital antennas work. There' is not a choice for "a la carte cable tv service" but seriously we'd pay

Comcast the same amount of money if we could choose to get rid of some channels (like sports) and add others (like access to shows on Netflix)

An app that does live captioning so i can understand my friends better in spoken conversations

Q47. What are the reasons or barriers keeping you from getting or using the technologies you don't have now? (Mark all that apply) (N=79)

Cost / Affordability	71%
Lack of available choices / options	32%
Not available in my area	10%
Safety / Trust	23%
Don't Know how to obtain them	11%
Hardware (Platform)/Software issue	6%
Training / Don't Know how to use them or where to start	10%
Not aware of options	14%
Lack of stable housing	3%
Nothing / No barriers / No reasons	15%
Other (please specify)	10%

*Landlord has no incentive to lower *my* energy costs.
accessible to low/no vision users*

I honestly do not know why I don't have a landline.

easy ability to use

Continuous changing of how to run apps.

Have what I need

No desire to use them

This question should have asked people if accessibility of products to people with disabilities kept them from having something they need.

Q48. What is your age? (N=75)

Range: 23 - 82 yrs. Old; Average = 51 yrs. Old

18-24 yrs. old	1%
25-34 yrs old	12%
35-44 yrs. old	21%
45-54 yrs. old	24%
55-64 yrs. old	19%
65-74 yrs. old	21%
75 + yrs.	1%

Q49. Do you rent or own your home? (N=80)

Own	44%
Rent	51%
Don't Know	0%
Other (please specify)	5%

Job Corps student

Live in home with owner

Rent 1/2 the house

Mobile home so own home but rent space please protect us from being kicked out if land is sold

Q50. Does your household include anyone 18 years old or younger? (N=80)

Yes	28%
No	73%

Q51. What is the highest level of education you have completed? (N=80)

High School Graduate	4%
Some College	20%
Trade School	1%
Associate Degree / 2-year degree	10%
College / 4-year degree	29%
Postgraduate or professional degree	33%
Other (please specify)	4%

Many conferences and workshops for survival and technical communication etc.

Masters Degree

400+ semester hours - no degree

Open Codes/Underserved Community Results

Q52. Which of the following categories best describes your total annual household income, before taxes? (N=800)

Under \$25,000	30%
Between \$25,000 and \$34,999	8%
Between \$35,000 and \$49,999	9%
Between \$50,000 and \$74,999	11%
Between \$75,000 and \$99,999	15%
Between \$100,000 and \$150,000	9%
Over \$150,000	4%
Don't Know / Decline	15%

Q53. What describes your current employment status? (N=80)

Employed / Working Full-time	33%	49% Employed
Employed / Working Part-time	8%	
Self-Employed / Own Business	5%	
Working and in school	1%	
Retired / Working Full-time	1%	
Retired / Working Part-time	1%	
Full-time Student	5%	
Seeking employment / Looking for work	3%	
Retired	11%	
Unable to work	19%	
Volunteering	5%	
Decline	3%	
Other (please specify)	6%	
<i>laid off because of COVID-19</i>		
<i>medically retired</i>		
<i>retired/self-employed</i>		
<i>Working full-time and full-time student.</i>		
<i>Working 1 F/T, 1 P/T job and periodic side hustle to help support family member.</i>		

Q54. How often do you telecommute or work from home using the Internet? (N=39)

Always	10%
Frequently	36%
Occasionally	21%
Rarely	10%
Never	23%

Q55. What is your gender? (N=80)

Female	61%
Male	30%
Gender Expansive (e.g., Non Binary, agender, gender fluid)	5%
Transfeminine	0%
Transmasculine	0%
Two Spirit	0%
Questioning	0%
Decline	4%

Q56. Which of these is closest to describing your race and ethnicity? (N=80)

American Indian or Alaska Native	4%
Asian or Asian American	1%
Black or African American	3%
Hispanic or Latino	3%
Middle Eastern or Northern African	1%
White	66%
Mixed	13%
Unknown/Don't Know/Decline	8%
Another Race (please specify)	3%
<i>Northern European - pink</i>	
<i>Human</i>	

Seniors

Q1. Where in Multnomah County do you live? (N=69)

Portland	81%
Gresham	4%
Troutdale	4%
Fairview	7%
Wood Village	1%
Elsewhere in Multnomah County	1%

Q2. What is your five-digit zip code? (N=69)

- 97019
- 97024
- 97030
- 97060
- 97080
- 97201
- 97202
- 97203
- 97204
- 97205
- 97206
- 97209
- 97210
- 97211
- 97212
- 97213
- 97214
- 97215
- 97216
- 97217
- 97219
- 97220
- 97221
- 97230
- 97231
- 97232
- 97233
- 97236
- 97266

Q3. Do you or does a member of your household live with a disability? (N=69)

Yes, Myself	20%
Yes, another household member	4%
No	75%
Don't Know	0%

Q4. As you complete the survey, please keep in mind your needs or the needs of your household member living with a disability. Please describe the nature of the disability? (Mark all that apply) (N=16)

Hearing - deaf or having serious difficulty hearing, use ASL, cochlears	19%
Vision/Visual - blind or difficulty seeing, even when wearing glasses, use	13%
Cognitive/Developmental – mental, or emotional, remembering, concentr.	31%
Speech/Communication – communicating, verbal social interaction	6%
Ambulatory/Mobile/Physical - difficulty walking or climbing stairs (mobility)	81%
Self-care - difficulty bathing or dressing	13%
Independent living – difficulty doing errands, visiting a doctor, shopping	25%
Mental Health – difficulty with mood, behavior or thinking even with medi	44%
Other (please specify)	19%

Describe?? too hard to even try to describe the nature of even one small disability area
Epilepsy
PTSD

Q5. You indicated that you or a member of your household is living with a disability. What communications technology-assistive devices would you consider of critical importance? (Mark all that apply) (N=17)

Cell phones / Smartphones / Apps	71%
Internet access / High speed Internet	82%
Tablets / Computers	65%
Devices to aid in hearing	24%
TV / Cable	12%
Devices to aid with vision	18%
None/NA	6%
Other Devices (please specify)	6%

Captioning real time especially for phone calls with stupid people who do not know what ADA is or what accommodation means

Q6. What frustrations are there in the use of communications technology, including assistive and non-assistive devices? (Mark all that apply)

High prices / Costs	59%
Charging batteries for devices	12%
Robocalls	76%
Lack of changes in technology related to assistive devices	6%
Lack of inclusion of assistive technologies in devices or apps	12%
Keeping up with changing technology	65%
Unreliable technology	35%
Information Hackers	53%
Lack of compatibility of assistive device features with current technology	6%
Other (please specify)	6%

Lack of getting help, lack of getting information, lack of accurate current information, and assistance , being forced to make myself sick because of lack of accommodation and needs and no help when needed

Q7. Does your household currently subscribe to any news and entertainment streaming services, such as Netflix, Amazon prime video, or others (not including Internet Live TV services)? (N=69)

Yes	59%
No	41%
Don't Know	0%

Q8. Does your household currently have free-over-the-air TV, or subscribe to Satellite TV or Internet streaming TV services? (such as, Dish/DirecTV, Hulu+LiveTV, Sling TV, AT&T TV NOW, YouTube TV, etc.) (Mark all that apply) (N=69)

Yes, Free-over-the-air broadcast TV	39%
Yes, Satellite TV	4%
Yes, Internet Streaming Live TV	20%
No	45%
Don't Know	0%

Q9. Does your household currently subscribe to any cable television services? (such as, Comcast/Xfinity, Frontier, or CenturyLink) (Mark only one) (N=69)

Yes, Comcast / Xfinity	36%
Yes, CenturyLink	9%
No Cable TV service at home	51%
Don't Know/Don't Remember	1%
Other (please specify)	3%

*Direct TV; but planning to change in near future
Youtubetv*

Q10. Why have you chosen not to subscribe to cable television services? (check all that apply) (N=37)

Cost/ Expense/Poor value	65%
Poor picture/sound quality	3%
Better options	16%
Less expensive options	38%
Customer service issue	24%
Dissatisfaction with cable company	32%
Unhappy with programming/content	38%
Switched to only video over the Internet	19%
Didn't watch much/enough TV	35%
Switched to satellite service	8%
Dissatisfaction with cable package (want a la carte option)	30%
Other (please specify)	8%

*Not interested in watching anything on cable TV
Cost is biggest issue
Borrow DVDs from Multicolib*

Q11. Including all the services, taxes and fees on your cable bill, what would you estimate your average monthly bill to be? (N=31)

b. \$1-10	6%
d. \$31-40	3%
f. \$51-75	16%
g. \$76-100	3%
h. \$101-150	16%
i. \$151-200	26%
j. \$201-250	23%
k. \$251-300	6%

Q12. How would you rate the following over the last year? (N=31)

Q12. How would you rate the following over the last year? (N=31)	Excellent	Good	Fair	Poor	Don't Know/NA
The ability of the cable company to successfully resolve a problem with your service within 1-2 business days	13%	35%	26%	13%	13%
The ability of the cable company to resolve an outage within the next business day	13%	26%	32%	0%	29%
The accuracy and understanding of your monthly cable bill	13%	26%	42%	19%	0%
The ability of the cable company to explain and address billing questions	6%	23%	29%	26%	16%
The helpfulness of customer service assistance accessed through the company's website or online.	3%	19%	39%	19%	19%
You receiving a notice at least 30-days in advance of a rate or fee change	0%	6%	26%	19%	48%
The ease of use of the automated telephone menu options when calling your cable company	0%	10%	26%	42%	23%

Q13. How would you rate the following over the last year? (N=31)

Q13. How would you rate the following over the last year? (N=31)	Excellent	Good	Fair	Poor	Don't Know/NA
The cable company's notification to you 30-days prior to changes in programming	3%	13%	19%	29%	35%
The helpfulness of the cable company's employees	16%	32%	32%	10%	10%
The variety of cable programming packages offered	6%	32%	29%	23%	10%
The convenience of the location of the local cable company office	3%	32%	23%	6%	35%
The hours the local cable company office is open	3%	29%	19%	3%	45%
Overall satisfaction with your cable company	6%	26%	45%	23%	0%

Q14. In your area, local community programming is available on cable television channels and the Internet from community media centers like Open Signal in Portland and MetroEast Community Media in Gresham. These organizations, and others, show local community productions, city council and county board meetings, as well as local school and community college programs and information. Are you aware of these local community channels? (N=69)

Yes	49%
No	49%
Don't Know/Don't Remember	1%

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=34)

Q15. How frequently, would you say your household views any local community programming on each of the following devices? (N=34)	Daily	Weekly	Once or Twice a Month	Once or Twice a Year	Never	N/A
via Television	10%	6%	13%	19%	48%	3%
via Smartphone (iPhone, Android)	7%	3%	0%	7%	79%	3%
via Tablet (iPad, Kindle)	3%	3%	3%	7%	80%	3%
via Desktop/Laptop Computer	3%	6%	3%	25%	59%	3%
via Game Console	0%	0%	0%	0%	89%	11%

Q16. How important is it that local community programming be available? Would you say ... (N=69)

Essential	13%
Very Important	39%
Somewhat Important	38%
Not at all Important	6%
Don't Know	4%

Open Codes/Underserved Community Results

Q17. What types of local programs and content do you consider most relevant and important to you? (mark all that apply) (N=69)

Local business	29%
Educational	45%
Art and culture	59%
Local sports	17%
Senior citizens	48%
Non-Profit organization	36%
Local medical and wellness	32%
Community or neighborhood news	68%
Local children and youth	20%
Local government information and services	72%
Religious and faith-based, spiritual	4%
Reflect my own ethnicity, culture or experience	6%
None	3%
Other (please specify)	3%
<i>NPR</i>	
<i>Non-Bias</i>	

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=69)

Q18. For each of the following devices, what viewing option would make it more likely for you to watch a local community program? (N=69)	via Cable TV real-time (live TV)	via Cable TV on-demand	via Live streaming video online	via On-demand streaming video online	Languages other than English	N/A
On Television	23%	20%	7%	20%	0%	31%
Through Smart TV App	7%	2%	7%	16%	0%	67%
Through HDMI TV Plug-in (i.e. Chromecast, Apple TV, Fire Stick, etc.)	5%	0%	7%	23%	0%	65%
On Smartphone	4%	4%	17%	26%	0%	50%
Through Smartphone App	2%	4%	9%	31%	0%	54%
On Tablet (iPad, Kindle)	2%	3%	12%	27%	0%	56%
On Desktop/Laptop	10%	10%	18%	36%	0%	26%
On Game Console	0%	0%	4%	8%	0%	88%

Q19. What do you consider your most trusted sources for local news and neighborhood content and information? (N=60)

Top six (6) Answers

Local News (TV and Newspaper)	17%
Oregonian	27%
Willamette Week	10%
Nextdoor.com	7%
KGW	5%

Q20. Please tell us about your home Internet service. (Mark only one) (N=69)

I have Comcast/Xfinity Internet	54%
I have Comcast Internet Essentials	4%
I have CenturyLink Internet	25%
I have Frontier Internet	3%
I have Reliance Connects Internet	1%
I have No Internet Service at Home	6%
Other (please specify)	7%

T Mobile hot spot

I have Century Link currently but service delivery is so bad (late) that I will be changing soon

I have Internet service through Verizon but it is not ONLY through my cell phone.

All I have tried are VERY VERY expensive with poor customer service and poor functioning. currently using StepHouse because it is the best of all the poor choices

T-Mobile, Earthlink

For Those that Don't Have Internet at Home

Q21. If you only use a smartphone for Internet at home, how often does your data limit keep you from using the Internet? (N=1)

Don't Know	100%
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Q22. Has your household ever had Internet services at home? (N=5)

Yes	60%
No	40%

Q23. Have you ever signed up for Internet service through a program that provides Internet services at a reduced cost for low-income households or veterans, such as Comcast's Internet Essentials? (N=3)

No 100%

For Those that Don't Have Internet at Home

Q24. How satisfied were you with that Internet service? (N=0)

Q25. What are the main reasons or barriers you do not have Internet at home? (Mark all that apply) (N=4)

Cost / Expense of service	100%
Not available in my area	25%
Cost / Expense of equipment	75%
Smartphone is all I need	25%
Service plans offered are confusing	50%
Service is frustrating to use	25%

Q26. Have any of the following prevented you from subscribing to Internet at home? (Mark all that apply) (N=4)

No ability to pay as you go	50%
Required credit check	25%
Required access to bank account	50%
Required contract terms	50%
Other (please specify)	25%

Use the public library. Prefer to make video versus watch.

Q27. Would you be more likely to sign up for Internet service at home if it cost less? (N=4)

Yes	50%
No	25%
Don't Know	25%

For Those that Don't Have Internet at Home

Q28. What is an affordable Internet cost for you on a monthly basis? (N=4)

Free (3)

Choose not to buy

For Those with Internet in the Home

Q29. How much do you currently pay per month for Internet service at home? (N=52)

Range: \$9.95 - \$300; Average = \$95.15

a. \$1-10	5%
b. \$11-20	2%
d. \$31-40	8%
e. \$41-50	8%
f. \$51-75	20%
g. \$76-100	24%
h. \$101-150	7%
i. \$151-200	7%
j. \$201-250	7%
k. \$251+	2%
Don't Know	12%

Q30. Does the amount you pay for Internet service ever cause you to delay or avoid other important bills or purchases? (N=60)

Yes	5%
No	93%
Don't Know	2%

Q31. What things have you done without or delayed purchasing because you paid your Internet bill? (N=3)

Medical bills, food and hygiene items.

Other utilities, car/home repairs, clothes, groceries. Haven't been able to afford things like dental work since 2007. That's not the fault of the Internet -- but I have to have the Internet to stay current with my activities and interests. They tend to cut off my service if I'm late with my payment -- which makes it hard to make a payment since my banking is online.

Other bills.

Q32. Have you ever had trouble paying your Internet bill? (N=60)

Yes 13%
No 87%

Q33. What would you consider a reasonable cost to pay for home Internet service per month? (N=48)

Range: Free - \$150 a month; Average = \$45.45

a. \$0 (Free) 4%
b. \$1-10 2%
c. \$11-20 2%
d. \$21-30 21%
e. \$31-40 25%
f. \$41-50 29%
g. \$51-75 8%
h. \$76-100 6%
i. \$101-150 2%

Q34. How often do you use the Internet services at the following locations outside of the home: (N=67)

Q34. How often do you use the Internet services at the following locations outside of the home: (N=67)	Daily	Several times a week	Once a week	Monthly	Rarely	Never	N/A
At a Government office	3%	5%	2%	3%	25%	52%	11%
At a Public space / Public park	9%	9%	6%	3%	28%	39%	6%
At your place of work / Employer	18%	7%	3%	0%	1%	25%	45%
At a friend or relative's house	0%	6%	15%	13%	33%	28%	4%
At a School / College / University	2%	2%	5%	8%	15%	38%	32%
At the Public library	1%	4%	1%	12%	34%	33%	13%
At a Restaurant / Coffee shop / Bar / Hotel	4%	10%	21%	10%	24%	22%	7%
At another business	2%	15%	8%	8%	23%	32%	14%
Through your Data Plan on your Mobile Device	45%	12%	7%	4%	3%	16%	12%

Q35. Have you ever had any problems using the Internet services at the locations you indicated above? (N=69)

Yes 39%
No 54%
Don't Know/Don't Remember 7%

Q36. What types of problems? (N=26)

Mostly connectivity performance or reliability, sometimes login process

Lack of access.

Connection failed, very slow loading

Access on buses using bandwidth on my cellular service is D+ or C- and if you want to improve satisfaction levels among

bus riders provide high-speed access on all public transportation. It will lessen complaints on how long their journey takes when they can stream easily and at a good speed.

I have to go to med appts at Kaiser often and I use it then. Kaiser keeps asking me to log in, repeatedly. It is really annoying. Other places sometimes ask for a password and then I have to figure out how to get the password and sometimes it's difficult. Like, having to get back up and go to the counter and ask, when it isn't always easy to get up and down.

Verizon data/Internet service plan is, even though supposedly unlimited, far too expensive. Why can't the municipality of Gresham, for instance, provide Internet service for \$30/month or so, as the rural electric cooperative out in the Hood River Valley can do?

No signal available, run out the battery

Poor connectivity

Range distance, unsecured, strength of signal.

Very extremely slow connections, inability to actually get to desired sites, inability to display site as intended, problems with site so information is unavailable, unable to interact with site

No/bad signal, very low data rates,

Data plan unlimited, but reception spotty for phone data plan, especially in urban areas.

Outage or poor response, sometimes caused by low wifi signal, which is not a fault of the internet provider.

Inability to connect; lack of bandwidth

Login issues, e.g., passwords. Sometimes the speed of the connection is way too slow.

Problems connecting through to the internet.

Slow, intermittent connection.

In public spaces or retail business/restaurants, insufficient bandwidth or no login info.

sometimes cannot get service through carrier's data or through WiFi

System error in not recognizing sign-in.

slow downloading, sometimes cannot connect, am afraid of being hacked.

No LTE reception availability. No free wi-fi.

getting a connection with my smart phone

connection

Slow service at government/hospital buildings. Many times I turn off WiFi at these locations and use phone Data plan

Slow service of dropped service

Q37. What devices do you use to connect to the Internet outside your home? (Mark all that apply) (N=69)

Computer/laptop	48%
Smartphone	74%
I don't own a device to connect to the Internet	1%
iPad/tablet	39%
Game console	0%
None	7%
Other (please specify)	3%

Husband has smartphone.

I do not connect to the internet outside the home with my own device.

Q38. Is access to the Internet as essential to you as access to electricity (in other words an essential utility)? (N=69)

Yes	87%
No	12%
Don't Know	1%

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=69)

Q39. When it comes to your Internet connection, please rate each of the following in importance to you. (N=69)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
Fast Speed	36%	51%	13%	0%	0%
Unlimited or plentiful data	40%	43%	16%	1%	0%
Reliability	77%	23%	0%	0%	0%
Security and privacy	81%	16%	3%	0%	0%
Cost	32%	53%	15%	0%	0%

Other (please specify)

I already pay Comcast for Internet and mobile broadband and both are slow outside of my network.

Net neutrality.

Search engine that does not track individual preferences.

Q40. How important are the following to you? (N=69)

Q40. How important are the following to you? (N=69)	Essential	Very Important	Somewhat Important	Not at all Important	Don't Know
That there are places with free public access to the Internet	32%	38%	23%	7%	0%
That your local government works to ensure all persons have affordable access to the Internet at home	54%	26%	10%	6%	4%
There are protections against your service provider selling or sharing your personal information	77%	20%	3%	0%	0%
That your service providers do not monitor your service without your authorization	83%	13%	4%	0%	0%
There are free computers and classes to learn to use the Internet	26%	30%	29%	12%	3%
Your local government ensures that you have a choice of more than one Internet service provider	51%	28%	16%	3%	3%
Your local government ensures that public safety is not negatively impacted by new technology in your neighborhood	59%	25%	9%	4%	3%
Your local government ensures that aesthetics and overall quality of life are not negatively impacted by new technology in your neighborhood	49%	25%	16%	6%	4%

Q41. Does your household have a cell phone, a landline phone, or both? (N=69)

Cell phone only	49%
Landline phone only	3%
Both	43%
Other (please specify)	4%

Cell phone and Ooma (computer-based phone)

I have both. The landline is to reduce the huge/daily numbers of scam/sales calls and keep them off of my cell phone.

non smart cell phone with no internet connection possible

Q42. Do you: (N=30)

Mostly use your cell phone	37%
Mostly use your landline phone	23%
Use your cell phone and landline phone equally	40%

Q43. What do you consider the most effective ways to receive local emergency information, other than the local air siren? (Mark all that apply) (N=69)

Television	61%
Email	46%
Text Alerts on cell phone	86%
Radio	54%
Internet	45%
Weather App	16%
Local Government App	7%
Newspaper	14%
Landline phone	26%
Social Media	29%
Other (please specify)	6%

Did you mean "web" when you listed "internet" door-to-door

Neighborhood Emergency Teams

depends on whether it's a real emergency. don't want to receive Amber alerts or anything like that, just things that affect our household directly.

Q44. How do you prefer to communicate with, or receive information from, your local government? (mark all that apply) (N=68)

Telephone call/voice message	35%
US Mail	50%
Go to an office / In-person	22%
Attendance at a Public Meeting	25%
Cable TV or over-the-air broadcast TV	19%
Print Newsletter / Newspaper	40%
Internet / Online	66%
Social media post	22%
Email	66%
Radio	24%
Texts on a cell phone	41%
Don't Know	1%
Other (please specify)	3%

Diverse systems that give me options.

Depends on the type or content of information, different channels for different communications

Q45. Why do you prefer the methods you indicated above? (N=57)

Top Five (5) Answers (multiple answers)

Easy/Ease of use	9%
Convenient/Convenience	7%
Accessible/Accessibility/Availability	9%
Fast/Quick	9%
Reliable	7%

Q46. What top one or two technologies do you really need, but don't have now? (Mark up to two choices) (N=69)

Television / cable TV service	1%
On-Demand TV / video program service	4%
Basic Internet service	1%
High / Higher-speed Internet / Broadband	12%
Telephone service	1%
Affordable Internet	25%
Laptop	1%
A cell / mobile phone	6%
Other wireless device / Smartphone / Tablet	4%
Connections to home security / Heat-AC / "Nest"	9%
None	57%
Other (please specify)	4%

Security system

We all need this, these days.

At this time, I already have what I need/want

Q47. What are the reasons or barriers keeping you from getting or using the technologies you don't have now? (Mark all that apply) (N=67)

Cost / Affordability	39%
Lack of available choices / options	21%
Not available in my area	3%
Safety / Trust	10%
Don't Know how to obtain them	7%
Hardware (Platform)/Software issue	3%
Training / Don't Know how to use them or where to start	13%
Not aware of options	15%
Nothing / No barriers / No reasons	46%
Don't Know	1%
Other (please specify)	9%

I have all that I need.

As an old person, my income beyond Social Security requires freelance work. I need affordable software and affordable, reliable Net connectivity. I also need this for getting medical information and other necessary information.

Easy ability to use

Comcast is charging too much for their services.

Continuous changing of how to run apps.

Software is constantly updated/changed forcing allegiance to the companies' products.

Q48. What is your age? (N=69)

Range: 65 yrs. Old - 81 yrs. Old; Average = 74 yrs. Old

65-74 yrs. old	80%
75+ yrs.	21%

Q49. Do you rent or own your home? (N=69)

Own	81%
Rent	19%

Q50. Does your household include anyone 18 years old or younger? (N=69)

Yes	4%
No	96%

Q51. What is the highest level of education you have completed? (N=69)

High School Graduate	6%
Some College	14%
Associate Degree / 2-year degree	4%
College / 4-year degree	19%
Postgraduate or professional degree	54%
Other (please specify)	3%

PHD MPH

400+ semester hours - no degree

Q52. Which of the following categories best describes your total annual household income, before taxes? (N=68)

Under \$25,000	18%
Between \$25,000 and \$34,999	3%
Between \$35,000 and \$49,999	12%
Between \$50,000 and \$74,999	12%
Between \$75,000 and \$99,999	18%
Between \$100,000 and \$150,000	13%
Over \$150,000	3%
Don't Know / Decline	22%

Q53. What describes your current employment status? (N=69)

Employed / Working Full-time	9%
Employed / Working Part-time	4%
Self-Employed / Own Business	1%
Retired / Working Full-time	3%
Retired / Working Part-time	16%
Retired	54%
Unable to work	9%
Decline	3%
Other (please specify)	1%

Retired/self-employed

Q54. How often do you telecommute or work from home using the Internet? (N=23)

Always	13%
Frequently	35%
Occasionally	13%
Rarely	13%
Never	26%

Q55. What is your gender? (N=69)

Female	54%
Male	43%
Gender Expansive (e.g., Non Binary, agender, gender fluid)	1%
Decline	1%

Q56. Which of these is closest to describing your race and ethnicity? (N=69)

Asian or Asian American	1%
Black or African American	1%
White	87%
Mixed	4%
Unkown/Don't Know/Decline	3%
Another Race (please specify)	3%
<i>Northern European - pink</i>	
<i>Jewish==that is, mixed white and Middle Eastern</i>	

ATTACHMENT 4
COMMUNITY MEDIA PRODUCER/USERS ONLINE SURVEY

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Attachment 4 Community Media Producer/Users Online Survey

INTRODUCTION

As part of a broad community communications technology needs ascertainment on behalf of the Mount Hood Cable Regulatory Commission (MHCRC) CBG Communications, Inc. (CBG) in conjunction with MHCRC staff developed and conducted an online survey of Community Media Producers and Facility Users.

Goals of the Online survey were to:

- Assess current and future communications technology, including cable related, needs and interests of the constituencies that produce programming and other content for the community media access channels and online, as well as the users of the community media centers equipment and facilities.
- Gather satisfaction levels concerning a wide range of characteristics of the local community media centers, facilities and equipment
- Gather other usage and demographic information from community media centers producers/users

METHODOLOGY

In March of 2020, CBG and MHCRC staff developed a questionnaire for community media centers producers and users designed to address several key issues concerning the needs and interests of the producers and users. CBG and MHCRC utilized an online survey collection tool through SurveyMonkey to conduct the survey. Responses were collected between April 2nd and May 2nd of 2020. A total of 274 responses were collected from users of Open Signal (OS), MetroEast Community Media (MetroEast) and Users of both Open Signal and MetroEast. In order to make the survey accessible and easy for all respondents, not all questions were mandatory, therefore some questions have lower response rates than others.

The Online Community Media Producers/Users Survey (*here and after, Online Community Media Survey or Survey*) included a variety of questions for those that have utilized or are currently utilizing OS and/or MetroEast to produce or distribute video or other multimedia content, or to otherwise use the facility for training, education, or other content development. The Online Community Media Survey encompass 31 questions (some with multiple parts) and the Key Findings from the survey can be found in the Executive Overview. Attached to this report are the full results of the survey including demographic and other information for the respondents, as well as a full set of responses to open coded questions.

EXECUTIVE OVERVIEW

Respondent Characteristics

- ❖ In terms of facilities, the majority of respondents (43%) utilized MetroEast followed closely behind by those that utilize Open Signal (39%) and 18% who utilize both Open Signal and MetroEast.
- ❖ Respondents to the survey had been affiliated with Community Media from between 1 and 37 years with the average being 15 for those who utilize both facilities; 7.8 years for those that only utilize Open Signal and 7.5 years for those who only use MetroEast.
- ❖ The majority of respondents are individuals, who (79%) characterized themselves as either individual members, independent producers or community media center volunteers. Fourteen percent (14%) were representatives of non-profits while 4% were government representatives and 3% were educational organization representatives.
- ❖ On average respondents utilized the facility a substantial amount of time ranging from 1 to 720 hours a month, for an average of 42 hours per month. Respondents using both facilities report 61 hours per month of usage for the production or distribution of programming or other use of the community media center facilities, while MetroEast respondents are consistent with the average overall at 42 hours per month usage and Open Signal respondents at 38 hours per month usage.

This is up substantially from ten years ago when the average for all respondents was 16 hours per month.

Satisfaction

- ❖ The overwhelming majority of respondents are satisfied with community media centers operations. Specifically, 97% are satisfied with MetroEast operations (81% very satisfied and 16% satisfied), while 91% are satisfied with Open Signal (70% very satisfied and 21% satisfied).

In both cases this is up over 15% or more from ten years ago.

% Very Satisfied	Total Respondents	MetroEast Respondents	Open Signal Respondents	Both Facility Respondents
MetroEast Operations	81%	88%	63%	74%
Open Signal Operations	70%	66%	78%	56%

Involvement

- ❖ Respondents were asked about their primary interest and involvement in producing/providing/distributing/learning about/participating in a number of types of video

programming/multimedia/film/media arts and technology/digital literacy activities at Open Signal and/or MetroEast. The majority indicated involvement in Arts and Entertainment (57%), followed by Public Empowerment and Community Engagement (47%) and Community Events (46%). Many other activities were listed as shown in the below table.

Interest and Involvement	Total	Open Signal	Metro-East	Both
Public Outreach	39%	27%	47%	44%
Community Events	46%	36%	52%	52%
Public Empowerment and Community Engagement	47%	44%	46%	54%
Community News and Public Affairs	33%	26%	37%	42%
Arts and Entertainment	57%	64%	54%	50%
Public Meetings and Civic Engagement	22%	16%	22%	36%
Training and Education	44%	36%	50%	48%
New Technology	34%	31%	38%	30%
Religious/Faith-based	15%	16%	10%	24%
Sports Coverage	11%	12%	8%	14%
Use of Media Center Space	36%	40%	29%	46%
Other Program/Media/Training Type	24%	23%	22%	32%
Other Reason for being involved in Community Media	22%	19%	20%	32%

- ❖ The vast majority of respondents have not experienced any problems in obtaining necessary, fully functional facilities equipment for use of the facility or remotely in the community (86%), while 13% indicated that they had. Specific, problems can be found in Attachment 4.A under the open coded responses to question 10.
- ❖ A little more than half of the respondents (52%) use the publicly accessible WiFi and Internet connections at Open Signal, while 46% utilize the MetroEast. This has helped substantially from ten years ago (up 12% at MetroEast and 31% at Open Signal).

Quality and Capability Ratings

- ❖ Respondents were asked to rate the quality, availability, and/or capabilities of a variety of aspects of the community media center facilities. The majority of respondents rated this wide variety of aspects as “excellent” or “good” with many also indicating “no opinions/don’t know/don’t use”.

In both cases the highest marks were received for community media center facilities staff (73% excellent and good for OpenSignal staff and 72% excellent and good for MetroEast staff).

For Open Signal the next highest marks were for community media center facility locations (71% excellent and good followed by program playback/scheduling at 66% and training/media/digital literacy education at 65%).

For MetroEast the next highest marks were for training/media/digital literacy education at 71% excellent and good followed by community media center facility location at 66% excellent and good and assistance during actual production at 62% excellent and good.

For OpenSignal the highest of fair and poor marks (21% combined) were for hours of operation, while for MetroEast the highest fair and poor marks were 9% for community media center facility location. Additional rating data can be found in the two tables below:

Open Signal	Excellent	Good	Fair	Poor	No Opinion/Don't Know/Don't Use
Training/Media/Digital Literacy Education	49%	16%	7%	2%	25%
Assistance During Actual Production	44%	18%	4%	1%	32%
Editing Equipment Availability	38%	13%	5%	2%	42%
Editing Assistance	32%	14%	6%	1%	46%
Program Playback/Scheduling	51%	15%	4%	1%	30%
Community Media Facilities Staff	58%	15%	3%	1%	23%
Hours of Operation	28%	28%	16%	5%	22%
Portable Field Equipment Availability	34%	18%	8%	2%	38%
Mobile Production Unit Availability	25%	12%	7%	4%	52%
Studio Availability	31%	26%	6%	2%	35%
Community Media Facility Location	48%	23%	7%	1%	22%
Community Media Program/Facilities Promotion	32%	25%	7%	2%	33%

MetroEast	Excellent	Good	Fair	Poor	No Opinion/Don't Know/Don't Use
Training/Media/Digital Literacy Education	57%	14%	0%	1%	27%
Assistance During Actual Production	50%	12%	2%	1%	34%
Editing Equipment Availability	37%	17%	0%	0%	45%
Editing Assistance	38%	14%	2%	0%	45%
Program Playback/Scheduling	41%	16%	2%	1%	39%
Community Media Facilities Staff	63%	9%	1%	1%	26%
Hours of Operation	39%	28%	5%	1%	28%
Portable Field Equipment Availability	38%	13%	3%	0%	46%
Mobile Production Unit Availability	30%	16%	2%	0%	51%
Studio Availability	35%	22%	3%	0%	41%
Community Media Facility Location	45%	21%	8%	1%	25%
Community Media Program/Facilities Promotion	44%	18%	5%	1%	33%

- ❖ Most respondents (59%) believe that current awareness/promotion of the local community media center and its services and programming are adequate. Forty percent (40%), though

indicated that awareness/promotion is not adequate. A range of potential additional promotional methods and activities that can be beneficial was provided by respondents and can be found in Attachment 4.B.

- ❖ Respondents were asked what additional capabilities or services need to be provided at the community media center facilities, especially as they related to emerging technologies, interactive media, virtual reality, etc. Approximately half of total survey respondents answered this question and a full list of responses can be found in Attachment 4.B.

Other Media Training and Education

- ❖ Respondents were asked, besides the community media center, where else do you gain access to media training and education. A variety of responses were provided with the highest being “free service online” (64%), followed by “college/university” (26%) and then by “paid service online” (21%). Other media training and education providers were listed and can be found in Attachment 4.A.

Transportation Issues

- ❖ Respondents were asked if they utilize remote production equipment, how do they transport it? The majority of respondents (79%) indicated that they utilized their personal vehicle. Public transportation was the next listed at 15% followed by “someone else gives me a ride” at 10%.
- ❖ This was followed up by asking respondents to indicate whether their method of transportation creates a barrier that impacts their ability to effectively use the equipment. Eighty-six percent (86%) indicated that this did not create a barrier, while 14% indicated that it did. A variety of barriers were listed and can be found in Attachment 4.A. under question 12.

Online distribution

- ❖ Respondents were asked to indicate whether they also provided programs online that they distributed over the open signal or metro east channels. Sixty-one percent (61%) indicated that they did, with the top online platform utilized being YouTube at 71% followed by Facebook and Vimeo each at 19%.
- ❖ Respondents were also asked about the average viewership that they have online for their programs and what additional information they have available online and how. A wide range of answers were given and can be found in Attachments 4.A and 4.B.

Professional work in the Multimedia/video/audio-virtual production/live event support field

- ❖ Respondents were asked if they work professionally in content development, beyond their activities at the community media center, 2/3 indicated “no” while 1/3 indicated that they did. For those that did, they were asked to indicate whether they made a living solely

through this type of work, 24% of those that do work professionally, indicated that it is their sole type of work.

Final Comments

- ❖ Approximately ¼ of the survey respondents provided additional comments. The majority of these were complementary to both Open Signal and MetroEast facilities and staff and how valuable they are to the respondents. The full list of comments can be found in Attachment 4.A.

Demographic Population Information

Respondents provided a variety of demographic population information, including the following highlights:

- 53% of respondents were male, 43% were female and 4% identified as “other”;
- 22% of respondents indicated that they or another household member live with a disability;
- Regarding work status, 33% were employed working full-time, 20% were Self-employed and owned their own business, followed by 16% who volunteer, 9% working part-time plus an additional 8% who were retired and working part-time. A number of other categories are listed as well;
- Regarding educational status, the majority of respondents have four-year college degrees (35%) followed by post-graduate or professional degrees (28%), and 14% with some college, followed by other educational statuses;
- Regarding ethnicity, 57% identified as “white”, 11% as “Black or African American”, and 11% that identified as “other”, followed by a diverse mix of ethnicities utilizing the community media centers;
- Regarding age, the largest age group falls into 56-65 years old (21%), followed by 46-55 years old and 66-75 years old (18% each), and then 36-45 years old and 26-35 years old (15% each) with other diverse age groups listed;
- Regarding residential status, 48% own their own home followed closely by 47% that rent and additional 4% that indicated “other living arrangements”; and
- Regarding economic status, while 24% did not indicate an annual household income, the remainder indicated a variety of other income levels with the most common being between \$15,000 to \$34,999 (17%), followed by \$35,000 to \$49,999 and \$50,000 to \$74,999 both at 12%. A full range of demographic information can be found in Attachment 4.A.

ATTACHMENT 4.A
COMMUNITY MEDIA PRODUCERS/USERS ONLINE SURVEY
RESULTS

Q1. Which Community Media facility have/do you utilize(d)? (N=274)

Open Signal	39%
MetroEast Community Media (MetroEast)	43%
BOTH Open Signal and MetroEast	18%

Q2. How many years have you been affiliated with Community media at Open Signal or MetroEast? (N=259)

Open Signal

Range: 1-30 years; Average: 7.8 years

MetroEast

Range: 1-37 years; Average: 7.5 years

Both:

Range: 1-37 years; Average: 15 years

Q3. What is the nature of your affiliation? (N=274)

Individual Member/Independent Producer/Community Media Center Volunteer	79%
Non-Profit Member/Representative	14%
Government Representative	4%
Educational Representative	3%
Other Organizational Representative/Individual: (explain)	

Open Signal

Toastmasters International routine shows

Staff

Have done projects through Portland State University

MOORISH SCIENCE TEMPLE OF AMERICA

Portland Burn Survivors, Inc. Non profit for Burn Survivors, their friends and families.

Both individual and non-profit

Metro East

Staff (3)

I also served on the board of directors for several years, including as president.

I also administer an Oregon non-profit charitable organization

Was member of Portland Community Media years ago

I went to a coding camp there.

Also independent director/producer/writer

Participated in programming

Currently taking courses

Former board member.

Staff producer

Also as a staff member.

Donor and community service partner.

Pamplin Media/Representative

I have been affiliated with all 4 entities: City of Gresham, Volunteer actor/ voice over, East Metro Arts, Culture & Community 501c3, and as a Teacher with Rockwood Preparatory Academy

Both

<https://facebook.com/jason.g.gibson><https://facebook.com/bud.g.justice><https://gorgewellness.org>

Partner connecting limited English proficient communities to media production.

I had worked there as well, but still utilize its services.

I spent 2 months with TV Toastmasters.

Q4. Overall, how would you rate your satisfaction level with current Community Media Center operations? (N=273)

Media Center	Very satisfied	Satisfied	Somewhat satisfied	Not at all satisfied	N=
Open Signal	70%	21%	6%	2%	188
MetroEast	81%	16%	2%	2%	191

Q5. My primary interest and involvement is in producing/providing/distributing/learning about/participating in the following type(s) of video programming/multimedia/film/media arts and technology/digital literacy at Open Signal and/or MetroEast: (please mark and then explain below for all that apply): (N=270)

PUBLIC OUTREACH (informational programming about your organization's programs and services for viewers in their homes, etc.)	39%
COMMUNITY EVENTS (programs, live or recorded, that cover speeches, presentations, exhibitions, fairs, parades, other public gatherings, etc.)	46%
PUBLIC EMPOWERMENT AND COMMUNITY ENGAGEMENT (programs produced by local citizens, community groups, etc., providing their perspective or advocacy on a wide range of topics and issues)	47%
COMMUNITY NEWS AND PUBLIC AFFAIRS (local news programming and public affairs shows focusing on current events and topical issues in the Portland or East County area)	33%
ARTS AND ENTERTAINMENT (programs and exhibitions, live or recorded, such as plays, music performances or videos, comic skits, poetry readings, etc.)	57%
PUBLIC MEETINGS AND CIVIC ENGAGEMENT (programs, live or recorded, that cover elected officials meetings, school board meetings, planning meetings, other boards, commissions, advisory groups, etc.)	22%
TRAINING AND EDUCATION (child or adult education, services for place-bound learners, digital inclusion and literacy, curriculum-related or outreach concerning required courses, professional certifications, workforce development, lifelong learning, etc.)	44%
NEW TECHNOLOGY (learning about and using new media and technology such as virtual reality (VR), augmented reality (AR), extended reality (XR), and other immersive and interactive media technology)	34%
RELIGIOUS/FAITH-BASED (televangelism, cablecast of local religious worship services, other locally-produced or procured/imported religious oriented programming)	15%
SPORTS COVERAGE (local sports programming covering collegiate, high school, amateur and community athletic events and issues)	11%
USE OF MEDIA CENTER SPACE (using public WiFi, collaborating and connecting with other community members, etc.)	36%
OTHER PROGRAM/MEDIA/TRAINING TYPE	24%
OTHER REASON FOR BEING INVOLVED IN COMMUNITY MEDIA (interest in volunteering, social interaction, vocational training, community involvement, etc.)	22%

Q6. For all that you marked above, please describe your specific involvement (programs produced/provided/distributed; exhibitions; participation in training/education; uses of the Center; etc.): (N=233)

(See Open Coded Attachment 4.B)

Q7. Open Signal (please click one rating circle for each item): (N=212)

Open Signal	Excellent	Good	Fair	Poor	No Opinion/Don't Know/Don't Use
Training/Media/Digital Literacy Education	49%	16%	7%	2%	25%
Assistance During Actual Production	44%	18%	4%	1%	32%
Editing Equipment Availability	38%	13%	5%	2%	42%
Editing Assistance	32%	14%	6%	1%	46%
Program Playback/Scheduling	51%	15%	4%	1%	30%
Community Media Facilities Staff	58%	15%	3%	1%	23%
Hours of Operation	28%	28%	16%	5%	22%
Portable Field Equipment Availability	34%	18%	8%	2%	38%
Mobile Production Unit Availability	25%	12%	7%	4%	52%
Studio Availability	31%	26%	6%	2%	35%
Community Media Facility Location	48%	23%	7%	1%	22%
Community Media Program/Facilities Promotion	32%	25%	7%	2%	33%

Q8. MetroEast (please click one rating circle for each item): (N=220)

MetroEast	Excellent	Good	Fair	Poor	No Opinion/Don't Know/Don't Use
Training/Media/Digital Literacy Education	57%	14%	0%	1%	27%
Assistance During Actual Production	50%	12%	2%	1%	34%
Editing Equipment Availability	37%	17%	0%	0%	45%
Editing Assistance	38%	14%	2%	0%	45%
Program Playback/Scheduling	41%	16%	2%	1%	39%
Community Media Facilities Staff	63%	9%	1%	1%	26%
Hours of Operation	39%	28%	5%	1%	28%
Portable Field Equipment Availability	38%	13%	3%	0%	46%
Mobile Production Unit Availability	30%	16%	2%	0%	51%
Studio Availability	35%	22%	3%	0%	41%
Community Media Facility Location	45%	21%	8%	1%	25%
Community Media Program/Facilities Promotion	44%	18%	5%	1%	33%

Q9. Besides the Community Media Center, where else do you gain access to media training and education? (mark all that apply) (N=220)

Public School	10%
College/University	26%
Paid service - in person training	14%
Paid service online	21%
Free service online	64%
Education at another non-profit	20%
Other (please describe)	20%

Open Signal

YouTube tutorial videos

YouTube (4)

The books from the public library.

I have a college degree (over 25 yrs. ago) in Broadcast TV and Radio. I worked full-time as a video-writer producer for TV, educational institutes, and corporations, but I am not current on my skills (and don't have affordable access to equipment without Open Signal).

North West Film Center

Books and practice

Internet

TVCTV facilities in Washington County

Reading and experimentation

In my graphic design work I use/practice video editing and graphics.

OnLine

It is my career, so I also have spent over a decade learning on the job

Online classes through public library

None of the above. I am usually giving training.

Work professionally in media

The Public Library

Nowhere else

My work. I work on a professional production team and improve my skills there.

MetroEast

Multnomah County Library online (during COVID-19)

Freelance video production

Metro East is the only thing I use

By actually watching the channels.

YouTube tutorial videos (3)

Online, books, YouTube mostly

At a 2nd job where I create multimedia learning modules

I do not use the equipment.

Events such as Music Monday in Gresham - Parade in Troutdale and Arts events

Free training at a Best Buy

Part of my job

Internet

Online tutorial

Internet/YouTube

Both

Tutorials

Library, KBOO

TUALATIN Valley Cable Access

From other producers / peers

Working on paid productions

Help from younger family members

Q10. Have you encountered any problems in obtaining necessary, fully functional facilities and equipment for use at the facility or remotely in the community?
(N=244)

Yes	13%
No	86%

If YES, please describe the problems:

Open Signal

Interfunctionality between USB and the equipment on hand has not worked. Have to email content to self and then access. Some of the lavaliers are older, as are the mikes. Generally, it is just that some equipment needs updating.

At times demand is high and there is not enough equipment to go around.

NO but sometimes I find that the policy of needing to bring in borrowed items to be renewed in person is difficult, especially for large and cumbersome equipment.

No problem accessing the facilities, studio equipment and laptops. But yes, there is a problem accessing field (remote) production equipment. This is my primary interest but I'm required to take the field (remote) production class before I can check out the equipment. There are too few of these classes scheduled, they are always full, and it doesn't seem to help when I am placed on a waitlist. This is my biggest disappointment. Everything else is great, including staff.

Hours of operation as well as days open to the public has been dramatically slashed since 2017.

Some of the laptops and or hard drives would not keep the programs we were working on because of updates that would cause me to have to start the process over in editing.

Sometimes field lighting packages unavailable.

But only due to Corona virus shutdown.

Open Signal doesn't have adequate streaming capacity, their main streaming computer can't even stream at 720p and there are sync issues. □

There's no way to automatically publish content to Twitch, archive.org, etc. It's a lengthy, frankly nutty process where you set the files to upload and place a physical sign over the computer to not touch while the files upload overnight and often fail. It's not a modern system.

Metro East - Supported TV Toastmasters there briefly and experienced equipment issues requiring cancellation and then next time around causing delays. □

Open Signal - no funds to pay for field course to check out gear, no option to "test out" as I am a video professional.

Not enough equipment

I do not do equipment managing, but I have been told that it is sometimes hard to get necessary gear.

This is minor, but I feel that sometimes equipment is not maintained very well. At times I have had to improvise work arounds because one piece of gear is not working properly or is out of service. □

Actually, no, haven't even tried lately ...

I don't understand the question.

Metro East

They fixed a messed up sound board.

I had to travel for one hour from my location to access Metro East making two hours of travel to volunteer or receive training. I believe their mission is really important that we should have more facilities in Oregon.

One of the mics was a little old and blown out, but we just got it switched out with another one.

I'm answering "no" because I rely on MetroEast primarily for training, not editing or studio facilities. However, in the future I would like to be able to take advantage of such facilities, which offer many more resources than are available to me at my job. I consider them to be a very important resource for the community overall.

Equipment has to be returned without enough time to use

Both

I heard the MetroEast staff laughing and saying really cruel things about someone behind their back. What kind of workplace culture is that? Never came back.

There is more demand than supply. They have always been able to provide or supplement our equipment needs and work with us to find solutions. They take our programming as seriously as we do.

Open Signal threw out a lot of furniture and good needed equipment to produce a decent interview show. The furniture is uncomfortable for my guests.

Hours of operation at Open Signal don't allow reasonable access □

Sometimes all the equipment is checked out so I have to rent at Pro Photo Supply or use my equipment which is not as good.

Open Signal cares only for their paid staff. □

This can be seen with a look at their hours of operations and how much critical time they are shut down each year. Please stop funding these folks until they put in a new board and reprioritize the access and support they should be offering. □

Please stop funding them.

There's simply not enough for everyone - Word has gotten out and popularity has risen so more people are utilizing equipment

Equipment malfunction

There is gear that for whatever reason suddenly is not allowed out to the public anymore.

TVCA does not function well.

It is difficult to have remote events.

Technical equipment updates lead to older recordings and files not being supported any more, which is problematic for people who use hand-me-down equipment and can't afford to update their personal belongings (hard drives, computers, software, and even video decks). It also makes it more difficult to bring forward older programming for historic purposes.

Studio B at Metro East had an audio issue for a time but it has since been repaired.

Studio was closed

Q11. If you use remote production equipment, how do you transport it? (mark all that apply) (N=195)

Personal vehicle	79%
Borrowed vehicle	7%
Public transportation (bus, trolley, etc.)	15%
Someone else gives me a ride	10%
Bicycle	7%
Other (please describe)	5%

Open Signal

Employer vehicle

Uber, Taxi

Uber

Open Signals' remote broadcasting van

Walk (3)

I used to have a car. Now I do not. So I either Zipcar or ask my sister to give me a ride in her car.

MetroEast

Assistance from MetroEast CM professionals

Both

Walk - the studio is blocks from my living abode

Q12. Does your method of transportation create a barrier that impacts your ability to effectively use the equipment? (N=215)

Yes	14%
No	86%

If YES, what types of barriers are created and what is the impact on your ability to use the equipment? (please describe)

Open Signal

Sometime the equipment is too big to carry on a bike

It creates added cost in the budget to rent out a car or to get a Lyft/Uber.

Transporting multiple items on a bike is not the easiest.

Not the use of the equipment, but the types and amount of equipment I can safely transport. And therefore my remote projects are somewhat limited.

Sometimes I have to make decisions on how much equipment I will use based on my ability to carry it, as I don't drive, so I must be sensible about what I can handle.

Funds are not always available for Uber, my friends are often not available for trips, and the bus needs the space for passengers not my equipment

When my spouse is using our car, it's harder to transport equipment.

I always want to make sure I am caring for the equipment properly and am not endangering its future use. Since my main mode of transportation is bike, it limits what I am able to use and when I can use it.

Sometimes equipment is too heavy to carry on the bus.

Carrying equipment on the bus is sometimes not possible.

Size

Requires me to plan ahead, be thoughtful about what equipment I can carry a long distance.

Because I do not have a vehicle, I'm generally limited by what I can carry. It just requires some planning ahead on what I want to do.

I mean, technically, I can't carry it all on my back while on my bicycle, but it's the nature of the beast. I'll figure out workarounds.

MetroEast

With more equipment, it is harder to carry them around.

The distance represents a challenge, and it increased when we have the winter.

My vehicle is small and I have to take that into account when transporting equipment. Can't use stuff that is too big.

Unless we use the mini mobile, which doesn't fit in a regular car.

If the person whose car I borrow is running late / out sick, I have to scramble to find another method of transportation

You can only carry so much equipment on the train or bus.

Both

It's ok, I am old and this happens

Distance and hours of service combined with availability of equipment and little support.

Not being able to get insurance for the equipment being borrowed, I am hesitant to take expensive equipment on public transit.

I don't own a car.

Q13. If you produce video programs for distribution on the Open Signal or Metro East channels, do you also provide them online? (N=207)

Yes	61%
No	38%

If YES, please describe the online platform you use:

Top Four (4) Responses

YouTube (89)	[Open Signal (43), MetroEast (27), Both (19)]	71%
Facebook (24)	[Open Signal (11), MetroEast (11), Both (2)]	19%
Vimeo (20)	[Open signal (9), MetroEast (5), Both(6)]	19%
Instagram (6)	[Open Signal (3), MetroEast (3)]	5%

(Open Coded Answers can be found in Attachment 4.B)

Q14. If YES, and you track viewership, what is the average viewership online for your program? (N=57)

(See Attachment 4.B for Open Coded Answers)

Q15. If YES, and you engage with your viewers through the Internet, do you make additional information available online and how? (N=42)

Open Signal

Dedicated websites

Sometimes

Through post and captions

We advertise through Facebook, Instagram, and Twitter - in addition to frequent mentions during the live broadcasts.

Studio

Description fields of content.

Only with a description

Occasionally few English subtitles.

Yes opportunity for our deaf community to have an immersive experience not just view my production

The only information I make online is the location of my Church and the producer and editor name

Yes, I make sure in the video notes to let others know where the video was filmed.

Crrh.org

Website, YouTube and social media

Facebook group posts

Yes, shout out to Open Signal on every episode, as well as written information about the facilities at Open Signal.

I Just Try To Give Credit Where Credit Is Due.

I link to other episodes, provide details on the people featured in the episode

Yes, Instagram/social media.

Facebook

We have our own website and add blog posts and event information.

Just a more robust description of the content.

MetroEast

Not at this time. We have rebuilt our website and are building a more robust internet presence at this time.

I just redirect them to my other pages

Yes in comments

Yes through church website

We promote programs through our website. For election programming, we also use Google ads and other digital advertising.

Just share from my phone video !

Tweets, Facebook posts, and other random recommendations.

Website

Relevant links in the description of the video

Other than a video description, no

We put the shows we do up on our website

Yes, utilizing pictures on Facebook.

Yes- Facebook and Blogger.

We often have other information in printed and pdf form: voters' guides and studies of issues. Our website has a lot of information about issues in Portland and Multnomah County.

Both

Listserve

Social networking and webs like: <https://13months28days.info>; <https://lawoftime.org> https://blogtalkradio.com/earth_ascending_2020;

<https://laborlocals.upcsites.org>

Yes, website

We have our own website and embed uploaded shows on our site.

Just including website URL's.

Generally, no, but I have put my email address on the show and sometimes get email questions/comments.

Yes, resources, opportunities, links, advocacy

Q16. What additional capabilities or services need to be provided at the Community Media facilities (Please note especially any emerging technologies such as interactive media, virtual reality, etc. that you believe would be useful)? (N=136)

(See Attachment 4.B for Open Coded Answers)

Q17. Do you believe that current awareness/promotion of the local Community Media Center and its services and programming are adequate? (N=242)

Yes 59%

No 40%

If NO, please describe additional promotional methods and activities that would be beneficial. (N=82)

(See Attachment 4.B for Open Coded Answers)

Q18. Do you work professionally in multimedia/video/audio-visual production or live event support, beyond your activities at the Community Media Center? (N=248)

Yes 33%
No 67%

If YES, please describe (N=71)

(See Attachment 4.B for Open Coded Answers)

Q19. If YES, are you able to make a living solely through your multimedia/video/audio-visual work? (N=123)

Yes 24%
No 76%

Q20. Do you use the publicly accessible WiFi and internet connections at the Community Media facilities? (N=241)

Media Center	Yes	No	Total
Open Signal	52%	48%	192
MetroEast	46%	54%	185

Q21. Any other comments? (N=71)

Open Signal

You guys are awesome! keep up the great work

You guys ROCK! I look forward to coming back and creating more good stuff that you all can air :-)

Open Signal helped me get on my feet to get started and is a go-to resource if I need support in creating a new project.

This is such a vital part of our community. Though I work professionally as a video media director, I love utilizing Open Signal for specific use to make media targeted toward the public good as opposed to my clients. I'd like to see more folks have access to these tools to be creative and share their story and message.

Something Open Signal does really well is creating a welcoming and inclusive environment where differences, disabilities, various backgrounds, etc. are respected.

Open signal has been a life altering experience and a benefit that has lent

meaning to my life in countless fulfilling ways. □

Thank You

I appreciate that I can send episodes electronically to OS. This has been especially important while we are sheltering in place.

One thing that I have noticed since the Covid -19 situation has been going on that is good is, the staff in playback are doing a good job reaching out to the producers in order to get our programming on tv. I was able to resubmit the Harvest Time Ministry programs we produce now and that is a blessing.

OpenSignal has been playing a significant role in the production of my programs, especially those that cover cultural events. The staff are very knowledgeable, accessible, and helpful

The staff is really what makes Open Signal great. They are helpful to every member of the community.

Yay this was fun thanks

Open Signal has provided me a safe and secure outlet for my music compositions and musicals. It has become a vital resource for video production to me and many of my friends. It is essential to Portland's image as a progressive, open, artistic, and modern community. The people that work and volunteer there are dedicated to assisting and educating the community in modern technology. They also are serious about educating the community to events local, national, and world wide that have an impact on us all.

Should reinstate an op-out and reasonable fee regarding certification for advanced individuals (not groups) who are already knowledgeable and proficient with equipment provided by Open Signal. This would free up class room space for members who need the training more than advanced individuals. Maybe requiring said experienced individuals to volunteer (in classroom training or in other departments) as prerequisites and fee waver for certification.

I appreciate having Open Signal and all the staff. Being able to have the show on Cable Access is very important to those who do not have the resources to view the programming on other platforms or venues.

Staff at Open Signal are fantastic and very helpful.

Open Signal is an amazing resource and I have had nothing but positive experiences with their staff.

Love this place, the staff is exceptional, knowledgeable, and kind as can be :)

Mostly I'm dependent on public access to media..

I love Open Signal. Not only have I learned a great deal there, I've been given support in creating content. I struggle with anxiety and struggle with feeling good enough to try something new. Open Signal makes the daunting task of expressing yourself in a new a complicated way approachable and engaging.

Public Access is a great way to get the word out about arts and entertainment and to create an audience for more interactivity. Now that we are in the middle of a pandemic, public access has an even greater role in getting this out to the public.

Open Signal is not focused on distributing video in normal, modern ways. Huge, beautiful expensive studios are used to produce content but it's not distributed in a way that gets eyeballs.

Please get staff on that has media training on all the equipment available for Open Signal

Please make certain that these vital resources remain well-funded and available to all.

My daughter's experience at Open Signal (Portland Community Media) propelled her career as a video producer. Access to this nurturing, exciting, creative community space, the equipment and affordable educational opportunities provided her with confidence and experience.

I really value the services Open Signal provides for the community. Thank you!

My partner has largely retired in the past year or two, so my usage has fallen off.

I love public access and want it to continue well into the future.

I think your first priority should be the ability to upload content for Open Signal remotely.

Love you guys and all that you do and provide. Thank you.

I have felt unwelcome at Open Signal and have stopped engaging in community activities. Community events are not welcoming to all but rather aggressively by and for the "unwelcome." I believe this is exciting and important and has value yet I wish a space was made for me too.

MetroEast

I used WIFI when I am In the facility.

The training provided at metro East has made me capable of making a difference with the tools that they make available. The future will depend on awareness and spreading knowledge through media. My livelihood depends On the skills I learned from Metro East.

Keep up the great work! We may tap MetroEast personnel for more ideas in building our web presence.

Great work and thank you

MetroEast is a terrific, mission-driven organization providing wonderful services to the community.

You need to do a much better job of printing your TV schedule on your web site. Right now you can only get the evening hours 6 to midnight for that day. It needs to have the full schedule for at least a week. This means 24/7! How hard can it be? You are already doing it for Comcast Cable.

Metro East is an incredible resource for the community

MetroEast is awesome!

MetroEast is awesome!

Metro East is amazing! Start a new one in downtown Portland, its a 50 minute max commute!

MetroEast Community Media has been a wonderful partner and invaluable in the visibility they've provided my charitable nonprofit in fulfilling our mission of civic education and engagement, and improving the administration of the legal system.

There is still a major amount of data yet to be learned at this time, that I am not sure just how far I will be able to advance forward - - - ?

I have benefited a lot from events hosted by MetroEast. All of the events I've attended brought me closer to learning who the members of the community are, what issues are permeating in the area, and have been great for networking. MetroEast is the only technology focused community space which makes it truly priceless for finding people to work with, furthering digital literacy, learning new ways to share information, and feel connected to one another. MetroEast gave me the gear and education, that would otherwise have been completely unavailable to me because of the financial barriers, which has enabled me to come into my own in my career and finding my own voice. The arts and entertainment as well as non-profit programming that MetroEast has created has opened my eyes to what other groups are doing in the area and how I can help. As I'm living my life and trying to be the best citizen I can be, this is essential to me reaching my potential.

MetroEast allows the community to speak up on topics that are important to them.

Metro East Community Media provides exceptional service and value for my community.

My kids love to go to Metro East, and it exposes them to all that MetroEast represents.

Metro East Media is so important to our community and I hope it can continue.

I hope to use Metro East more in the reach out to the community for special events in the area as the tourism and business community opens, educate the community about how safe and wonderful the world of travel is.

I'm a big fan of MetroEast and its staff. Though MetroEast I've been able to develop my own multimedia skills, use their production staff as a resource for additional video needs, and watch others in the community tell their own stories using MetroEast's facilities.

Ultimately, I love Metro East since the days it was Mt. Hood Community Television. The facilities are possibly the best in the nation for community producers. The in-house producers are all wonderful, kind, helpful people who have a real passion for their work.

Bring back Music on the Air.

Make sure you extend all of our producers licenses to make up for this lengthy closure that prevented us all from shooting.

I plan to use the center more in the future.

MetroEast is awesome!!! Thank you!

MetroEast is providing really superb services to groups in Multnomah County.

The media center has allowed me to learn video production skills with training and hands on use, with which I have benefitted professionally. I look forward to adding to my skills with new training, engaging in the practice, and providing programming. The media center is a very valuable resource.

I think it's a pathetic sad necessity like media awareness of what's going on specially with the COVID-19 and information that need to be delivered is essential there's some pretty sad community media is not being used for this necessity and it void of information produce starvation and so people are looking for the information and consuming information which is produces anxiety cabinet favor and either syndrome's sad affect people's lives in Marion ability to live in existence Metairie.

Metro east community media is a resource for their existence and taking off this resource produces void, Play DC if there is a void there is always something they will fill that void so currently anger frustration and fear and all lien anxiety and everything bad is feeling that void instead of Metro East committee media being a resource in hell and is this necessity and Krasi and his debts going on he should be a good team and light to their local community and stripping off community from such a resource I think is at least Bad tone to the community I would even say that this is a crime against local community,

If you wanted to help people you don't close the resource today existence you provide them as much as possible and help them with their life instead of shutting them down And stripping them away from the positive information and feeding them with the far far far fetched and Krasi information sad explodes their minds and brings their life to disparity And suicides there is no statistics on the suicide but I believe that in the end after the COVID-19 is gone people would be shocked how many suicides were committed during this time I believe that you would surpass the number of deaths from the COVID-19!

I believe this is a crane stripping people away from the true and good information in feeding them with anxiety fear Fueling their lives with disparity,,,

I have no words to describe of water and how I feel toward what's going on right now and Metro East community media on inappropriate actions.

Please give people life don't take away,

Thank you.

Both

Power to the people.

It is fast there! It takes me hours to upload a video at my house and 4 minutes for the same video at Open Signal.

...like any other organization, we need to discover the talent in people and synchronize our collective genius ASAP. The humans are "out of time." Time to get REAL - and QUICK.

"G.O.D. does not play dice..." the (G)alactic (O)rdering (D)ynamic i.e. LAW OF TIME makes "conscious what's unconscious!"

<https://www.youtube.com/playlist?list=PLHSoxioQtwZfy2ISsNBzJ-aOZ3APVS8br>

Search ye' Suspicious Observers...

Refs:

Open Signal does not do what's needed to get the support that Metro East does. They focus only on staff paychecks. Please stop funding them.

We love and need Metro East

I didn't know there was free wifi at the facility! I will use that! How about a coffee shop?

Open Signal and MetroEast are vital for our community.

I would not be alive without community media. I have met my community and felt support professionally and personally and have had help overcoming systemic oppression.

This survey has taken 45 minutes to fill out!!! Someone should do a trial run on these things before saying "it only takes 10-15 minutes." If you want quality answers make sure people know how much time they will need. Also when this was circulated by OS/PCM it wasn't clear this was not the same survey that went out about a month ago, communication is key!

Overall despite our sometimes pointed critiques of the facilities, we think access is still a vital part of public life and the community, and should be a hub for people wanting to learn to be media makers, truth tellers and uncensored artists.

I am grateful for the use of our community media centers and the opportunities that we have to utilize them.

Keep Open Signal and MetroEast open and available to the community

As I mentioned before these places are some of the only places I have access to the internet.

Please continue to support the cable access centers.

Our local Community Media Centers are gems. They contribute to community vitality, connectivity and technical and creative capacity to an extremely high degree.

I can't think of another resource here locally that contributes as high a ratio of those qualities to public dollars spent. I have heard people ask why communities media centers are necessary given the range of media streams out there, but that seems like the wrong question. The question is how can we NOT have media centers whose sole purpose is to insure that EVERYONE in the community has access to the skills and resources to participate across the range of media ecosystems regardless of socio-economic situation .

Community media is a vital means for protection of democracy and government accountability at the local level. Community media must continue to be funded.

Q22. In the last year, estimate how many hours per month on average you have used the Community Media Center facilities or been involved in the production or distribution of programming for Community television. (N=211)^a

Total

Range: 1-300 hours a month; Average: 26.5 hours a month

(N=1 at 240 hrs a month; 2 at 300 hrs a month; average skews lower at 22.4 hrs. without)

MetroEast

Range: 1-300 hours a month; Average: 29.2 hours a month

(N=1 at 300 hrs a month; average skews lower at 25.7 hrs. without)

Open Signal

Range: 1-240 hours a month; Average: 20.3 hours per month

(N=1 at 240 hrs a month; average skews lower at 17.5 hrs. without)

Both:

Range: 1 - 300 hours a month; Average: 28.8 hours a month

(N=1 at 300 hrs a month; average skews lower at 20.7 hrs. without)

(See Attachment 4.B for open coded responses)

^a Those who indicated hours greater than 300 were interpreted to mean an annual hourly count, unless otherwise noted. For this group their annual amount was divided by 12 for their monthly hourly rate, if the monthly hourly rate was deemed implausible then they were assigned 240 hours per month for calculation and analysis purposes.

Q23. What is your home zip code? (N=242)

97003	1	0%
97005	2	1%
97007	1	0%
97008	1	0%
97023	1	0%
97024	2	1%
97028	1	0%
97030	20	8%
97034	2	1%
97045	1	0%
97048	1	0%
97055	2	1%
97058	2	1%
97060	9	4%
97070	1	0%
97080	14	6%
97086	3	1%
97089	2	1%
97113	2	1%
97124	1	0%
97140	1	0%
97201	5	2%
97202	9	4%
97203	1	0%
97204	1	0%
97206	11	5%
97209	5	2%
97210	4	2%
97211	9	4%
97212	12	5%
97213	14	6%
97214	12	5%
97215	4	2%
97216	2	1%
97217	10	4%
97218	4	2%
97219	5	2%
97220	3	1%
97221	2	1%
97222	2	1%
97223	1	0%
97224	1	0%
97226	1	0%
97227	4	2%
97229	3	1%
97230	11	5%
97232	3	1%
97233	6	2%
97236	5	2%
97239	2	1%
97266	5	2%
97267	2	1%
97282	1	0%
97298	1	0%
97424	1	0%
97930	1	0%
98632	1	0%
98642	1	0%
98661	2	1%
98662	2	1%
98682	2	1%
98684	1	0%

Q24. Are you ... (N=248)

Male	53%
Female	43%
Other (please specify)	4%

Trans Nonbinary

Non-binary (6)

I'm tired of this question. People who want to self identify have made it irrelevant as to any of our genders.

Prefer not to answer

Cis male

Q25. Do you or does a member of your household live with a disability? (N=245)

Yes, Myself	14%
Yes, another household member	8%
No	77%
Don't Know	1%

Q26. Please describe the nature of the disability? (Mark all that apply) (N=68)

Hearing - deaf or having serious difficulty hearing, use ASL, cochlears	13%
Vision/Visual - Blind or difficulty seeing	12%
Cognitive/Developmental - mental, or emotional, remembering, concentrating, dec	24%
Speech/Communication - communicating, verbal social interaction	4%
Ambulatory/Mobile/Physical - difficulty walking or climbing stairs	22%
Self-care - difficulty bathing or dressing	3%
Independent living - difficulty doing errands, visiting a doctor, shopping	4%
Decline	28%
Other (please specify)	13%

PTSD (4)

Had a work accident, severe ptsd/Headeaches/vision problems

"Ahead of my time and super conscious or ET..." in other words, an "over-qualified minority."

I may have autism and ADHD. It's not certain, but it's in the process of being investigated.

I'm a 100 percent disabled military retiree. I'd rather not state the nature of my disability.

ADHD

Q27. What is your work status? (Mark all that apply) (N=249)

Employed / Working Full-time	33%
Employed / Working Part-time	9%
Self-Employed / Own Business	20%
Working and in school	3%
Retired / Working Full-time	1%
Retired / Working Part-time	8%
Full-time Student	3%
Seeking employment / Looking for work	6%
Retired	11%
Unable to work	5%
Volunteering	16%
Prefer not to answer	3%
Other (please specify)	5%

Open Signal

Currently unemployed due to COVID19. Priorly working full time.

My work status is on a week-to-week status

I am a servant of Jesus Christ and I help my 81 year old mother, and I help my sister with my 3 year old nephew and I helped my mother care for my grandmother until she went to be with Jesus Christ. I'm a caregiver. .

MetroEast

Wouldn't turn down employment if I could receive sufficient modalities. My physical condition extremely limits my work abilities.

Out of work for Covid-19

Furloughed due to Covid 19

Airbnb Host, artist and consultant. Retired from graphic design career.

Both

Odd jobs

On temporary leave due to Covid-19

One retired and working occasionally, one working occasionally.

Disabled

Pastor

Q28. Highest grade completed (N=251)	
Some high school or less	2%
High school graduate	9%
Some college	14%
Trade school	1%
Associate degree / 2-year degree	10%
College / 4-year degree	35%
Postgraduate or professional degree	28%
Prefer not to answer	2%

Q29. Ethnicity (N=247)	
American Indian or Alaska Native	1%
Asian or Asian American	4%
Black or African American	11%
Hispanic or Latino/a/x	8%
Native Hawaiian or other Pacific Islander	0%
Middle Eastern or North African	2%
White	57%
Mixed	3%
Slavic (Russian)	0%
Unknown / Don't Know	1%
Prefer not to answer	11%
Other (please specify)	

Open Signal

Chicano (2)

Moorish American (2)

Italian American

MetroEast

American (USA Born and bred) 100%, US Marine 100% {Scot 50%, Russian 20%, German 25%, & Heinz 57 5%}

Italian (2)

Eastern European

Both

English, Scott, Irish, German, French & Scandanavian hybrid.

African American (1) White (1)

Q30. What age group are you in: (N=240)	
Age 14-17	1%
Age 18-25	6%
Age 26-35	15%
Age 36-45	15%
Age 46-55	18%
Age 56-65	21%
Age 66-75	18%
Age 75+	5%

Q31. Do you rent or own your own home? (N=238)	
Rent	47%
Own	48%
Other (please specify)	4%

Open Signal

I live with my parents (4)

I live with my 81 year old mother.

Own Mobile Home, Rent Space

Own a trailer, rent the land

MetroEast

Live with someone

Live with family members

Both

I get to stay in a house in a trust.

Q32. Which of the following categories best describes your total annual household income, before taxes? (N=242)

Under \$15,000	11%
Between \$15,000 and \$34,999	17%
Between \$35,000 and \$49,999	12%
Between \$50,000 and \$74,999	12%
Between \$75,000 and \$99,999	9%
Between \$100,000 and \$150,000	7%
Over \$150,000	7%
Don't Know / Decline	24%

ATTACHMENT 4.B

QUALITATIVE COMMUNITY MEDIA PRODUCERS/USERS
SURVEY OPEN CODES (VERBATIMS)

Q2. How many years have you been affiliated with Community media at Open Signal or Metro East? (N=259)

Open Signal

- * 2.5 for Metro East, 3.5 for Open Signal
- * 23
- * 3 years
- * 2
- * 11 years
- * 4
- * 2
- * 7
- * 14
- * 3
- * 1
- * 2
- * 2
- * 1
- * 1
- * 3 Years
- * joined 1/2020
- * 2
- * 17 years
- * 2
- * 1
- * 4
- * 3
- * 3
- * 2
- * 9
- * 29
- * 3
- * 20+
- * 3 years I believe in some capacity
- * 4 years
- * 10
- * 3 Years
- * 3
- * 7
- * 13 months
- * 3
- * 6
- * 4 Years
- * 6
- * 12 years
- * 30 years
- * 4
- * 4
- * 2
- * 2 years
- * 3
- * 15
- * four
- * 21 years
- * 13 years
- * 3
- * 2
- * 3
- * 13
- * 3
- * Six
- * 20
- * 8
- * 2
- * 7

- * 3 years
- * more than 20 years
- * 8
- * 25 years
- * 25
- * 3
- * started in 2013
- * 3
- * 3
- * 2
- * 2
- * 1
- * 5
- * since 1993
- * 4
- * 5
- * 2 Years
- * 19 Years
- * 8
- * Less than one
- * 02 to now
- * 6
- * 3
- * 25
- * 1 1/2
- * 4
- * 19 years
- * 11
- * 10 years
- * 5
- * 15
- * 5-6
- * 30 years
- * 12
- * 4.5 Years
- * 4
- * at least 10
- * 4
- * 15
- * 5
- * 4
- * 3
- * 20

Metro East

- * 1
- * 2
- * 2
- * 20
- * 31
- * About 10 years
- * 1
- * 18 years
- * 25+
- * 3 years
- * 3
- * Since its inception
- * 10+
- * 9
- * 12
- * 10 or so
- * 3
- * 4 months
- * less than a year
- * 4
- * 10+

- * 8
- * About a year
- * on and off since 1983
- * <1
- * 5
- * 10
- * 4
- * 5
- * Three
- * 8 years
- * 2-3 months
- * 2
- * 3
- * 10
- * 2
- * 1
- * 4 months
- * 4
- * 2
- * 13
- * 9
- * 15
- * 2
- * 3
- * First yr.
- * 1
- * 4
- * Few years
- * +10-15 years
- * 35
- * 5
- * 5
- * 6
- * 2
- * 3
- * 1
- * 20
- * 2
- * 2
- * 21
- * 3
- * 7
- * 3
- * 11 years
- * 8
- * 1
- * 1
- * 6
- * 10+
- * 9
- * 2
- * 25
- * 8 years
- * 7
- * 4
- * 4
- * 5
- * 5
- * at least 5 years
- * 2
- * 7
- * 3
- * 5
- * 3
- * 10 years

- * 6
- * 5 years
- * 2 years
- * 1
- * 16 years
- * 3
- * 3
- * 6
- * 15 years
- * 10
- * 22+
- * 5
- * 6
- * Less than a year
- * 1
- * 3 years
- * 35 years
- * 3
- * 15 years
- * Seven
- * 10+
- * 5
- * 10+
- Both**
- * 5
- * 10
- * 21 years
- * 2
- * 6
- * 26+1
- * 20 --25
- * 3
- * 8
- * 8
- * 5
- * 2
- * 3
- * 1
- * 7
- * 9 years
- * 7
- * 20 years
- * 20
- * 1987
- * 20
- * Since I moved to Portland in 1983
- * 2
- * 9
- * Less than a year
- * 20+
- * 11
- * Two people answering: one 31 years, one 29 years
- * 3
- * 25 years
- * 4 years
- * 13yrs
- * 1.5
- * 1
- * 16
- * over 20 years
- * 1
- * 36 years
- * over 20 years
- * Started in 1989 at Portland Cable Access
- * 4

- * since 1985
- * 35
- * 22
- * lots
- * 27

Q6. For all that you marked above, please describe your specific involvement (programs produced/provided/distributed; exhibitions; participation in training/education; uses of the Center; etc.): (N=233)

Open Signal

- * I am a documentary filmmaker working on different projects some funded by RACC.
- * I am a high school teacher who gives students a voice in classroom literacy and in their surrounding community.
- * I'm an independent producer. I run a few how-to YouTube style shows (cooking, gardening, etc.) produced out of my home. I mostly rent from Open Signal. I give them copies of the shows I produce for airing.
- * Programs produced, training/education and use of the center
- * Using the Studio to make videos for a local poet for her memoir release event. Filming my boyband while we recording our first album.
- * - Created several training shows that were routinely broadcasted
- Created Event Updates
- Created "feature series" that support small businesses and local artists
- * I started learning to edit video at Open Signal in 2013. Since then, I have produced and edited 59 videos, all of which are in the Open Signal system, comprising more than 16 hours of programming.

Most of my video work is related to Native American music and social and environmental justice issues and the legacy of the late Jim Pepper, as I am the Executive Director of the Jim Pepper Native Arts Council, a 501c(3) charitable organization. Our mission is to "improve access to culturally-relevant music education for Native American students in Jim Pepper's name, and reflecting the educational legacy of his mother, Floy C. Pepper."

Community cable TV is vital to our work, as is the technical support that we receive from Open Signal staff

My video work also includes musical performances by non-Native musicians, and a range of public policy topics.

- * I have been a front desk tech, instructor and producer for Open Signal PCM since 2006 and I've loved my experience of meeting new people, creating content and learning new technologies. It has been one of the best decisions of my life to get involved in community media.
- * I have been a TV Toastmaster host and producer, as well as a host for a public educational show called Live with Leeza. The opportunities, facilities and the staff of Open Signal are not only providing an important service, they are a joy to utilize. Although some of the equipment certainly could be updated (more funding please!) it is of high quality and the staff is incredibly helpful. In addition, the classes offered by Open Signal, to learn how to be a producer and ones that take you further down the technical lane, are well done. As a teacher, I'm fairly critical and have been impressed by all I have experienced.

So, thank you all so much for what you do. I can only hope that the importance of Open Signal's services, and the fact that public TV remains in the public domain, will be understood by those who hold purse strings to help this organization continue to do what it does so well.

Kudos, and thank you!

- * I have enjoyed Open Signal's facility and use of equipment and classes to pursue my own ongoing work in documentary filmmaking and public service announcements.
I have successfully used Open Signal's camera equipment to film and edit several cooking demos, and educational course videos about nutritional health. A few of these nutritional videos and documentaries were geared toward the educational needs of low-income areas who are challenged with sourcing quality food and resources needed to feed their families. Without Open Signal's resources, I would not have been able to bring highly qualified nutritional instructors into a television studio environment and produce this important content as easily.

I have also expanded my knowledge greatly in the documentary form and look forward to working with Open Signal's facilities and instructors again in the coming year to expand on the creative work I have started last year.

- * Made music videos and took classes at Open Signal to learn about camera work and practice my video editing skills. It has been a great resource and a phenomenal place of community and learning.
- * I was an Open Signal New Media fellow
- * I rent equipment from the lab as a producer.
- * Just getting started...

Would like to publicize the work of a nonprofit arts organization I support

Want to learn more about digital media tech

- * I took a class that was offered on using the iPad as a media tool to shoot and edit. It was really, great and I met some cool people in the class.
- * We have produced over 300 "Live" "Call-in" programs. The majority have provided information furnished by scientists.

- * I produce Blue Collar Wrestling, and I'm on the camera staff for Oregon Sports Beat.
- * I like being able to learn ways to create content for the public entertainment.
- * I am an independent producer and freelancer, who also sometimes teaches film-making workshops. Open Signal is a great resource for me for obtaining equipment for short shoots, and also to recommend to my students as a resource for hands-on learning and productions.
- * I was their New Media fellowship in 2018 and since then, it has launched my career as a multimedia artist. I have been accepted into 7 residencies and awarded 5 grants in a little over a year. Their work is crucial to artists and communities of color in which technology often overlook. It also maintains communities that is outside of ad agency realm (Nike, W+K, etc.) and the creative class that often gentrifies neighborhood (and is responsible for gentrification trauma).
- * I feel it's important for the public to have control and understand the power of media. The classes and opportunities Open Signal provides helps remove the barriers and give us citizens a voice and platform to discuss the issues affecting our communities. I've taken classes at open Signal to learn new skills. I've attended screenings of local projects from media makers in the community. I've had artwork displayed as part of a community show. Through every interaction I have felt connected to my neighbors. Much I like the public library I feel the services Open Signal provides is necessary in a democracy.
- * I've attended Open Signal courses that were incredibly valuable to me and attended community events which created beautiful connections that I still hold strong today.
- * I've taken studio classes/workshops at Open Signal, and find the hands-on method of learning to be extremely accessible. I've also attended talks to do with VR and other emerging technology. Two years ago, I was a digital archives intern, and was trained on how to properly digitize obsolete media and keep records on it. Intermittently, I have been a collaborator/ editor on a show produced by an Open Signal staff member, which consists of 2-hour compilations of archived media. I've also been able to check out equipment such as projectors from the rental desk, and have met many collaborators through Open Signal whom I continue to collaborate with.
- * I've been involved with so many projects and producers ...too many to list; from live music, to public advocacy, to innovative arts. Some of the producers include Bob Hedlund, Jim Lockhart, Jim Winston, Portland State University and many I simply can't remember. Oh yes, I've also produced myself...Aside from my independent out-of-studio productions, I produced several episodes of 'Fathers and Families' (In studio)
In every instance the staff have been professional, friendly (almost like family), extremely knowledgeable, and always willing to lend a hand - with a smile and a confidence building pat on the back and a... " Great job Scott...Keep up the good work".
- * I was first asked if I wanted to participate in Open signal programming as a producer interested in New media arts, performance arts and community art gatherings. I had been operating a performance and lecture art program live for 3 years prior but had always desired to be making this community content in a cable access format for community broadcast. I have been trained in the studio, and on several cameras and editing.
I found it really inspiring and beautiful to be immersed in the studio community, learning and helping others learn the tools of the trade. It is such an encouraging environment for creatives and people who want to work together to share a story or a vision.
I had worked on a long term performance project called Midnight Variety Hour. Also on a great number of other producers media in the background. Doing functions I like camera operator, studio technician working the live studio boards. And a lot of music. I performed in some of the live community events as well.
- * Classes, community projects, and outside studio projects.
- * I have created content with Open Signal, distributing my own creations and also working with Open Signal's great staff. When I started I took classes their on a regular basis, multiple times a week. It was the place where I learned how to get involved in film and work with the community. Open Signal was always helpful and willing to assist others all throughout my time with them.
- * I produce live event content some which is local charitable organizations and also youth/arts related content and Open Signal is a good broadcast outlet to present these organizations events.
- * Producing nature tv show to help protect nature for the future
- * My goals of membership at Open Signal:
To engage with other Open Signal members who are interested in creating media that helps inform, inspire, and motivate the community on current topics of interest. Learn from, and collaborate with, other members.

To use the equipment and facility, and take more classes to continuously improve my technical and creative media skills. In addition. to build a portfolio of current work that is high production value and demonstrated its usefulness to the community so I am better positioned to offer my media skills to community non-profit organizations.

To create programs and have the means and support to do it. Since I've only been a member for a year and have taken a few classes, I've not yet produced programs but there are some I intend to create:

-- A set of instructional videos on how to paint and draw using a technique that has been found helpful for children and adults.

-- Short-story documentaries about initiatives people of all ages and background are taking to help make a positive difference in finding solutions to current problems such as climate change. The programs will inspire others to adopt these actions for themselves, or motivate them to think outside the box on solutions of their own.

-- A program featuring a local accomplished classical guitarist who plays other genres as well. Excellent performance artist. Possibly also do programs featuring other local musicians who would appreciate visibility with TV viewers.

- * Based on my experience both in Portland and other cities, community media is a key part of our shared world. It is a tiny, little, shrinking rump of it's possible role, but extremely valuable none the less.

I've been paid (in a previous life) to produce news and public affairs content at community media. I helped broadcast city meetings to the public and provided news and contextual reporting for my station.

At Open Signal I care about all this and more. My primary TV output has been providing work for performing artists in the local comedy community.

- * I'm a producer for a series related to personal growth/spirituality.
- * Produced content dealing with acceptance and diversity.
- * I produce a series related to personal development/spirituality. Also, I deeply appreciate that Open Signal has partnered Outside The Frame to provide training and support to youth and youth adults navigating poverty, homelessness and other challenges.
- * My mom (Mother [REDACTED] and I (Sister [REDACTED] have worked with Pastor [REDACTED] on Harvest Time Ministry sharing the gospel of Jesus Christ to reach out to our community with the Love of Jesus Christ in word and deed. We worked on camera and I helped with the switcher board and graphics as well as participating in the programs. Some of the productions we did are Road to Damascus, Call on Jesus, Prayer Changes Things, Faith Is, and JESUS CHRIST Is Your Only Hope. We also worked with Rev. [REDACTED] and her daughter [REDACTED] on Towel & Basin Ministries. We sang on the programs and I worked the camera and mom prayed. We shared the Word of God to minister to the people in our community with the Truth of Jesus Christ in word and prayers. One of the productions we were a part of with them was called "The Lord's Prayer". We worked with Evangelist (now Rev.) [REDACTED] Ministry. We sang on some of her programs as well as shared our testimonies of Jesus Christ our Lord. To reach out to the community with comfort and compassion in Jesus. One of the productions we were a part of is called "In memory of Nora A. Taylor and Black History Month." We helped Pastor [REDACTED] and [REDACTED] on Higher Ground TV with being in a few of their programs as well as helping on camera and I helped with graphics and the switcher board and lighting. We were learning and helping as well as getting help from Pastor [REDACTED] and [REDACTED] Doss and their crew. One of the productions of the Doss pastors we were a part of is Pastor [REDACTED] mom "Irene Adams 90th Birthday "celebration. We then began our own tv production called "Whom say ye that I AM?" We not only did studio productions of our Sunday School Worship Hour on "Who is this Jesus?" one called "JESUS IS ALIVE." We also did field productions on [REDACTED] and his wife called "True Love." We also did a special on our Bishop [REDACTED] called "Painter of God's Word", which required a lot of editing. We did "Mama Marie 100 (A JESUS Girl)" which also required a lot of editing. We did a special program for the 1st year of my sister/my mom's baby girl [REDACTED] "Why I Rock" Girls Conference for girls of color, called "Men's Table Talk". This one called for a lot of editing as well. We did 3 programs on The Second Coming of Christ in the studio and the final one I did the lighting, cameras, computer graphics, audio and switcher board and mom and I were on the program. We did our productions prerecorded not live. We did do some live productions with Pastor Smith on his production called "Lively Hope" in which we sang and shared our testimonies of Jesus Christ and how He raised my Grandma/my mom's mom [REDACTED] from the dead 3 times. We worked with Brother [REDACTED] on his production of "Full Gospel CBer's." Mom was on the program and I did camera. We worked with [REDACTED] and [REDACTED] on their production of "More Jesus". We worked in the control room. Mom did the CG board and I did the lighting, cameras, audio, and switcher board. Mom did the aja recording and I did the DVD recording. We helped [REDACTED] and [REDACTED] on their production called "Pour Over Us" and we sang on their Easter program. We were a part of the HD Studio Production Class and I volunteered to help with one after I took the class twice. We were a part of the Field Production Class and I volunteered for one after I took the class. I also took the Editing Class. We received Scholarship money for all the classes but the 1st HD Studio Class I took which Rev. [REDACTED] paid for because we are a low income family and are very grateful for the help we received. Our passion is to get the Word of God out to our community so that they know the Truth of the Love of God and why Jesus died on the Cross for our sins and was buried and rose again after 3 days. If we believe in Him and what he's done for us then we will be saved.
- * My weekly program provides news, public announcements, local and national event coverage, public meetings, training, and other subjects that are related to groups of Persians who are not fluent in the Persian language. The current and unbiased news. and local meetings are among the topics that my audience can take advantage of.
- * Produce a TV show highlighting local bands using VR technologies, video conferencing, and new digital technologies.
- * Learning and sharing in process of improving videos.
- * As a Producer at Open Signal with a show called The 518 Show, an Arts and variety magazine 60 min show.
I learned how to do all aspects of my show The 518 show with in studio training classes. I have learned how to be a Studio Producer, camera person, editor, Audio, lighting and sound stage management.
I have collaborated with wonderful community members as well as staff. I have utilized the meeting rooms, annex room and both studio A and B. I have utilized Open Signal. I have produced 10 minute shorts because of Open Signals training. Open Signal is a great resource for any one who inspires to create, do something different. The connections and sense of community is heart warming, and powerful. I think I have a pretty good show and I learned every iota from the fantastic employees and trainers as Open Signal. And truly I never would of been able to do any of it alone.

So I want to thank the partnerships that work with Open Signal. Your contribution however big or small has touched lives. Mine. Thank you!

- * Open signal help me produce content for deaf people, there's no other concept or educational opportunity that will allow us to create content and work shop in sign language
- * Producer
- * I was a media fellow at Open Signal in 2015-2017 and then a member of Future Forum. Those two experiences transformed my life and the work I produced at Open Signal wound up at The Portland Art Museum, Disjecta, The Palace of Fine Arts in San Francisco, Hong Kong and many other places. I formed all kinds of relationships across age, gender and race, volunteered in the kids program and continue to mentor younger artists I met through their programming. Work I made there was just featured on OPB.

- * I am a long-time producer at open signal and I've been there for 22 years .I have a weekly program of my church service program. I'll check out my 850 camera once a week on the on the weekend on Saturdays and bring it back Sunday and I am producing all my Christian shows and you'll see it and I enjoy open signal a lot
- * Empowering the community with organizations that are assisting families and individuals with different everyday topics, health, family empowerment, spiritual empowerment.
- * PUBLIC EMPOWERMENT AND COMMUNITY ENGAGEMENT: I have helped film several community news events at Open Signal.

ARTS AND ENTERTAINMENT: I have produced a number of single music videos and musicals that have been broadcast by Open Signal.

NEW TECHNOLOGY: I take classes at Open Signal to stay current on new media and technology when available.

SPORTS COVERAGE: I have helped film local high school sports programs.

USE OF MEDIA CENTER SPACE: I have often used the public wifi at Open Signal. I have also used Open Signal to collaborate with other artists to produce programs for the local community. In addition, I have used the space to plan various local events of interest to Portland area viewers.

OTHER REASONS: I have volunteered at two of Open Signal Make-a-thon events. Where we meet and collaborate with other producers in a fun and instructive setting to produce video to showcase Open Signal to the community.

- * I became and Certified producer with access to almost all equipment and with that I have help produce work for the Girl Gang Game Production Company.

I am also a Certified We Count Oregon Ambassador, and used Open Signal software and hardware to caption and distribute content from this Census Campaign to incite Oregonians to take the Census.

- * Annual celebration videos for the Columbia Slough Watershed Council and their efforts to further community awareness and participation on restoration, education and neighborhood events concerning the health and accessibility of the Columbia Slough and surrounding watershed.

Furthering non-profit & government entities and their missions (Women In Environment, Verde, MCDD, BES)

- * I am a volunteer for the Gangaji Foundation and maintain the programs that are created by the Foundation and submit them for play on Public Access in Multnomah County.
- * Education about pets health and feeding them healthy food.
Help produce a faith based live show helping improve with faith based guidance for a happy and better life.
- * Cannabis Common Sense
The show that tells truth about marijuana & the politics behind its prohibition
- * Concert footage and interviews - www.pdxspotlight.com
- * Art and entertainment: I've met and collaborated with many people from Open Signal.

Training and New Tech: I learned a lot from them about cameras and gear!

Use of Space: I've participated in their events and used their space to film in.

- * I have been producing a local wrestling show. Pro wrestling is something they I would put under both arts and sports. I am also working on a satanist based religious show. Satanism does not get enough representation in the media and I would like to change that.
- * I am the Immersive Media Facilitator at Open Signal. Before that I was positively impacted by the programming and resources provided by the community media center. The show "Experimental Half-Hour" was a huge influence on me as an artist and creative in PDX. In recent years, I have brought emergent media forms such as virtual and augmented reality and game engine development to Open Signal as an educator and employee. We are now doing our part to ensure training and access opportunities for Portland's lesser served communities to help lessen the digital divide and empower our communities to tell stories in new ways.
- * Supporter. Looking forward to production training.
- * Involved with talk show series Populist Dialogues and Conversations With Dr. Don. For these programs I have been involved in studio cameras, and computer graphics. I am also responsible for "post production" of the video files and submitting them to Open Signal. In addition, I occasionally provide programming from other produces vis PEG Media for airing in Portland.

- * I have had the longest running UFO series in Oregon. One of my documentaries was accepted at the Oregon Historical Society. I have had two experimental art films show at Portland Art Museum. The last, MOMADReD, is a 90 minute film that took four years to make and absolutely couldn't been done without the facilities at Open Signal since I don't have the equipment to produce such a film. MOMADReD premiered Sept. 20, 2018 at the Witsell Auditorium. This was the first time I had a film show on its own and established me as an "artist". Later the following July in a process of submitting to other venues outside of Oregon, MOMADReD received "Honorable Mention" at the Los Angeles International Film Festival and also at the Experimental Forum. I have run out of funds and energy to do further promotion on this film. Incidentally, three images from MOMADReD were shown at the Gresham Art Committee art show at the end of 2018 & beginning 2019.

Since then when Open Signal was open, I've created several hundred new images to be used in an untitled experimental film to be developed, have mostly made a short experimental documentary on Portland's gentrification and homelessness which could be completed in a month or two when the facilities are again available, and am also doing very short film with multiple pictures a week taken with a "point & shoot" camera of a tree killing fungus that attacks roots--the only thing I've got access to that will probably be done when the fall weather hits when I will probably see a more rapid growth.

It costs me time, energy, and money to do the above which feeds my soul. Currently I'm laid off from a part-time teaching job and as an LMT due to our response problems to Covid-19 am restricted in this field. It is a tough time for most of us. Hope all is well with your staffing efforts.

Jefferson

- * As a field producer I've submitted programming, mainly:

> PDXposure, a program of interviews and talents of various members of the community.

> Music performance programs including Rob Johnston and the Broken Strings band and Carpe Vitae concerts

I've trained in field production classes, repeating as technologies update. I borrow gear for field productions with special attention to audio for music. I focus on building production skills, improving programming, and sharing community talents and personalities. I attend Open Signal public events and exhibits.

- * Currently, I produce content intermittently. Since I am a full-time student and work two part-time jobs, my hours are limited. However, when I have time and resources, my favorite place is Open Signal. Their classes are accessible, user-friendly, and encouraging. In addition, I have never encountered a staff who wasn't helpful and passionate about what they do. I also admire how involved they in teaching classes geared towards young adults and children (something which I desperately wanted when I was young). I have used the Center numerous times for editing, taking classes, and viewing events. I am always fascinated to see what new creators are making and what they're using; it is truly inspiring to see what is possible with film and multimedia today.
- * Meet The DISENFRANCHISED a silly sarcastic show about serious subjects
Disability, Homeless, PDX issues, Climate Change. Mahler Refuge Protesters, Conspiracy Theories

Alisa's Home Movies - cherry picking thru 30 years of video tape

- * I help producer content with my group to be able to put on channels and to just do things for fun.
- * Live performances of local and regional/national bands that perform in the Portland and NW area.

Programs are also bicycled (sent) to RVTV in Southern Oregon.

- * Visibility for LGBTQ+ People in the Pacific Northwest. I produce the Redux of NightScene, originally Cablecast throughout the 90s on what was then, Portland Cable Access. I have been peripherally involved in Access since 1991. I am a former employee of PCA and was involved in the original productions for NightScene & Out-Rage-Us Series. These two series rode the fence between News and Information and Arts & Entertainment for the LGBTQ+ Community. We originally produced over 500 episodes of the two series combined. I am currently digitizing the, roughly, 250 tapes that survive in an effort to archive them for inclusion in the archives of Gay&Lesbian Archives of the Pacific Northwest and Oregon Historical Society.
- * Okay
- * "Portland Place or Thing" crew member (a live comedy show.) I've also volunteered on other comedy programs.
- * Producer. Self-Improvement: Basis for Community Development.
- * Making TV shows, primarily comedy, music, dance. Streaming those shows and getting them aired.
- * -Produced a monthly variety show, showcasing Portland musical and comedy talent.
-Produced experimental art utilizing new and emerging technologies such as VR.
-Helped produce public discussions around community engagement through use of public media using the Open Signal space.
-Helped produce content with vulnerable members of the community as an educational resource for others without access to internet.

- * Covering live events in the community is really important for our community to grow.

Movies/short films, music videos, documentaries & skits are ways to tell stories to inform or entertain the masses.

Without open signal pdx I don't know what I would be doing right now? I'd Probably be dead in a gutter somewhere? Open signal has helped me follow my dreams. Thankful for their resources, studio etc.

- * I use the Studio Every Second Saturday. Pastor Rose Frank's Ministries using my talent and skill
To lift up the name Jesus. I sing, Praise Dancing including teaching the and scripture from the Holy Bible. I do this program every 2nd Saturday of the month. It religious faith based.
Also, I like the new technology being
New information
To learn and grow from. It's our
Community to communicate in the
Portland Metro Areas.
- * We produce a religious program with music and bible teaching.
- * Technical Producer for TV Toastmasters - Toastmasters members interview community members about various topics
Producer of Drunken Discourse - Live event recording/entertainment
Producer of The Cascadia Report (Comedy News still in planning stages)
- * Jyf football nw jam hoop .solued out music fest local music arts .youth media training green screen program
- * I mostly produce art programming for Open Signal.
- * NEW TECH - I have taken numerous classes at OpenSignal that have helped me go from 0->60 in video production. Through the guidance of the creative folks at OpenSignal, I was able to create a short documentary which is now making the rounds on the international film festival circuit.

USE OF SPACE - I have rented the large studio space and OpenSignal for public screenings, bringing over 100 people to creative events.

OTHER TRAINING - My partner offered a resume building workshop at OpenSignal which was well attended by media professionals. We both have participated as leaders in the OpenSignal make-a-thon events, bringing media aficionados of all skill levels together to create short form video content quickly, which also helped enhance the community nature amongst OpenSignal producers.

- * I've contributed to my show's production at all levels from conception to delivery of the final media to be distributed.

I've also trained community members on how to operate Open Signal field production equipment.

I've utilized Open Signal equipment to perform Artist Residencies at schools and libraries throughout the Tri-County area.

- * I am an employee of Open Signal Community Media that assist with all programming that is produced before being broadcast. I am also a media educator which teaches all of our core classes (Video production, editing, Studio production).

I am involved (in various degrees) with all phases of production at Open Signal which included (but not limited to) Media services, customer service, facilitation, education, production, distribution etc.

- * I had the great advantage and opportunity to learn studio production and camera work at Open Signal. I created original empowering community engagement programming and events for the public library. With community partners, I am producing and directing a TV show to bring these empowering, educational and engaging programs to more community members.
- * 1) I've always used the platform of shows produce to reach out and keep the public informed of services and programs produced through the facilities.

2) For years, worked as the producer for Milk Day Celebrations, Good in the Hood, Juneteenth, several Political debates and many local presentations at different schools, churches and rallies.

3) 80% of time, highlighting citizens
In and around the community showing off their talents

4) Political debates, non profits agendas and informational services

5) we have produced skits, plays, school and church choirs performing in studios and on sites

6) produced and work on many shows about current news event, Portland is a city with plenty of news worthy stories.

7) Lots of debates, Portlanders running for office 2 on 1, school board meetings and city department meetings onsite

8) at one time was an instructor at PCM for studio and editing classes, formed a non profit to teach youth and young adults the magic of tv.
Ran out of funding

9) produced a weekly on site church services and produced many individual religious programs from several different denominations.

10) produced live sporting events on middle and high school level.

11) use studio space monthly and field equipment every now and then

12) still learning knowledge daily

*

Over the last 11 years I produced a weekly comedy series called David Little's Short Laughs that includes stand up comedy, street comedy, and dance entertainment. Over the life of my show there have been elements of the following:

COMMUNITY NEWS AND PUBLIC AFFAIRS (local news programming and public affairs shows focusing on current events and topical issues in the Portland or East County area)

ARTS AND ENTERTAINMENT (programs and exhibitions, live or recorded, such as plays, music performances or videos, comic skits, poetry readings, etc.)

PUBLIC MEETINGS AND CIVIC ENGAGEMENT (programs, live or recorded, that cover elected officials meetings, school board meetings, planning meetings, other boards, commissions, advisory groups, etc.)

TRAINING AND EDUCATION (child or adult education, services for place-bound learners, digital inclusion and literacy, curriculum-related or outreach concerning required courses, professional certifications, workforce development, lifelong learning, etc.)

USE OF MEDIA CENTER SPACE (using public WiFi, collaborating and connecting with other community members, etc.)

OTHER PROGRAM/MEDIA/TRAINING TYPE

OTHER REASON FOR BEING INVOLVED IN COMMUNITY MEDIA (interest in volunteering, social interaction, vocational training, community involvement, etc.)

- * Storytime with Miss Bethany; public outreach regarding Beaverton City Library
- * Primarily, my use involved production of musical arts events for entertainment and promotion of the artists. We also produced and included a segment of the programs as a training in recycling materials of all kinds. Occasionally, the recycling portion highlighted new technology, such as automotive technology that utilized recycled oils, and the technology to convert such into usable fuels.
- * Incredible and essential community resource
- * Have either produced or crewed on a wide variety of program with varied content over the years. However, it seems people like me are "the wrong kind" for community media.
- * Public empowerment. I produced a series of shows on Sustainability. I have sponsored other programs by out of area producers that focus on sustainability and resilience in the the community.

News and public affairs. I participated in several programs designed to tell stories about members of the community who's issues have not received a lot of attention. The homeless situation is one example.

Public Meetings. I work with Media Services to provide coverage, live or streamed, of public meetings and committees and commissions. Metro, Prosper Portland, Planning and Sustainability are some examples. This coverage provides access and transparency on issues of interest to various segments of the community who would otherwise not have access to it.

Other reason. I have extensive experience in broadcast television production and a good practical understanding of technical equipment and facilities. I participate in teaching and training of new producers and enjoy sharing my knowledge so that new producers can deliver professional looking content.

- * Open Signal has been great in helping me with my various video projects. With Open Signal, I have access to equipment and resources that would otherwise be prohibitive for me to use due to expense. I am also tapped into a community where I can help other producers with their own projects/shows and vice-versa. It has been wonderful for networking, collaborating, finding additional work, and creating new friendships with like-minded people in the community. I'm also exposed to a lot of people with different backgrounds, experiences, and perspectives which is great. Oftentimes the Portland bubble effect makes it easy to forget the wide array of beliefs and opinions we have in our society. Open Signal allows community members to interact and communicate with others whom they would not normally spend time. It is a place where people of diverse backgrounds and beliefs can accumulate on common ground and work together, which I love. We all learn from each other and help one another. It is also special teaching newcomers how to use equipment and technology that they didn't realize they were capable of doing. Open Signal helps open the world to people.
- * Covering people, activists, public officials, and businesses in the legal cannabis space.
- * I produced and hosted a 1/2 hour usually weekly program called Populist Dialogues, which focused principally on ending corporate domination and ways to enhance democratic practices on behalf of Alliance for Democracy.
- * I provide arts and entertainment to the Portland market along with training of students on Multimedia.
- * Comms director of city bureau that uses Open Signal to film our meetings
- * I like to produce original content that includes a script-based soap opera and other little art projects that help me express myself artistically. I also use the space, its studio and its equipment to create these projects. I also participate in the classes to become better at the equipment and spaces.
- * I have taken several classes at open signal and frequently used the equipment room to produce my not-for-profit art films. That question above is very difficult to understand.
- * I'm a member and supporter of Open Signal. I've mostly attended community events, screenings, demonstrations, and panels at Open Signal. I'm interested in the programming listed above for local content I don't receive through OPB or newspapers.

Metro East

- * Learning all the programs
- * Computer program. I got a free laptop.
- * Metairie community meet it is awesome and wonderful resource for my needs are used to rent equipment for video and audio production take a course is learn how to improve my skills. My friends use this resource it is beautiful and wonderful resource to have in the community.
It is pity that I met trees community media close them selves special and there's times when there is a necessary resources in media content should be produced and convey to people about their health about their spiritual life about their needs dad need to be addressed kids educational programs and so on and so forth the Metro East community media should be open and especially during these times I think it's more than necessity currently.
Same as the hunger and people need to be fed people need to be informed and this is terrible now the metro is community media is closed right now because he produce a vacuum and a hunger for the food for the information information that gives the people life gives them a chance hope for the next day there is this should be a Tonnele program especially for kids produce right now people because of her Schools being currently closed and for me two times a week educating my child is not enough and there is a ton of resources should be available to educate my child And bring the good in the beautiful information to their minds feed them instead of a starving them so this is why I little bit pissed off for the mattress to me to be able to be closed because it is necessity it's not entertainment or anything else but this is a necessity information that is taken away good information and the information of fear information of scarcity and everything bad that coming out from the media is not supporting my family needs decreasing and I have no words to descr be it just makes me a little bit angry on why the Metro East community closed specifically in a time of need,,,...!!!?
- * I've volunteered on a number of different productions — lots of arts, Community Hotline, Holiday Showcase. I also starred in several of the infamous volunteer videos as well as a couple other Metro East produced PSA type videos — Metro Paint and the legal education
- * Before working at Metro East, I took dozens of classes. Now, as staff I have taught hundreds of classes to thousands of area residents. I still enjoy producing my own personal projects, with music productions among my favorites.
- * I am a producer of local programs En Familia and Voces de la Comunidad to serve the Latino community.

"¡En Familia!" will be a weekly, 30 minute* studio production program featuring important topics and experts that will help to educate the local, ever-growing Latino community in the greater Portland area.

The show will also feature segments that will serve the viewers interests with a wide array of craft ideas, recipes, local musicians and artists, visiting schools, other nonprofit presentations, as well as special guest speakers.

Voces de la comunidad- Storytelling:

Latino Network Communication will collaborate with Metro East Community Media to produce 30-minute storytelling programs; the stories will be from members of the Latino community who will share their personal stories, their challenges, successes, and experiences living in USA as immigrants. Many of the individual's names will change for confidentiality and safety.

- * I have taken multiple classes on use of cameras: AC160 field camcorder, DSLR and Videography, Studio production, and using sound and light equipment. I have been involved in nature videography conservation and documentation of historical artifacts. These skills have helped me connect my passions with my skill/ability set.
- * I've been a volunteer camera operator and actor for numerous Metro east promo videos and community event productions.
- * Metro East, through its Community Hotline program, has helped publicize Komak, a local charity which supports people who are unable to work during their cancer treatments. We are a small charity and not well-known enough, so help with explaining our mission and publicizing our programs has been quite useful. We have found the staff, particularly Monica Weitzel who handles the Community Hotline, to be easy and pleasant to work with.
- * I use Metro East's facilities for music videos/Short Films, music engineering and producing and distributing my video threw the Chanel's they provide to us, also it's a good way for me to reach out and connect with other artist like my self that are looking for either a extra pair of hands or just someone to collaborate with on a project that are both beneficial to me and the artist to gain more content together.
- * Truly public access TV is critical now more than ever. It enables citizens to convey their ideas and their points of you and to create conversations that otherwise would not exist. YouTube is great however it's not based in our community and people need the opportunity to see and speak to each other and I have seen a lot of good came out of all of these areas that Metro East serves. I also want to add the staff at Metro East is phenomenal. They are such good people and go out of their way to make sure that things work and that helps us to produce quality
- * Metro East serves as a model for CMC's as they serve as a community media and technology center not just plain vanilla public access.
- * I am the producer and liaison for Greater Portland Baptist Church.

- * Community Events:
Troutdale and Gresham parades

Community News and Public Affairs:
Community Hotline, Multnomah County meetings

Arts and Entertainment:
Concerts taped on location and studio recordings such as Holiday Showcase, Story Tellers Guild and Part Time Playhouse

Religious Faith Based:
Country Gospel and Christian Experience

Sports Coverage:
High School Basketball, Water Polo

- * Metro East is a critical organization for our community. All of the above are of high value to someone. I picked the ones that I most often plug in to. But, every one is part of the lifeline of our community.
- * The League of Women Voters of Portland has worked successfully with Metro East Community Media for many years. Metro East has recorded, produced and broadcast the League's education panels on topics of community interest. They have recorded, produced and broadcast our nonpartisan, neutral candidate and ballot measure forums. These programs are also uploaded to our YouTube channel. In addition, League members have been taught by Metro East staff to edit these programs for highlights versions for YouTube. League members have participated in the Metro East program "Community Hotline" to describe our work to educate the community on election and other issues.

In addition, the League and Metro East have worked successfully together for several election cycles to produce "Video Voters Guide", one-on-one interviews with candidates running for office throughout Multnomah County. Because we could not hold candidate debates due to COVID-19 restrictions, Metro East worked very hard with us to inform voters by expanding the Video Voters Guide, recording 66 interviews with candidates running for 23 positions over 5 days.

Our experience is that everyone at Metro East Community Media is professional, skilled, exceptionally cooperative and collaborative, and fun to work with.

- * Scheduled classes, equipment checkout
- * Took training on camera use and editing
- * I have taken most of the available classes to develop video skills for various non-profits with which I volunteer. The technical skills are also good to have on my resume.
- * I direct two regular programs - I also operate cameras. I am interested in being involved with other programs - specifically arts based.
- * Metro East has been a go-to place for media training. I watch the programming, which offers perspectives that differ from other TV outlets. The equipment is first rate and opens all sorts of creative doors, even when one doesn't have much money. The tapes and repeats of public meetings is very helpful, if one can't attend in person. The outlet is available to anyone that has something to say. All voices are treated equally.
- * I have been involved in taking video editing courses from Metro East and checking out equipment such as iPads and digital cameras and editing footage on site. Metro East has been an incredible resource for me to learn these valuable skills.
- * I host a horror film show and have produced drama productions over the years.
- * Long-time board member of Rose City Astronomers. Looking to produce educational videos for inclusion on our website.

International Dark-Sky Association Delegate -- Looking to produce educational videos and media for sharing

Astronomy Instructor for kids age 5-13 -- looking to put together media content for education during pandemic.

- * Metro East films our Council meetings, which is invaluable in helping foster public participation and access. We set up contracts with them to film community events, as well as to capture b-roll that we can use in our own video productions, which is incredibly helpful. They also provide Community Hotline, which is a way to help get the word out about projects the City of Gresham is working on. We are signed up for their training program, which allows our team to keep their professional development skill sharp.
- * I'm an educator, all of these are appreciated!
- * Love it all, thank you!
- * I was in a coding camp and at the end we presented our finished products of games we made.
- * I attended all the orientation classes and completed a Final Cut X class.

I also helped record some high school basketball games.

- * * Directed/performed in/filmed theatre productions at Sandy Actors Theatre to be aired to the community that is either new to or can not attend live theatre. Three thus far.
 - * Assisted with the videography of the Portland Highland Games for the past two years.
 - * Filmed information for the Veterans Village (formally America For Youth) in Vancouver for airing in Oregon.
 - * Assisted in recruiting high school and early college students for training and involvement at Metro East for their education and future work.
 - * Currently writing scripts on topics important to our lives for filming at Metro East. The goal is to involve community members who are both interested in educating the public and/or interested in acting in the plays.

- * Generally, I participate in the training and education.
- * Volunteering with other local media producers and creating media to help reach local residents in my area to help cultivate community.
- * Producer for several. Volunteered on many many different shows there. Its an amazing amazing place to learn, volunteer, give back and teach others and communicate thru tv. Thanks Metro East!
- * I volunteer for three non-profits. Thus far two of them have gratefully taken advantage of the Metro East Community Media.

The Portland Highland Games Association has utilized the Metro East facilities to help share with the community the wonderful experience of the Highland Games.

The Sandy Actors Theatre has been very grateful to the relationship with Metro East in sharing with our community the theatre productions of classic and new plays.

- * I work with Portland Highland games association. And we put on a Scottish Highland event in July! It's to promote the Celtic culture
- * Metro East had been a great resource for learning Media tools that help us as community to express our feelings, our ideas and our point of view over different topics. I had been able to volunteer in presentations of community fairs, where we educate the Hispanic community about different opportunities of employment and social helps that different governmental institutions and non profits institution provide to our community and had been undiscovered by our community, because sometimes they lack of knowledge, they are limited English speakers or they are unaware that those program even exist. We are able to transfer education, art and support to people in our communities that normal commercial Chanel's are not interested in target because they don't represent a good profit, but we all know that this sector shouldn't be ignore, "we need from them and they need from us."
- * I am planning future shows that involve different subjects.
- * Partnership with Metro East in programming in the Rockwood Makerspace.
- * Community news programs
- * Made homeschool video with my kids, have had shows with my husband. Kids have done summer camps.
- * worked with youth to help them discover community opportunities to learn video technologies.

youth learned to work as a team and were given opportunities to reach beyond their perceived abilities.

They were also encouraged to have fun and be creative.

I am currently working on a simple documentary relating to an area food bank.

- * This community space has allowed me and other individuals who have a passion for art, documentation, and education in in the audio visual form. But unfortunately many people are not able to access industry standard tools and knowledge due the astronomical prices. I've volunteered on a project for Clark Santee and last years Christmas showcase as well as numerous classes. And I've learned more in one day getting hands on experience in the studio than years of reading books and doing it completely independently. They have provided the tools to also help me with my personal projects in return of helping others, portable lights, quality microphones to get the most out of my experience, and the advice and knowledge from others with years of professional experience to help bring up the next generation of digital artists and insure I and others are able to speak and express themselves freely.
- * We have a nonprofit organization what's a youth and family service metro-east has been helpful with Trey and our kids it's a wonderful place to teach kids how to use filling equipment
- * Taking classes for production directing with camera and audio tech courses
- * Made multiple episodes of a comedy ta k show called Cereal @ 3AM, helped out with community videos of different categories. Participated in multiple classes and workshops.
- * I am pleased to e a part of METV Sta. where I can Work with and produce Audio-Video Christian based Music and Verbal comments as relates to serving the Almighty LORD (JESUS)

I also, enjoy the education that I am obtaining as relates to improving my technical abilities at Recording, Directing, and Editing ; "Straight From The Horst's Mouth" weekly TV Show. For me its a two way positive results; Sharing the Word of GOD, and improving my ongoing skills with TV-Production that keeps expanding on a regular bases: which is very satisfying for this +75 year old (kid) to lay claim to at this time in my life...

I want to praise this station Metro East Community TV Station at allowing us the privilege of producing this weekly TV Show. and the respectful way that everyone is toward this production of Riny's and my (George T.) weekly effort.

Riny Horst TV Producer George T. Durnford Sr.

- * I like to watch the programming.
I took a class at the Rockwood center for seniors on using smart phones.
- * I film.active programs that are biblically oriented.
- * I've produced a variety of different types of music, dance, and vocal entertainment. Plus church services and events all are B biblically oriented.
- * Aside from volunteering and taking classes, I also produced an award-winning documentary through Metro East Community Media. They are an invaluable resource for the community.
- * participated in training/education as student. everyone needs correct, truthful information on as many topics as possible.

- * I have been involved in various events hosted by Metro East including their anniversary parties, VR workshop, the booths they have set up at Rock the Block, their presence in the Gresham Arts Fest, Teddy Bear Parade, Inspire Dance centre Nutcracker production, OMPA events, the digital inclusion summit, and their internship program.
- * As staff, produced many shows highlighting non profit organizations serving the community. Also produced music and arts shows, collaborated with local news on public affairs shows.
As an independent producer covered live music events, and created music videos...so, arts and entertainment.
- * Work for a local non-profit that operates as the Statewide Afterschool Network, we're interested in highlighting programs from around the state and making the case that these programs are valuable to the community and they should be supported by funders and key decision makers.
- * It is important that as many people as possible be well informed.
- * Volunteer Crew member on Community Hotline
- * Use of Media Space, I volunteered for an ongoing program at Metro East as a camera operator, I volunteered for Gresham Toastmasters one time to film an interview program.
I took the classes to achieve producer status so that I could have access to the software, space, and equipment. This experience was personally valuable, and the skills I gained contribute greatly to my interest in life long learning.
- * I've been volunteering at Metro East since 2013. I've helped film music festivals, parades, and community outreach programs at the Metro East studio. I've also produced a science themed education program with an international juggler aimed at making science fun and interesting for people of all ages.
- * I have taken classes in how to use the equipment and in 3D and Augmented Reality production. I volunteer with the Metro East IT department to help enable the center to support their East Multnomah County outreach.
- * Father's House International
- * As a representative of my organization, Friends of Nadaka, myself or others associated with it have been interviewed on numerous occasions over the years about our projects at the park. This has enabled us to expand outreach to the community.
Have seen and participated in things Metro East has filmed in the community at various events over the years as well as the learning projects they have done with young people, older adults and underserved communities. They have given so many people access to computers for learning and as well as digital equipment for filming and recording.
Metro East does a phenomenal job recording Gresham City Council meetings making them available for citizens who can't attend the meetings in person.
The services Metro East provides to the Gresham community are in my opinion critical.
- * Public Empowerment: Empower my students' voices by giving them a platform to produce creative content
Community News: My students cover news at their school and share it with the broader community through their newscasts
Arts & Entertainment: My students have written & produced a short film
Training & Education: Definitely the biggest one. The students have gained media literacy and valuable training on AV equipment as well as practice in front of the camera as talent
- * My background is in community media so when I moved to Portland and found out about Open Signal and Metro East, I was thrilled! I believe that community voice is essential to all aspects of individual and community life. I trained very briefly at Open Signal, but then took a job as an ESL and computer teacher at a nonprofit in Gresham and not only trained and helped in production of Community Hotline/Nuestra Comunidad, but also brought in clients to connect them with this wonderful resource. I've taken camera, audio editing, video editing, and control room classes, have checked out and used equipment in our classroom, and , along with my Spanish-speaking students, received the first orientations and camera classes offered in Spanish. My organization has been on Metro East air during their Holiday Showcase 3 of the last 6 years. Metro East has offered a volunteer and informational interview space for some of our participants. They have allowed me to conduct ESL classes in their conference space, as well as bilingual intercambio experiences. I attended one of their events training seniors to use their telephones along with some of my students.

Metro East is a wonderful member of the community, proactive, interested and always looking to grow and better itself in outreach and services. Honestly, I applaud them and feel so grateful and fortunate that they are there.

- * Our local non profit service organization uses Metro East Media to discuss and publicize our scholarship and training programs for women and girls. We also sponsor an annual children's parade which we publicize, have televised and thank our sponsors.
- * I was an active employee presenter, and routinely sought additional coverage and outreach.
- * Metro East Media plays a vital role in our East County in many ways.

When I started the Gresham Arts Festival 18 years ago I always came on the program to talk about the art event and the community events that go with it. When I started the event an estimated 1500 visitors attended. With the help of this organization in getting the word out last year over 20,000 visitors attended.

I was President of the Historic Downtown Gresham Business Association at one time and would come on the program to talk about what was happening and giving info to our East County business community.

I have always appreciated the opportunity it gave to our community in getting the word out about ongoing and important events and community involvement.

- * Support of community service projects. Rock the Block video development.
Summer camp programs for kids & adults.

- * As a Mayor, I can't work hard enough to connect with my residents or work hard enough to maintain transparency. Metro East broadcasts our city council meetings making it easier for our constituents to follow our work and make sure we are honestly and effectively representing them and working to meet their needs.

In addition to being a public servant I am an advocate and a fervent supporter of voters and voting. Regardless of you are voting for, you need to participate. Metro East's partnership with the League of Women Voters is indispensable.

Students and parents can monitor the activity of their city council and also their school board. Metro East allows everyone to be a government watch dog.

- * I have participated in the community Christmas program. I have taken classes at Metro East. I view Metro East content.
- * Education and information of the topic -
Distribution of Information about the events and information that is of interest to the community
Exhibitions of coming events that is of interest to the community.
- * metro east is a valuable partner of Quest Center. They have helped produce a promotional video of who we serve and told community member stories through this medium that highlights how QC helps empower people to see that they can change their lives
- * Using Community Bulletin Board and Community Hotline interviews to raise awareness of events like information fairs and repair cafes. Recording programming like candidate & ballot measure forums. Watching recordings of government meetings. Using information from Metro East programming to share with the community. Helping my son with educational & entertainment productions when he was in school.
- * News stories/conversations with Monica Weitzel on mental health.
- * Make creative videos for personal use, learn about new equipment like cameras, microphones, iPads, and GoPros for my job as well as personal use, learned about video editing software for professional and personal use, used Metro East's broadcasting to share government affairs related luncheons each month, volunteer opportunities, community involvement, my non-profit is featured each year during their holiday showcase.
- * Did a training there with the Gresham Leadership Academy, Have been on Community Hotline multiple times to promote events and services that benefit the community.
- * I have personally taken many trainings at Metro East Community Media over the years and developed many skills that I put into practice in my Communications job at the City of Gresham. I have also worked closely with some of their producers over the years on contract projects for the City of Gresham. They have been an excellent resource and partners. In my view, they play an extremely important role in teaching people to tell their own stories - something that is increasingly important as we see traditional media outlets struggle. They also produce shows that showcase programs, events and services provided by the City of Gresham.
- * Areas of interest to veterans and seniors.
- * I've been a volunteer in the Portland Metro area since 1986. I've lived in Gresham since 1999 and active in community nonprofit organizations from neighborhood associations to shelters for domestic violence, human trafficking and homeless youth providing advocacy and direct services to teaching/training, fundraising and creating awareness. I've promoted fundraising events through Metro East and volunteered for faith based cable through Metro East.
- * I've helped the community hot line before and it's actually a fun and cool job.

I've also helped with Open school. I helped the kids learn how to use a Camera, and how to record sounds.

- * I have taken a training, and was in the process of planning a field trip with ME for students I work with when the pandemic hit.
- * Metro East was recently hired to film the Consortium's Building Bridges to Tomorrow's Work Force. Servicing East County's Transition community.
- * I've produced over 700 productions for Metro East over the years, most popular were Drinking with Daren, Legit Pro Wrestling & Crypto Comics. One man show. Production workhorse.
- * Creating space for inspiration to train using entertaining comedy and skits. Focus audience: wounded souls finding their way out naturally and spiritually. Bringing value with examples in organic home gardens and laughter. "Laughs over Lettuce."
- * Started our own vlog, and allowed us to expand our personal business.
- * Please see explanation in "other" question 3
- * work on Shute dance presentation from Formosa for almost 20 years annually in June

Work on various parades: Troutdale Summerfest, Teddy Bear Parade, Monday Music

Past in Senior Showcase, various personality profiles including producing, directing, editing and other tech

Series on UFO experience near Mt. Adams

Various short music and garden scenes for fillers

Various training classes

- * I create content for a public institution including videos, audio streams, podcasts, etc.

- * Produce/host/edit monthly cable TV show "Canfield & Company. Produced/directed/edited "Troutdale Cruise-in videos. Director/host Gresham TV Toastmasters. Camera crew/teleprompter volunteer, Metro East Holiday Showcase. Attended training- Studio B operation; Final Cut editing; Panasonic camera class; color correction online class; Studio A basics; Studio A camera operation.
- * I am a independent producer and sound/audio engineer. I am thankful for such programs and staffing at METRO East: Sometimes it's hard to be the only person who believes in your dream, the only person who believes you are worth investing in it's hard to stay positive when doors seem to be closing in your face daily , I met Seth and he carefully wa ked me through what classes and courses would help make my dream a reality " IT'S AWESOME" to be able to take something you dreamed about and or saw in your head , play-out in a live studio.
- * I use the center to go on work on my laptop-it is a great space. Training and Education-I helped educate kids and teenagers in one of their 360 film camps as well as volunteered as a mentor at a local high school where we taught a class on integrated media. I have also volunteered many times as a camera operator for events like the yearly nutcracker showing as well as a couple parades.
- * Since 2005 The Gresham Art Committee art exhibitions. Have worked with Project Yes and Program Latino to produce videos with at risk youth. Did a 30 minute movie written, directed, shot and acted by pre-teen kids.. Have done many local music concerts, such as The Portland Cello project and many others from the 80's into the 2000's. In the 80's and 90's did a weekly entertainment tonight type of show to support local musicians, artists, theater, film makers. In the 80's wrote/produced/directed a Science Fiction anthology series called Chill factor. Have done music videos with many bands. Have volunteered to crew on hundreds of government meetings. High school Football. Crewed on countless community produced projects. Was the original director for a Metro east Icon, the first transgender evangelical preacher, Sister Paula. Mentoring and teaching the next generation in the art. And having the privilege to work at Metro east for so many years. Metro east changed my life. It opened my eyes to a life path that I had never dreamed was available for me. If not for Metro east, I would probably be a retired warehouse worker now and I would have missed out on a life doing something I really loved. Metro east really did change my Life.
- * Produced a series of dramatic readings Are Young listeners, based on the Magician's Nephew by CS Lewis. Education regarding the use of CBD for senior citizens.
- * "Brethren Voices" is produced for Peace Church of the Brethren. The program is faith based but really does not meet the definition of televangelism or worship services as such. We feature activities, stories of individuals who are meeting needs in the community or across the country as well as internationally. We have produced programs from 17 different states and 7 countries to date. We have been downloaded 1010 times from WWW. Pegmedia.org and can viewed on WWW.Youtube.com/Brethrenvoices
- * Metro East records, edits, broadcasts and posts our League of Women Voters public information programs about issues affecting the people of Multnomah County and our Election Forums and a Video Voters' Guide. They also produced a promotional video for the 100th Anniversary of the League of Women Voters. They have trained our members to use Metro East equipment to produce our own programs on public affairs. They educated us about using software for virtual meetings. In every respect they have been dedicated and outstanding partners and teachers.
- * Director - Camera Operator - Co-Creator -
- * I have participated in many - as Director and camera operator. I have worked closely with Producers to come up with final product.

Both

- * I've attended workshops and produced some shows.
- * As the founder of Outside the Frame, a local non profit that trains homeless and marginalized youth in filmmaking, I have been partnering with Open Signal and Metro East for the past decade. They provide equipment, studio space, air content created by our youth, continuing education opportunities. Every participant that completes our programming and is certified becomes certified as a producer at Open Signal, with equipment checkout privileges and all the rest. This partnership takes marginalized youth through a door they would not otherwise go through. We partner with them on projects involving VR, conferences, festivals etc. We are all part of the movement to defend the and expand the social, political, and economic rights of oppressed communities.
- * Too many to write, for a couple years, I hosted a program that PCM/OS produced on non-profits. I have produced and hosted shows on non-profits, political leaders, refugees, dance and mental health. I have volunteered on a number of significant productions over the years and through the PRETC, did regional broadcasting.
- * Previously, utilized services and staff to produce the POWGirls film making program. This program was presented and sponsored by POWFEST.
- * Please refer to my online resumes for a comprehensive over view/answer to this question...

Thank you.
Jason Garrett G bson

- * Interviews
- * I produced the Awakened Goddess Show a long form interview series
- * Support programing aimed at faith based community
- * Video coverage of sports events, community events such as Sustainability Fair, Cinco de Mayo, PDX Pop Now, in-studio projects such as music band performances and interviews with local community members. I appreciate the access to the studio including the lighting system green screen, camera setup, and control room. And I like taking the classes.
- * Local sport events videos and live-streaming, local music performances videos and live-streaming, various studio projects produced inside the Open Signal studio, utilizing their lights, cameras, and green screen. These in-studio projects include local music band performances, and interviews with local community members.

- * I have been recording Neighborhood Association meetings for broadcast. I've done some other goofy project but Open Signal has an employee eccentric focus that limits the ability of modest means persons from doing much more.
High cost of training. Limited hours of access and service fundamental rejection of community input at times rude and dismissive staff. Please refund Open Signal and divert those funds to Metro East where they want producers where they offer reasonably priced classes where they nurture the community voices that come provide content.
- * I love being able to have a space in the community to be able to learn new skills and keep up with technology. It is also a great place to network and meet other members of the community who have similar goals.

I have been an independent producer at Metro East for 2 years, and I have taken most of the classes, as well as taken out equipment for personal filming. I love the opportunities to learn how to perfect my craft, and continually grow my skills. I look forward to the new class postings, and what new classes they have to offer.

- * Produced Show Ridiculous for two years, and have used field equipment for recording comedy shows live.
- * I use for community events that received no media coverage, to help teach younger kids about media and show that they can be creative.

I use it to help others who are making projects and doing various gigs

- * I have made short films for education.
- * I have not had the opportunity to officially take a class but have gone to both orientations with the hope of taking all classes related to learning all I can about the film making process including how to use equipment and editing software for documentary purposes.
- * I'm a member of the local Blues Community. This is my area of interest
- * I've been involved with this fantastic organization through my involvement in running the Chamber for 15 years, being on the MHCC Board of Directors, Gresham City Council, soroptimist(a non-profit organization), especially co-announcing the Teddy Bear Parade annually for the last 20 or more years. Love that Metro East reaches sooo many people regardless of their programming.
- * Helped connect En Familia to Metro East; consulted with Metro East to provide Spanish language services to help draw Spanish speakers to metro east; connected PCM to VOZ worker center; featured on Metro East shows about the Festival of Nations & Portland Mercado.
- * Volunteering
- * Public affairs programming: interviews with local politicians, writers, activists, artists.

Video of local exhibits at museums and galleries

Video of local ballet company presentations: Nutcracker, Chinese folk dance,

Educational programs produced for Oregon Justice Dept and Oregon Bar Association

- * Metro East has been an excellent partner in helping communicate about our sustainability programs at the City of Gresham. We've been part of their weekly interview program with Monica Weitzel, hosted a Gresham Green Business Coffee Hour there (they're a certified Gresham Green Business), and have helped our team promote various community events we've put on like Gresham Earth Day Recycling Collection Event, and the Mt Hood Community College / City of Gresham Community Conservation and Repair Fair. Metro East has attended many of our monthly Gresham Green Business Coffee Hours, and helped connect with many of the businesses and organizations we work with. They've helped pass along their sustainability learnings, and also helped promote the good work of many of these organizations. They've helped bring our community together and share much helpful information. Their training programs and equipment rentals are extremely helpful across our community, provide a crucial resource to help bridge the digital divide, and provide excellent skills and career training opportunities.
- * I have went to Rockwood DIY whilst there was an event called Rock the block it has been a new experience for me, meeting a whole lot of people and even got to communicate with people from other cultures.
- * Short Film Programs,
Helped with local news shows as well as covering local protests.
Have worked with producers to help them get their work seen elsewhere too.
Have taken additional classes on software I was unfamiliar with.
- * Interviews
- * OUTREACH: for mutual aid/local events and local nonprofit news/info
ENGAGEMENT: using trauma informed care and other training to reach public and help provide tools for empowerment
ENTERTAINMENT: Dance Music Art Events and live programming
EDUCATION: Media Literacy Education, Tech and Gear Education, Social Justice Education, Cinematography, Television Production

- * We are with Flying Focus Video Collective which has been producing shows since 1991. Our regular series have generally been through Open Signal/Portland Community Media. We rely on OS/PCM for equipment, access to the studio, finding like-minded volunteers, technical advice and more. We produce shows covering lectures, forums, protest actions, and city bodies such as the police oversight group meetings (which sometimes include City Council). Our main focus is on peace, social justice, environmental, gender and ethnic diversity, human and animal rights issues which are not adequately covered (if at all) by corporate media. We also attend board meetings and have participated in developing OS/PCM operating rules and procedures several times.
Also in terms of the facility itself, the ability to upload our field-produced shows (which is over 90% of our programming) via the intranet at OS/PCM allows us to relay uncompressed video in about 10 minutes, while the remote access we have to use during the COVID crisis, given the slow internet speed we have access to, takes four hours, of 24 times as long-- with a file about 1/5th the size.
- * I've appeared as a comedian on a variety of shows on metro east and open signal.
- * I'm the producer and host of all of my God Encounter's shows. Most of my shows are interviews. I have done a couple of shows with dance the arts and drama.
- * Produce Dr Marilyn show.
Co produce Pastor Hays Show
Assist in production of many of Portland's community education and training videos.
- * I have taken two courses at the Portland Community Media
The Cinematography course and Video Editing course.
I have loaned gear from Portland Community Media. It has been tremendous help of me.
I work a full-time job and wanted to venture into Media. However, media gear is very expensive and gear is super expensive from an individual perspective.
Hence Open Signal has been amazing! I got training for a really low cost which was very useful and even interested me in taking the second course.
Since then I have recorded about 8 videos on Yoga with gear loaned from Open Signal. I have edited the video using gear loaned from OpenSignal.
All this has been possible because of OpenSignal
- * I've worked on these TV series, that I can remember the names of off the top of my head, all of which made use of either Open Signal or Metro East's facilities:
Independent Producers Organization
Outside the Box
A Growing Concern
Freedom TV
Treatment Update
IFARA
International AIDS Conference interviews
Candidates Gone Wild
Journeys on Film
Spotlight PDX
SportsBeat TV
Discovering Our Story
Meaningful Care Conference
EDS Conference
Face To Face Community Matters
Reel Nurses TV
Metro East Basketball
Metro East Holiday Showcase
The TV Set
Oregon Voters Guide
Jim Pepper Tribute
Flying Focus Video Collective
My Iran
Persian New Year
Alexandra Paris Show
Galactic Groove
Oregon Music Hall of Fame
Shark Bite Improv
- * I use the studio bi-monthly to produce my television ministry for the community.

I use the internet to connect with people around the world and locally. It's the only way I can stay connected as I don't have internet at home or on my phone.

- * The past year, my first at these studios, was focused on training. I was involved in a few in-studio sessions and checked out equipment to practice the skills.

COMMUNITY EVENTS and PUBLIC EMPOWERMENT AND COMMUNITY ENGAGEMENT:

These categories are an opportunity to advance what I can do as a producer, contribute to the groups I want to explore and support, and make friends to be part of the community.

ARTS AND ENTERTAINMENT:

I started work on a music video.

TRAINING AND EDUCATION:

I enjoy training others and want to see where and how the studios factor into this part of my goals.

NEW TECHNOLOGY:

I am interested in exploration in these categories. New tech is the future and it is important to learn.

OTHER PROGRAM/MEDIA/TRAINING TYPE:

I participated in TV Toastmasters for a couple of months and would like to do so again.

OTHER REASON FOR BEING INVOLVED IN COMMUNITY MEDIA:

I am interested in all of those sub-categories and want to find a volunteer position. I think the studios offer great opportunities to utilize the trainings and use of facilities and equipment for the betterment of the community, as well as personal growth.

- * For the past 5 yes. I have been the videographer for a nonprofit, Cascade Geographic Society.. in this capacity I have produced music performance and other events for CGS. I shoot, edit, direct, and do live sound for many events

Since becoming certified at Portland Cable Access (Open Signal) I have produced Many and varied types of programming . I have been an active volunteer and am willing to work on most any programs.

I am currently volunteering as technical crew and editor for a Christian series.

- * I edit and produce programs to ensure appropriate format and length required by both stations.
- * I like to learn and I really enjoy aspects of television and movie production. I have learned a great deal about television and movie production over the years at the cable access centers. I help on almost any type of production and I have produced many programs over the years. I have worked on well over 1000 productions over the years, most of them other producers productions. Without the training provided and getting to work on productions with seasoned professionals at the cable access centers, I would not have been able to provide substantial help on the productions I have volunteered with. Please continue your support so others can learn and contribute to society.
- * To reach the spiritually minded community in the Portland, Gresham metro area.
- * Highlighting special events in the community.

Produce a series show.

Training on technical aspects of producing programming.

- * interviews
- * As an activist engaged in supporting access to - and instruction in the use of - technology and media tools I have found that Open Signal and Metro East are the best - in many cases the only - resources for low income and underserved individuals and communities in the area.
- * we provide content for cablecast on OS and ME channels - we have a monthly showcase slot
- * Programs produced and distributed; exhibitions attended; participated in workshops; used the center for public meetings and events

Q13. If you produce video programs for distribution on the Open Signal or Metro East channels, do you also provide them online? (N=207)

If YES, please describe the online platform you use: (N=110)

YouTube (89)	[Open Signal (43), Metro East (27), Both (19)]
Facebook (24)	[Open Signal (11), Metro East (11), Both (2)]
Vimeo (20)	[Open signal (9), Metro East (5), Both(6)]
Instagram (6)	[Open Signal (3), Metro East (3)]

Others

Open Signal

The Jim Pepper Native Arts Council website

Only some that are edited. I use YouTube and Teachable.

www.rykofilms.com

Portfolio video site.

Personal online resume / specific corporate & individual websites.

PEGmedia

Twitch (3)

Personal server.

Personal website (2)

We distribute programming through PEG media and TeleVue.

Social media

Metro East

eBay

We have distributed the links to Community Hotline programs to our supporters and funders. It has been quite a helpful resource.

Through our website lwvpx.org

Personal website and social media (2)

You are running them on your platform. I am thinking of doing something like this in the future.

The enterprise server for Sandy Actors Theatre

Sandy Actors Theatre's Office 365 Enterprise serve; Portland Highland Games Google Server

New grounds, and the official metro site.

Riny Horst will take the finished 30 minute TV Shows after being posted by METV Sta. and place some of them up on the internet per his likes etc.

Our organization website.

City of Gresham YouTube channel and Facebook page

WWW.Youtube.com/Brethrenvoices and WWW.Pegmedia.org

We post them on our website—lwvpx.org and other LWV websites.

Both

outsidetheframe.org

I have not, but I intend to and producers I volunteer for do including Live Streaming their shows.

Q14. If YES, and you track viewership, what is the average viewership online for your program? (N=57)

Detailed Answers

Open Signal

- * 50%
- * 15
- * 50
- * 50
- * 100
- * 200
- * 1-250,000
- * 200 people during the live show, over 1000 for the OnDemand replays.
- * 200-10000
- * 2k for my second video, I'm just starting
- * 30 views per week
- * 300-500
- * 400 plays
- * 450 views
- * 50+ viewers
- * 500-32000

- * 75 people on average
- * average is probably 100-200 views. but I have some videos over 30k.
- * Dozens to thousands depending on the show
- * I have 200 views on my video.
- * Less than 500.
- * LOW
- * Minuscule to nothing, but I'm not really concerned about that.
- * It really varies but some clips are viewed over 500,000 times
- * It varies wildly, 7.2 million high & 25 low
- * Very few
- * Very great 
- * Very Low Mostly Just Family & Friends
- * Youtube: 20-100 views
PEGMedia: 6-10 cable channel downloads

Metro East

- * 250
- * 1,500 per month
- * 100+ right now
- * 100-300 total views
- * 250 views
- * 500 views collectively
- * 50-100
- * About 300
- * We do track how many people watch our YouTube programs. For Election Forums~2,000-3,000 or more. For other subjects: 100 to 300.

Both

- * 300-500
- * 40 Views per video
- * 50+
- * 50-100 depending on the topic as high as 700
- * I have 302 subscribers. The views vary on the speaker. Any where from 33 to 333 views.
- * One of my videos has 15,000 views, the rest have around 1,000. I think I have around 10 videos on YouTube.
- * Uh 100-200?

Others:

Open Signal

- * Haven't looked lately, depends on my promotion, especially nationally
- * It varies widely. See <https://youtube.com/flyingfocusshows>
- * Good question, once I/am able to generate income from the investment then this question will be of more significance.
- * Has been slow since I personally don't use social media platforms, but others are stating to put it on "Wastebook" and viewership has been picking up.
- * I have not recently. In the early 90s when the cable provider allowed a PCA to request a channel scan, the Live Call-in shows had the highest viewership of any programs for which a channel scan was performed.

Metro East

- * I leave that kind of data to the desires of Riny Horst, as he is the TV (show) Star.
- * Just starting project.

Both

- * Different subjects yield different results. Generally our programs receive multiple daily view and comments.
- * I know the live screenings are typically packed if we have one on site at the Media Center.

Q16. What additional capabilities or services need to be provided at the Community Media facilities (Please note especially any emerging technologies such as interactive media, virtual reality, etc. that you believe would be useful)? (N=136)

Open Signal

- * Open Signal - bigger community editing/computer lab that lots of folks can use at once
- * Before emerging technologies I would provide updated light (some users are females :) camera capabilities like ex the black magic series.
- * Drones?
- * Video editing
- * Stabilization equipment
- * Scheduling flexibility could be better for shows that are not regularly scheduled (waiting times often preclude being able to plan ahead). A handbook for sound room equipment would be excellent.
- * I would love to see more classes on Filmmaking, cinematography, sound design.

I would also love to see classes on Educational Technology: This includes classes on Management Learning Systems, Videography for online education, etc.

Virtual reality is the future. More classes on that too!!

- * Would like a course in how to set up a VIMEO channel to show work or stream work for \$
- * Open Signal has given me everything I could ever need, but them having the funding to provide more staff on duty would probably help a lot.
- * A growing slate of AR/VR programs would be helpful!
- * Virtual reality and live streaming
- * Just before the Covid pandemic, I was noticing many new technologies and courses popping up on the Open Signal calendar. I am excited to explore these new technologies once life returns to a more normal state.
- * For Sports and live music event - A five camera remote truck with all the cables and gear that includes editing, graphics, sound, switching bays and monitors for onsite productions. And the training to go along with it.
- * For me I just wish that the studio was publicly open more hours/ days.
Specifically with my work schedule, my best day to work in studio is Tuesday. But Open signal is closed to the public that day.
- * Livestreaming
- * Technology, and software development.
- * I think an expansion on technologies and a promotion of the vast digital realm would be a big benefit for Open Signal. They tend to emphasize the fast moving digital platforms, but a department that focuses on that would help a lot. I do think knowledge, experience, and teaching all kinds of formats are fruitful. That being said Open Signal is very good at balancing their facility maintaining it's community driven message.
- * Live channels also simulcast streamed live online. Online channels for programs. Build/increase community online in other forums and platforms.
- * I want access to the remote production equipment! So I want more remote production classes available and consider how many times a person has previously been on a waitlist to get into one of these.
Perhaps find better ways to connect producers so they are acquainted with each other's interests, abilities, and needs. I am interested in interactive media, so more classes and opportunities for that. I don't understand why there is such a big push for virtual reality. Viewers need special equipment to access the finished product. The general public won't have this and, as far as I understand the technology, it can't be broadcast on the cable stations. It is more important to get solid, traditional programming. Good storytelling, good producing and directing, good editing, high production value, and content relevant to viewers' interests,
- * More classes and workshops.
- * Whenever we get an upgrade in technology such as the graphics going from 2D to 3D, it would be very helpful if we could have a video of a staff member showing how to use the new computer graphics, step by step. Thank you.
- * I wish I could directly submit my programs online. The trips to the station are very time-consuming.
- * Advanced classes, and Pathways for employment
- * Close captioning live caption, extremely high demands for it, also American Sign Language content
- * **New Cameras** 📷
- * Interactive media. Bring back full on youth programming.
- * Access to Frontier Cable to watch shows
- * More VR
- * Screenwriting software (Final Draft)
- * More options on equipment certification, especially with individuals who have an advance knowledge.
- * Newer Blu-ray burner
- * I'm satisfied with the media and resources available. My only request would be to continue to evolve with the technology and update equipment more frequently
- * Drones
- * More gaming PCs with high-end graphics cards for game development and virtual reality. Game engine software like Unity aren't just for making video games, they are a world-building platform that can empower individuals and communities.

- * VR/AR Production.
- * Complete the online content submission so that all forms and media upload are available. Currently upload is available only with the assistance of studio personnel.
- * Virtual reality
- * As a music video producer, a set of high quality wireless mics for capturing stage amplifiers, or equivalent, would be good.
- * I would love another class on Advanced Editing with Adobe as well as using green screen SFX.
- * I'd like to be able to get a laptop 4 a week, cuz I live in Rainier OR
- * More studio hours.
- * Ability to upload videos from home. Why can't it be done? It forces people to physically travel to the building for some reason, this has to be cost-prohibitive for people.
- * Advanced Classroom Training With People Who Actually Know How To Make Content.
- * Submitting footage from my own laptop instead of having to come in to upload or email a link to a google drive. Also a clearer content management system for viewing/reviewing your submissions and their playback details.

The ability to have more than one series, and archive series that are no longer actively being produced so that the aforementioned content can be organized properly. I shouldn't be limited to one series for a lifetime!

- * More equipment, and more open days (they are closed Mon and Tue)
- * I'd like to see the cameras upgraded to a base level of 4K.
- * More online streaming
- * I hope that we can stay ahead of all emerging technology and provide the empowerment of education. It is more important than ever that we democratize technology for the purpose of democracy. itself. Open Signal is vital in this move for equality and inclusion.
- * Continue one on one consulting.
- * I would like to see them focus on the basics, such as classes on how to use equipment and editing software. I'm concerned that "emerging technologies" are expensive and taking away from the core services these facilities are meant to provide.
- * User manuals for some of the sophisticated technologies.
- * VR definitely, live-streaming
- * Open Signal has done a very good job of expanding its facilities and training to emerging media. Keep up with advances in technology, streaming, graphics, virtual sets etc. should remain a priority.
- * I think the focus should be on the core of why the place exists. Giving people access to equipment they generally would not be able to obtain, instructing the community on how to use that equipment and software where needed, and being a space where people can come together and create. It doesn't need to be more than that. My concern is that resources get shifted and dedicated to programs with too high a bar to access, little community interest, or appeals to the community members who need these limited resources the least. There is enough of a need on the digital literacy front, I'm not sure how responsible it is to pour resources into more advanced areas when there is already an overwhelming need to just get the basics down.
- * The ability to upload content for Open Signal remotely.
- * More classes to learn how to use equipment.
- * Additional community demonstrations and panels about how new technologies (VR, AI, live video apps, etc.) are being used to benefit society. I don't necessarily want to produce anything, but I want to understand how tech is being used in our society and the issues associated with that use.

Metro East

- * Free computer class are always needed.
- * Metro east community Media has Enough resources To supply all they need pertaining to media out reach Etc...
- * I'd like to see equipment to allow streaming live programming from locations outside the studio.
- * Web Page assistance
Business Building Class
- * Nurturing of non-religious programming
- * We're very happy with the services offered at this time.
- * I think having a bigger variety of camera lenses and work spaces would help a lot
- * I don't know about these but think we need to learn I.
The kids needs to know these things and it effects their career paths
- * Collaborator directory
- * I'd like to see classes on script development, the artistic aspects of video editing, and on project managing a video production.
- * First off. you need to talk producers into making PSAs plugging their programs. 30 seconds to 3 minutes that can run in between programs. especially at hour and half hours breaks to catch the channel flippers looking for something to watch. Its not enough to make a program if no one knows about it. You want people to watch it, don't you? The same thing with classes coming up. Even this survey. How can people find out about taking it, if no one knows about it. Today is the 29th and I stumbled on this survey by accident. Advertise Goddamit!!!!!! You have 3 channels and for you it is free. Need I say more?
- * Music production
- * More training! :)
- * Metro East is awesome!

- * A virtual reality headset would be great. Allowing kids to code vr games would be a great experience for them. Animation and comics have been growing a lot this past decade so perhaps there are people interested in the process of making comics and animations.
- * Video creation technology such as Lightbox and Wibbitz Studio would be useful.
- * I believe that the Metro Est Community Media staff are on top of all of this and I eagerly await what they come up with next.
- * Virtual conferences, I guess,
- * I would like to see more drone use if possible
- * VR for sure. So many folks can't access it because of the cost or upkeep or they are intimidated.
- * I want to learn how to work with film, processing, light balancing, loading into cameras, testing different speeds and stocks for color and reaction to light, its still alive and coming back bigger than ever, and a lot of modern methods and principals come from the good old film era. We ave to understand the roots and everything it took to get where we are today.
- * They do a good job at hitting new tech, I think they hit their stride in privatizing a good baseline for film that can be used anywhere.
- * I have not thought much about this phase of the operation - - - .
- * Virtual Reality
- * All that you've mention would be perfect.
- * More user hard drive space would be nice, but not entirely necessary
- * No suggestions. everything was great.
- * More high quality video cameras
- * more live-streaming capabilities that are mobile and compact
- * Help with online media distribution and analytics. Media training on becoming an online media creator, and advanced internet training and literacy.
- * I think that Metro East does a good job of setting up their studio with the equipment that they need. I think that some more interactive media would be a nice addition.
- * I believe that Community Media should make the transition to delivery on demand (video, podcast, VR/AR) as soon as poss ble. This will allow them to better serve the larger community as existing cable subscribers and new residents go "Over The Top" and stop subscribing to cable providers bundled services. In addition, funding for Community Media should not be dependent on cable services, but on fees for right-of-way access.
- * I just glad you are there! I have to come from Ridgefield, WA as there is nothing even close to your facility closer. PLEASE KEEP THIS PLACE RUNNING!
- * Basic web development, ins and outs of creating and managing a YouTube channel, Android/iOs app development, podcasting process, interactive media.
- * Continuing to engage with, support and provide internal leadership from vulnerable and historically under-served communities.
- * Virtual reality for meetings and planning sessions.
- * Keep doing what you're doing! It's great!
- * Sound is so important. I'd like to see more classes in audio recording, mixing, podcasting, sound design, sound editing, etc.
- * Stop hiring inept and/or rude people to deal with the public. All the best employees are shuttered away to the back rooms while the public - THE PEOPLE METRO EAST EXISTS TO SERVE - are forced to deal with the most rude, condescending peckerheads you could have possibly hired. Glenn, John Lugton & Loren are the only bright spots of public interaction I've had throughout my 16 years. Rob Brading and Marty leaving Metro East finally provided a bright spot and it seems like MECM finally has a team community producers actually like relying on for assistance.

What all this means ultimately is that the biggest problem at Metro East has always been the top brass and their tone deaf attitude toward the community producers.

- * Would like to use vmix as a live stream software.
- * My non profit, school and me, grow with the technologies MHCRC Community Media grows and expands with.
- * More classes!!! Maybe some audio production / music creation classes as well? (Digital Audio Workstations, etc.) But I love Metro East!
- * I think that Metro East Community Media really keeps up with the times and try to have very current technology.
- * Transportation for high end mobile studio
- * It would be nice to have someone available while in production. Often is just the equipment room personnel and they are too busy to leave their post.
- * Everything seems good, but I'm always surprised by new things that are provided at Metro East Community Media.
- * We were excited to partner with Metro East in conducting candidate interviews with Zoom videoconferencing. They helped immensely to make the interviews better technically and to make sure the video and audio worked well and looked and sounded excellent. They were extremely responsive in adapting to new ways of recording the interviews.

Both

- * I don't think it is relevant anymore. People can access their own technology in the 21st Century.
- * Virtual reality, people teaching tech skills (and there are some) who know adult learning techniques. Having different skill level classes available. I am very grateful for METRO East's online education during the COVID time, Have seen nothing offered through Open Signal at all -- why? METRO East also offers a class how to produce at home during this time and submit to cable. So cool.
- * Synchronized media team deployment - grass roots activism - more income generating opportunities - grants for grass roots producers, reporters, journalists, bloggers, radio-heads and volunteers.

- * Online training / low cost training and in person evaluation for certification, increase hours open to the community at Open Signal
- * Open signal
Increase hours of operation
Change the board
Rotate staff out get new people with a focus on service and empowerment. Priorities the experience of the volunteers wa king in over the paid staff
- * More help with cinematography on a variety of cameras.
- * Continue classes in Zoom and other emerging platforms.
- * I think it would be more effective to partner with organizations more, and focus less on individual expression & access. This would reach more people with more relevant content while promoting the great work in various communities. And would open up funding streams that are more sustainable & create more impact. Individual services shouldn't be abandoned by any means, but satisfying the needs of individual creators doesn't create broad community engagement.
- * Podcasts
- * Option for insurance for check out of equipment, cheaper end video equipment so potential liability is lower.
- * Animation, AR, basic coding classes
- * Satellite locations for those outside the city center.
- * Would love to stream content on a Public Access streaming online platform.
- * It would be good to have more open hours, more intensive workshops I ke the black filmmakers' lab but which can involve more people, and occasional workshops with professionals to share expertise -- but not at the expense of allowing time for producers to give feedback to staff about issues with the facility.
- * More free youth training resources and workshops
- * Bulletin Board.
During COVID-19 both Community Media houses helped me get the word out about another nonprofit(Sewa International) that was working on making masks and providing non-medial support to elders, students and dedicated helplines that can be used by people for requesting services such as shopping for groceries, immigration questions for international students, delivering free meals, sticking masks and delivering them to hospitals.
The response from both the organizations was amazing!

During regular times, they help me setup free events from a local nonprofit called Solar Oregon that provides educations sessions on Solar Energy

- * Still new enough to not have an educated opinion.
- * For personal reasons, I have not been able to keep up with emerging technologies as I would I ke, but many of these appear to be the future and television as we know it may not exist at some point.
- * There was a question on the survey that referred to "Digital Literacy" services at Metro East and Open Signal. I think of this term as more than just providing training in digital media tools but in instruction/learning on how to be an ethical media producer and a discerning media consumer. I am not aware of such initiatives at the community media centers.
- * professional development opportunities for emerging media makers
- * XR; new uses of online platforms for live programming (Zoom) online and on channels; app for FireTV.

Q17. Do you believe that current awareness/promotion of the local Community Media Center and its services and programming are adequate? (N=242)

If NO, please describe additional promotional methods and activities that would be beneficial. (N=82)

Open Signal

- * *The exclusive focus on new emerging technologies is great but it excludes a large segment of Portland public. I can see the desire to create a niche or fill a void but giving some support to other Portland media artists is necessary. In 2017 (before the augmented reality era) I showed there an experimental series about local immigrants/refugees and the attendance was excellent. The following 2 projects I worked on (both RACC funded) OS was not even courteous enough to answer my emails.*
- * *I don't see much advertisement about the media centers. Most of what we hear are "word of mouth"*
- * *Advertising through local university and art school media departments. Inter-collaborative projects with such universities or institutions would also up visibility in the public news.*
- * *I'm not sure how else to get the message out. I would love to see more support for reaching storytellers of challenging financial means to have an outlet like Open Signal so more promotion in the City colleges and high schools might be good.*
- * *Open Signal doesn't seem to get a lot of mentions in any capacity throughout Portland, so I think having more of a widespread social media presence might help.*
- * *I don't see a lot of ads in the wild for Open Signal, despite operating in similar circles. That said, direct outreach through other schools and/or education programs could be happening unbeknownst to me.*
- * *Perhaps a larger social media presence. A class or course/workshop based on promotion via social media. Local happenings like movies in the park could have short screenings of work from the neighborhood.*
- * *This is the most incredible asset to the Portland art community and I'm surprised not everyone knows about it! This needs to change.*
- * *More promotion on many online platforms and forums. Active participation there.*

- * *I don't know. People do seem to be using them, and we certainly try to publicly acknowledge their help and involvement in recording our programs. Maybe the County could promote them and their services. We are really grateful that we have access to these services.*
- * *More visibility at festivals and public events. Perhaps use Instagram. I see local organizations, events, and services popping up on my Instagram. Have short ads on local radio stations and be a sponsor for locally produced podcasts to have a minute to promote the Community Media Center. I learned about Open Signal through a Multimedia advisor at Portland Community College when I was considering getting a certificate there. She thought Open Signal might be a good, affordable, and practical way for me to update my media skills and connect with others who share in this interest/talent. Let more school advisors and journalism/media instructors know about this so they can tell students and prospective students.*
- * *More marketing*
- * *More promotion about the need for public media, why we have public access, and what we might be losing if funding is cut due to the government regulation of cable networks. Also, alternatives to a cable channel need to be explored but still funded by regulation of cable/media networks.*
- * *There use to be online post advertising classes, such as Facebook. It was through these advertisements that I found Open Signal.*
- * *But I do feel like it hasn't reach my community 100%*
- * *given that open signal is closed two days of the week, and studio time is mostly booked, it seems adequate. i would hope to eventually see ads in the local weeklies and other community print media. sometimes we do appear there.*
- * *You need Internet streaming!*
- * *Publish program listings online, on social media, and maybe incorporate events pages. Encourage producers to promote shows using CMC channels, web site, and social media. Provide simple methods for this. Run print ads in community newspapers such as Hollywood Star sharing programming schedule in branded design.*
- * *Have Open Signal commercials on local TV stations. They will play 15, 10 second Cmmls when they have room. Think of the Mission & the hand reaching down 2 help a brother out Everyone in PDX knows the Mission Has 2 be non profit*
- * *Both facilities have mobile units. Both should be a presence at all annual civic events/ celebrations, such as Gay Pride, Juneteenth, Rose Festival and the like. Bring the truck and show people what is possible, maybe make a program at the site consisting of your outreach to the different communities while it is happening and play it live, or taped, on your channels.*
- * *Eventbrite*
- * *I learned about Metro East long ago when I was in college, but there were no opportunities for college students and no advertised options to work/trade for the cost of training or obtain scholarship(I was working full time barely making it and limited on available time so I chose not to get involved not realizing until much later I should have as soon as possible!) That being said the outreach could be improved to bring in more youth and those with a desire but uncertainty. Open Signal has a lot of information on the web site, but sometimes it's hard to find.*
- * *More promotional in Portland*
- * *Not enough people know about OpenSignal. Maybe a social media campaign would be useful.*
- * *I feel if more folks new about the facilities and resources, they'd take more advantage of the space.*
- * *We are working on that. Limitations include access to the internet and the current situation (COVID-19)*
- * *More training classes*
- * *I often tell people about community media centers at my workplace and no one has heard of them. It seems there is a heavy emphasis on the arts community, not much for the general public.*
- * *I wish more people were aware of these centers, what they have available, and what they can do.*
- * *If I didn't already know about Open Signal, I would see nothing about it or what it does. The availability to watch is not promoted. I currently use the free TV service and I can't see cable access on that. Would be great if it were.*
- * *More promotion and community engagement would be positive; for instance, with local students. During the COVID period you could be working with local school districts in distance teaching, etc. and other public service needs.*
- * *Deeper engagement on racial disparities with organizations that specifically support people of color.*

Metro East

- * *Advertising on KBoo or OPB
News or magazine article
Documentary short submitted for local fest*
- * *I believe that community media centers need to have active outreach programs. They should identify, recruit, and train local groups to make programs.*
- * *In GRESHAM they do a great job*
- * *I think some direct outreach to local non profits would be useful. Get a booth at the annual "volunteer fair" that Standard Insurance sponsors very fall at Pioneer Square. Use the Portland Society Page e-newsletter to see which non-profits are scheduling big events. These have all moved online, just increasing their need for video services.*
- * *Getting more classes going at schools.*
- * *I can't believe that people aren't breaking the doors down of Metro East to take classes, make their own media, etc. Not sure how to get the word out, but.... definitely a valuable commodity in our community!*

- * *Promoting in schools*
- * *More/better online presence promotion especially on social media platforms. More involvement in community events.*
- * *It appears as though they could use more funding. The mobile units are ageing and resources are tight.*
- * *Social media presence*
- * *I would like to see more STEM, home skills and other more educational media especially pertaining to the subjects of psychology and narcissism.*
- * *Mobile Community Media Center to visit people where they are at and bring equipment to them.*
- * *Max Train ads*
- * *I just feel like not enough people know about it, I didn't find out till after five years of living in Oregon, its not being spread around a lot, don't see or here a lot of ads, or big community events. But that's just one thing I noticed.*
- * *Stories in community newspapers about what is happening g.*
- * *maybe more advertising in ww or mercury newspapers*
- * *I only say no because I often hear "I had no idea this was here!". Metro East's marketing efforts have significantly grown in the past year.*

- * *getting into schools more more social media marketing*
- * *More name recognition in the community, we need to be seen as a go-to resource for education and access, and production services.*

- * *More promotions in newspapers such as WW or Mercury.*
- * *I believe cable providers should provide no-cost/low-cost PSAs concerning community media on the major 'broadcast' channels (ABC/CBS/NBC/Fox/etc.)*
- * *There needs to be regular outreach to every resident in the service area reminding them of their right to access their Community Media Center's services.*
- * *Promotion, yes. I don't think the community is well aware of its services.*
- * *Not sure how to promote more.*
- * *Need to be more of a reach out program to community organization - Perhaps present to Chamber Meetings and have workshops for small business to learn how to best use this resource for Marketing in the world of social media.*
- * *I think Metro East does a great job promoting its offerings, on the web, social media, digital newsletters, in the community, etc. But I think many people are too busy at work during the day to take advantage of some of the programming. I think adding more online classes, as they are now doing, may increase their reach. I've been encouraging my colleagues to take training this way.*
- * *I think it's good, but could always be better--different languages, places, etc.*
- * *I don't live in Gresham, so I may not see these promotions, but I'd say that MECM has vastly improved in providing equipment and space, but the overall audience has shrunk significantly since cord cutting began in earnest when Netflix really kicked into high gear. I've often wondered if there is a CAN streaming service that features all the public/arts/science/edu channels on it.*
- * *General public is unaware of many Public service options*
- * *I think that more promotion in schools and libraries would be a good idea to bring more awareness.*

Both

- * *How can I believe in a "media center" if their own website is so poorly done?*
- * *...in need of professional field agents who can offer the value of community media to the general public, schools, business, government and religious organizations alike. Convert that value into economy and creative income generating projects with purpose.*

TEACH PEACE AND FORWARD THE PLAN FOR SUCH - 13 MOON CALENDAR CHANGE PEACE MOVEMENT/INITIATIVE. Thank you...

- * *Could always be better. I never hear about the place and I feel lucky to have ever found it.*
- * *I've offer suggestions. At open signal it falls on deaf ears. They only care about their paycheck.*
- * *I think a larger presence in other public places would work, like at libraries and some government buildings. Also reaching out to local businesses to be able to leave flyers and other promotional material, like at local coffee shops. Maybe hooking up a stream at some of these places to get more faces in front of the channels available.*
- * *Reach out to BikeFarm.org , RepairPDX, Gresham Repair Cafe, the City Repair Project, SE Uplift, all the orgs listed on ResourcefulPDX.com , as well as the Center for Biological Diversity, 350pdx.org , the Portland Process Work Institute, PCC Conflict Studies program, Portland Permaculture, and other similar groups devoted to peace, justice, and harmony w all biodiversity/biosphere.... Why? They could USE a LOT MORE A/V public marketing!!! And RECRUITMENT of VOLUNTEERS by interested folks, who may be unaware of these wonderful resources and groups of communities, skilled professionals, who live work gather play in the tricounty area...!! I'd really wish to see all these orgs make FAR better use of the (relatively) free publicity and marketing svcs offered by our local community media stations...!!!*
- * *Facebook ads, YouTube ads, presentations at schools, presentations at non profit organizations*
- * *More people need to know. When I tell them, they are shocked and want to be involved. I'd say a closer connection to libraries would get the word out*
- * *More on line promotion*

- * *This is a strong answer - I know folks at both locations & they work hard, and I see them around - but most of the other orgs I work with do not talk about community media as a critical resource - and we know it is, so where is that gap?*
- * *To be fair if you did not know of the facilities existing you would never know, there is little in the way of other outreach.*
- * *Billboards radio spots newsprint stickers posters all over town.*
- * *Number one: The home page does not make it clear how to find out what is playing on the channels (OS/PCM). It took us over 2 years to get it so that if you click on a particular show in the listings, you do not have to log in. If one primary purpose is to share community videos this is not a good way to promote them.
In a related issue, OS/PCM took down its video monitors in the lobby showing all the access channels and, again after over 2 years, replaced them with an inadequate projection that doesn't identify which channel is which (and is interrupted by a surveillance camera). The program guide should be front and center on the home page, not buried in a tab called "cable tv." The individual channels shown in the building should be marked around the edges of the projected screen if that is how they are going to be carried. Ideally there would be a place for people who are related to a production but not in the studio (such as a parent/guardian/colleague of an interviewee) to watch live shows in the facility.*
- * *They need to promote a lot more.*
- * *When I moved to Portland in 1996, there were billboards promoting PCM - this was how I learned they existed. I don't know how I would learn about Open Signal today, if I didn't happen to stumble over their cable channels. Which, by the way, is increasingly difficult to do, since you have to go through a special channel before you even KNOW there are community access channels on Century Link.*
- * *I only found out about the wonderful work here via TV Toastmasters. I do not have suggestions for what would be beneficial.*
- * *I'm not sure if public access has ever promoted itself well. I can always find many people who have never heard of the available resources.*
- * *More community awareness of these Wonderful resources always seems to be necessary. People just do not seem to understand the value that cable access centers provide without spending time at the cable access centers. People just do not understand what power the cable access centers provide to get a message out to the world. I have been thinking about this for many years and I still have not come up with a way to convey it.*
- * *Perhaps through current users? For instance, I don't believe I have ever received a notification from area city councils that the organizations that put their meetings on TV and on line are available for citizen use too. Community media centers also do PSAs for local government agencies and NPOs. Perhaps a tagline underneath each PSA that states something like "powered by "*
- * *Cross promotion from affinity nonprofits and businesses; sponsor little league or youth soccer team! The facilities need more funding for promotion of the organizations' channels and services, as well as methods for individual producers to promote their programming.*

Q18. Do you work professionally in multimedia/video/audio-visual production or live event support, beyond your activities at the Community Media Center? (N=248)

If YES, please describe (N=71)

Open Signal

- * *Work for Outside the Frame, and work in partnership with both community media centers; also a freelance video professional*
- * *I am a retired multimedia artist. Currently I create animations for local government in Oregon and Washington.*
- * *Jim Pepper Native Arts Council, Executive Director and Video Producer and Editor, Organizer of the annual Jim Pepper Native Arts Festival.*
- * *I run my own mobile media company*
- * *Actor*
- * *I work as an independent videographer and Live events camera operator.*
- * *I do video volunteer work for Pickathon Music Festival.*
- * *Marketing*
- * *I do sound recording and editing*
- * *I work for Baller TV to provide live high school sports via livestream.*
- * *I am a freelance live event / documentary / reality TV producer, and also currently a Production Assistant at Wooden Boy Productions LLC, working on the Netflix-produced stop-motion feature, Pinocchio.*
- * *I am a freelance video editor that has been working in the Portland area for over 10 years.*
- * *I'm a full-time freelance videographer*
- * *Television broadcasting for Division 1 and junior college and high school athletics.*
- * *Events, and production projects.*
- * *Primarily live event production.*
- * *I use to: 1990 - 2004.*
- * *I am a radio and podcast producer.*
- * *Rarely*

- * *I support nonprofits in live event or content projects*
- * *I'm a co producer of The Mobile Projection Unit. I show my video installations internationally.*
- * *I am an indie filmmaker (producer and screenwriter)*
- * *Producer, director, writer, videographer, editor*
- * *small video production services as well as "for hire" services*
- * *Cinematographer and videographer by trade.*
- * *Yes, I am an instructor at PCC Cascade.*
- * *I have been working with the Oregon Symphony as a graphic designer also assisting in video production for promotions and performance video production in my day to day work. I edit using both Apple and Adobe platforms. I perform as a musician, and manage band and equipment logistics and setup. I create music videos for songs.*
- * *I do freelance work when available; mainly camera operating, but I have recently partnered with CymaSpace to film events and interviews.*

- * *Before I retired I was a stunt performer in LA & I produced & directed a couple of shows*
- * *I used to in the 90s.*
- * *I'm not really professional but I do work on short films like 48 hour festivals and I also make music videos*
- * *I provided AV Support for Meetings and Events a worldwide company headquarters, prior to that I was a freelance camera operator, Technical Producers(V1) and projectionist.*
- * *Director editor producer*
- * *I sometimes do freelance audio/video production, animation, live visuals, events.*
- * *I am a part-time producer at a local startup company. My day job is in engineering, but they let me do the media work too.*
- * *I'm a full time Artist.*
- * *When available, I provide assistance*
- * *freelance filmmaker*
- * *I have some media equipment, and I cover some public arts and educational events privately.*
- * *I am retired from professional broadcasting but I do lend my expertise to projects from time to time as a freelance camera operator, director or producer. I have my own editing system at home. I also am employed as a media specialist part time with Open Signal.*

- * *I will take on various A/V work and jobs when available.*
- * *work professionally in multimedia/video/audio-visual production*
- * *Videographer*
- * *I work for one of the production teams at Nike. We make interview-based videos. I find the story, conduct the interview, assemble the paper edit then work with editors to lock the story. Then on set I work with the director to make sure the product is captured in the appropriate context.*

Metro East

- * *I volunteering in the local church helping them with audio programs And radio*
- * *Freelance video producer*
- * *Creating online classes*
- * *I am not currently working, but my professional background is in corporate communications and events.*
- * *Communications Manager*
- * *The Holy Bible teaching very helpful for all people! I so happy for who watching my program!*
- * *Local television production.*
- * *Sort of. In the makerspace.*
- * *Music videos, real estate, school photos, etc. - self employed*
- * *Freelance graphic design and editing .*
- * *Professional musician and photographer/videographer*
- * *Freelance videographer*
- * *I'm retired. I'm working to establish a YouTube channel. I'm an impressionist landscape painter and also teach art techniques to enhance journaling.*
- * *In my jobs, I create eLearning curriculum (ESL, basic computers how-tos, SaAS application documentation and training materials).*
- * *I work in many live event support such as theater and music productions - special tourist events - and community events and would love to see Metro East helping with the marketing via video production of these events more.*
- * *I am digital media producer for the City of Gresham.*
- * *Sometimes. It's a struggle out here.*
- * *Self employed content creator*

Both

- * *As the Executive and Artistic Director of Outside the Frame.*
- * *...but I would like to, thanks.*
- * *Contractor for a local audio engineer for jobs at Oregon convention center, various hotels, churches*
- * *I'm a producer.*
- * *I started a BIPOC and lady and nonbinary identified production crew.*

- * *One of us occasionally gets paid for video work.*
- * *Speaking and leading worship with a band*
- * *I work for Oregon SportsBeat on high school sports live stream broadcasts, and I work on independent film projects.*
- * *With the skills I learned at the cable access centers over the years, I have been able to get work in the television and movie production fields. I help produce and Live Stream productions for Oregon SportsBeat as well as other projects.*

Q21. Any other comments? (N=71) (See Attachment 4.A for full list of Final Comments)

I think it's a pathetic that necessity like media awareness of what's going on specially with the COVID-19 and information that need to be delivered is essential there's some pretty bad community media is not being used for this necessity and it void of information produce starvation and so people are looking for the information and consuming information which is produces anxiety cabinet favor and either syndrome's dad affect people's lives in Marion ability to live in existence Metairie.

Metro east community media is a resource for their existence and taking off this resource produces void, Play DC if there is a void there is always something they will fill that void so currently anger frustration and fear and all lien anxiety and everything bad is feeling that void instead of Metro East committee media being a resource in hell and is this necessity and Krasi and his debts going on he should be a good team and light to their local community and stripping off community from such a resource I think is at least Bad tone to the community I would even say that this is a crime against local community,

If you wanted to help people you don't close the resource today existence you provide them as much as possible and help them with their life instead of shutting them down And stripping them away from the positive information and feeding them with the far far far fetched and Krasi information dad explodes their minds and brings their life to disparity And suicides there is no statistics on the suicide but I believe that in the end after the COVID-19 is gone people would be shocked how many suicides were committed during this time I believe that you would surpass the number of deaths from the COVID-19!

I believe this is a crane stripping people away from the true and good information in feeding them with anxiety fear Fueling their lives with disparity,,,

I have no words to descr be of water and how I feel toward what's going on right now and Metro East community media on inappropriate actions.

Please give people life don't take away,
Thank you.

Q22. In the last year, estimate how many hours per month on average you have used the Community Media Center facilities or been involved in the production or distr bution of programming for Community television. (N=211)

Open Signal

- * 5-6 hours per month
- * 4 -6 hours a month
- * 12 - 20 hours
- * 15-20
- * 10-20 hours
- * One
- * 20-25
- * Less than 1
- * Unfortunately not as much as I would have liked. 2 hrs. per month.
- * 10-20
- * I bet I have been in the studio 80 hours per last year. So at minimum 8hrs per month.
- * 25 or more
- * At least two months it was 6-12 hours.
- * Dwindling to 6 hrs. a month. In 2017 it was closer to 50
- * 12 hours approx.
- * 8+
- * 300-400 hrs.
- * I check out equipment Camera  dolly, tripod etc. 4 times a month to film my Church Service every Sunday and produce 3 shows a month

- * 2 h
- * Two hours per month.
- * 30 hours / month
- * 4 hrs.
- * like a part time job...20-30 hrs./week
- * hard 2 say
- * 20 hours per month
- * Probably 2, but the programs are already done.
- * 40-50
- * MUCH....
- * 4-6
- * 10,000 hours lol
- * 10 hrs. a week over 30 shows since 2012
- * very hard to quantify
- * 8-10
- * 3-4 hours
- * Dozens

* **Metro East**

- * 6
- * 50
- * Less than 1
- * Unfortunately not as much as I would have liked. 2 hrs. per month.
- * 7
- * 30
- * less than 1
- * 20
- * 5-10
- * 50
- * 8
- * 4
- * 10-20
- * I bet I have been in the studio 80 hours per last year. So at minimum 8hrs per month.
- * 25 or more
- * N/A
- * 2
- * 20
- * 1
- * 50 hours/month
- * 5
- * 12
- * About 20-30 hours per month either using the facilities or being involved with production or distribution of programming.
- * unknown
- * At least two months it was 6-12 hours.
- * 30 hours a month
- * Dwindling to 6 hrs. a month. In 2017 it was closer to 50
- * 2
- * 15
- * 2
- * 12
- * 12 hours approx.
- * 15 hours, probably more per month between the two of us.
- * 40
- * 8+
- * 32
- * 300-400 hrs.
- * 8
- * Very little at the facilities
- * 8 per month
- * I check out equipment Camera  dolly, tripod etc. 4 times a month to film my Church Service every Sunday and produce 3 shows a month
- * 50
- * 3
- * approx. x60-80hrs
- * 2
- * 10
- * 30
- * 30
- * 2 h
- * 6
- * Two hours per month.

- * 4
- * 80
- * 8 hours
- * 15
- * 10
- * 4
- * 10
- * Approximately 40 hrs per month
- * 30 hours / month
- * 4 hrs.
- * 12
- * like a part time job...20-30 hrs./week
- * 24
- * 3
- * hard 2 say
- * 6
- * 20 hours per month
- * Probably 2, but the programs are already done.
- * 40-50
- * 48
- * MUCH....
- * 15
- * 4-6
- * 10,000 hours lol a year
- * 15
- * 3 hours a month, way down from my peak of 30 or so hours a week.
- * 10 hrs. a week over 30 shows since 2012
- * very hard to quantify
- * 6
- * 12
- * 8-10
- * 3-4 hours
- * 100
- * probably 20 hours per month
- * 3
- * unknown
- * 1
- * 48
- * 1500 a year
- * 80
- * Dozens
- * 50
- * none, as I was living out of Portland. I just returned.
- * 3
- * 4
- * 1
- * 6
- * 1

Both

- * 10 hours
- * 4 or more hours depending what is happening in Gresham.
- * 0 - a lot of my collaborative work happened up through 2017.
- * 5-6 hours per month
- * 4 to 5 a month
- * less than 1
- * unknown
- * 30 hours a month
- * 15 hours, probably more per month between the two of us.
- * Very little at the facilities
- * 8 per month
- * approx. x60-80hrs
- * 8 hours
- * Approximately 40 has per month
- * 3 hours a month, way down from my peak of 30 or so hours a week.
- * probably 20 hours per month
- * unknown

ATTACHMENT 5

**ESPER HOUSE UNDERSERVED COMMUNITIES ENGAGEMENT
REPORT**



**Underserved Communities Engagement
Report Mt Hood Cable Regulatory
Commission Community Technology
Needs Ascertainment**

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Underserved Communities Engagement Report for MHCRC Community Technology Needs Ascertainment

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ABOUT THIS REPORT

Recognizing the importance of community engagement for relationship building with underserved communities, Mt. Hood Cable Regulatory Commission (MHCRC) brought on the Esper House team to design and implement community engagement activities to collect data from underserved communities for a study about community needs for technology in Multnomah County. This report reflects findings from these activities, which were designed to provide information and data on five of the six key questions of the ascertainment:

1. What is the level of communications technology and services in our communities today?
2. What barriers are creating inequities for underserved communities?
3. What are our communities' communication technology future needs and interests (two-ten years)?
4. What is the role of local government in meeting the communications technology-related needs of our communities?
6. How have our communities' access to communications technology changed in the past 10 years?

Esper House's approach

MHCRC identified the following target groups for this data collection: racially and ethnically diverse communities, people with disabilities, and seniors. Building from established relationships with individuals and community partners, the Esper House team reached out to more than 20 community leaders to gauge interest and capacity for engaging in data collection activities. The team ultimately engaged stakeholders in the following activities:

- One engagement session with community leaders from organizations supporting communities of color
- Three engagement sessions with target communities hosted by trusted community-based organizations. Four engagement sessions were initially scheduled, but the session with Disability Arts and Culture Project was canceled by the organization at the last minute, and we were not able to reschedule within the timeframe of this study. The report refers to these as "partner organizations."
- Nine one-on-one interviews with individuals from target communities

All community engagement session partner organizations and interviewees were compensated for their participation. In addition, Esper House provided food, drinks, and accommodations as requested. Audio was recorded for all community engagement sessions and for as many of the

interviews as possible. Photos were taken of engagement sessions as well with participants being given the chance to opt out.

The Esper House team, based on a data map for lead research questions provided by the MHCRC ascertainment consultant, created discussion guides for the engagement sessions and interviews. The discussion questions were designed to elicit data for the lead research questions.

Additionally, partner organizations were encouraged to engage their community members to complete the MHCRC Community Technology Needs Ascertainment Online Survey. All partners made printed surveys available during engagement sessions and in their offices. One partner used a marketing email to both advertise the community engagement session and share the link to the survey. Another partner worked directly with a few senior and disabled community members to complete the survey online.

Although the survey was structured to be as accessible as possible (e.g., plain language, compliant with screen readers, available in Spanish language), we heard feedback from some community partners and potential partners that the survey was challenging to complete because of language barriers, limited access to a computer, and low reading levels. Given this feedback, we recommend engaging with partner organizations early in the survey development phase of future ascertainment to determine the best strategies for addressing these types of barriers faced by survey respondents.” because all of our partner organizations worked with targeted communities to meet basic daily needs, they had limited capacity to do survey outreach and weren’t always able to prioritize this outreach amid other organizational tasks.

Who participated in the four community engagement sessions?

The following community leaders participated in the Leaders of Color (LOC) engagement session:

- Family Engagement Specialist of Latino Network, a Latino-led education organization, grounded in culturally-specific practices and services, that lifts up youth and families to reach their full potential
- Associate Director of APANO Communities United Fund, a statewide, grassroots organization, uniting Asians and Pacific Islanders to achieve social justice
- Development Director of Open School East, an innovative alternative high school in East Portland aimed at students who otherwise might be likely to drop out of school
- Executive Director of Friends of Noise, whose mission is to provide safer and productive spaces for all-ages concerts, focused arts education, and leadership opportunities for youth with a focus on providing marginalized youth and youth of color access to performative creative expression
- Project Manager of Prosper Portland’s Mercatus initiative to elevate the unique and universal narratives of entrepreneurs of color in Portland and connect the city and region

with local talents, businesses, services and products that come from diverse entrepreneurs

- Executive Director for Multicultural Leadership of The Contingent (formerly Portland Leadership Foundation) supports Oregon’s most marginalized communities through Empowering Leadership, Mobilizing Community, and Scholarships

These community engagement sessions were held onsite with partner organizations:

- Open School East (OAE): 25 diverse individuals (majority from communities of color), including students, staff, and parents participated in this discussion group.
- AARP N/NE PDX (AARP): 12 African-American seniors from this chapter of AARP Oregon participated in the group
- Northwest Housing Alternatives (NHA): 14 diverse individuals, including people with disabilities and seniors participated in this discussion group, held at NHA’s Oaks Apartments, an affordable housing for people with disabilities and seniors of age 62+, in downtown Portland

Who participated in the one-on-one interviews?

These individuals were interviewed in 30- to 45-minute-long one-on-one conversations either by phone or in person. BIPOC is an abbreviation for “Black, Indigenous, People of Color.”:

- BIPOC senior man living at NW Housing Alternatives Oak Apartments
- Hearing-impaired senior woman living at NW Housing Alternatives Oak Apartments
- BIPOC senior man living in Northeast Portland
- BIPOC senior woman living in Northeast Portland
- BIPOC Chinese immigrant living in East Portland
- Blind individual living in Portland
- BIPOC, Mexican immigrant living in East Portland
- BIPOC, Laotian immigrant man living in North Portland
- Person with mobility disability living at NW Housing Alternatives Oak Apartments

Defining elements of the findings

The findings below reflect across all three target populations unless specifically identified as specific to a target population. Other relevant definitions:

- The use of "communities" or “community engagement sessions” refers to one of the four sessions listed above.
- The use of "interviewees" refers to one of the individuals listed above.
- Quotes attributed below are from one of the four community engagement sessions, unless it is noted as “interviewee.”

FINDINGS

1. What is the level of communications technology and services in our communities today?

Finding: Across all three target communities, individuals rely on mobile technologies and applications to navigate daily life and to meet daily needs.

- Taking the bus
- Wayfinding and navigating while out of the home
- Shopping
- Doing research for personal and professional reasons
- Gathering information and news
- Doing homework
- Playing games
- Consuming media and broadcast programming
- Creating and/or sharing media, primarily videos and photos
- Monitoring and communicating about health
- Staying connected with family, friends, and networks through social media platforms, talking, and texting
- Accessing/applying for services and opportunities (specific examples mentioned are job opportunities and financial aid for college)

Finding: Across all three target communities, individuals describe the need for multiple tools and devices to meet daily needs and successfully complete various online tasks.

- Most expressed a desire for a smart phone in addition to a laptop/desktop and/or tablet.
- BIPOC senior: “If I’m not at home, then my phone is what I have to use until I can get to a computer. So, I do text and emails.”
- Disabled senior: “Desktop computer, white mac laptop computer 2009, smart phone through Assurance Wireless. Primarily use my all in one desktop for graphic design, research, games. Facetime with kids. Watch YouTube, Amazon Prime (with food stamps it costs \$5.99).”
- OSE community engagement session: “We used to be more adamant making sure that our cell phone was connected to our internet, but because of better phone service plans (unlimited data), we forget to turn it on. Keep it on cellular data mostly. Sometimes they piggy back on one another. If we’re traveling, we use it as a hotspot. If we’re away from the house, we’ll tether to use our phone service to connect our computer.”

Finding: Senior community discussion participants and interviewees who had cable TV service expressed an interest in news programming, wanted more flexibility in channels, and were dissatisfied with the cost of the service. Those without cable TV said that cost was the major barrier.

- Cost is named as the main barrier/deterrent.

- BIPOC senior: “No cable; it’s too expensive. If it’s going to get me more news, I wouldn’t mind having it, but it seems I am able to get local channels. I like to be informed.”
 - Disinterest in/lack of need for cable TV programming named as another reason. If there is interest, it is for news and information.
 - AARP community engagement session participant: “I would like for cable to let you pay for the channels that I want. If there are 300 channels and I only watch 50, I don’t want to pay for the other 250. That’s what I’d like for them to do. They don’t have that, but that’s what I’d like for them to do. Then you can kind of tailor make it to your viewing pleasure. A lot of people like a lot of channels. I don’t. I look at the same ones.”
 - BIPOC interviewee: “When kids are getting older, they want to have more information about local American TV or movies like a lot of other classmates. They have some other topics and popular episodes on TV. That’s why I got Netflix. That is \$18 a month. I’m interested in a lot of those episodes. \$18 is acceptable.”
 - Some who don’t have cable TV, shared stories about unsuccessfully trying to get TV reception for local broadcast.

Finding: Most participants and interviewees viewed programming through on-demand web-based streaming services.

- Free and paid subscription services mentioned include YouTube, Netflix, and Hulu and rely on reliable, quality internet access.

Finding: All three target communities describe regular use of devices and internet access to create shareable media, primarily videos and photos.

- These media are shared with family, friends, and community members, such as videos of family reunions shared with attendees.
- These media may also be used to advocate and promote.
- Some describe buying devices solely to take photos.
 - BIPOC senior: “The only reason I got [an Android] was I love to take pictures. ... I used to buy the throw away cameras for \$4 or \$5 but now they are \$20 or more if you can find them. I thought I’d get a phone.”
- These media are typically created on mobile devices.
 - LOC community engagement session participant: “A lot of my young people may not have access to large desktops or laptops that are state of the art, but these days of lot of technology is being miniaturized onto cell phones where they are recording music, where they are shooting video where they have adobe premiere light where they are using free applications where they have it accessible and are doing it on their phones.”

Finding: In the senior and disabled communities, mobile devices are used for health and wellness monitoring.

- BIPOC senior: “I use my one-touch for my glucose. You sync it with your blood sugar device. You make sure it’s up when you do it, when you prick your finger and get the blood and there’s a reader. I found out about it about a year ago.”
- NHA community engagement session participant: “I can call my doctor and send her a message through my app, My Chart. I can send her a message or she can decide I would like a phone call and I can talk to her on the phone. If I wanted to even Facetime—and that’s important because I’m not always sick with something that’s catching, and I don’t want to go to the office where people are sick with things that I could catch.”
- AARP community engagement session participant: “I have a sister in St. Louis who has a virtual check on her every morning. She calls them every morning, and tells them her weight, and they check on her blood sugar. She calls every day on her tablet. And if she doesn’t call them then they call her.”
- OSE community engagement session participant: “I rely on the internet to connect my implants in my spine, so if I can’t connect and I have things going on, I can’t walk. ... The thing is attached to my spinal cord. I have an iPod that connects to it and I have a generator in my hip. Having WiFi connectivity is crucial. If something goes wrong it’s very intense. And if the internet is slow, it’s like, ‘Let’s connect!’ That’s my day, being connected to the internet at all times.”

Finding: All target communities rely on tools and internet access to maintain and nurture connections to their families, friends, and social networks. Especially in the disabled and senior communities, this connection is important to maintain mental health and alleviate feelings of depression and isolation.

- BIPOC senior: “I use mine for everything. I text friends, family—to organizations that I’m involved with, whatever. I communicate through text and email on my phone. I’m communicating with people dozens of times a day, so I’m checking my email several times, all the time now. I get notifications that I have an email. I look at it right away. We’ve got a board that I’m on and we vote for stuff by email. I’m doing it all through my phone.”
- AARP community engagement session participant: “We have 2 family [Facebook] pages and it’s good to keep contact with the family and let them know what’s going on.”
- Seniors describe an increasing use of texting instead of/in addition to phone calls, particularly when engaging with younger family members.
- Individuals across all target communities describe their involvement with civic, religious, and social groups through digital tools and services.
 - BIPOC interviewee: “Chinese have WeChat - all their news, communications with family, right now - we [used to] purchase cards to use to call China, we don’t buy them anymore. We use them to Facetime, We don’t need to call anymore. Mostly use our phone or iPad at home.”

- BIPOC senior: We use “Facebook for fundraisers. Like when we had the thing for the census, I put it on my page so people would be able to know about it, to give out information.”
- Disabled senior: “I keep myself busy so I don’t get depressed so there’s a lot of things that happen because I do have access to the internet and I have some tools that allow me to do that. So, it does help with things like emotional depression and feeling isolated. Because when you don’t have much money you don’t go anyplace. You don’t do anything. You can’t afford to. The idea of just going down the street to one of these little food carts and getting a taco. I can’t afford even to do that. So, that’s what technology and access to the internet allows me.”

Finding: Use of communications technology tools and services in communities of color can be influenced by culture and lived experiences.

- BIPOC interviewee: “Coming here as an immigrant and a refugee, we didn’t have everything that everyone else had. We had a pair of shoes, just one. We were lucky to have a pant and a t-shirt. So, If I get a device now, this is a supercomputer that most people don’t understand the power that’s in our hands. I value that. ... That’s the reason that I keep my devices for so long. Back in the days, we didn’t have ‘upgrade’ services. We didn’t have that word. It’s repair and fix and maintain.”
- BIPOC interviewee: “I got some information from Facebook. I don’t know how; they show information or news. I would like to get more information from them. If I want to know something specific, I want to go to their website. Chinese basically don’t really read American news. Portland Chinese Times sometimes translates. That’s the only. WeChat has channels, but there’s so much information, but it’s hard to know what’s true not true. I would prefer to read news from the government. I will do both.”

2. What barriers are creating inequities for underserved communities?

Finding: Inequitable access to reliable communications technology tools and services creates problems with essential activities that are part of daily life.

- BIPOC interviewee: “The way systems are structured right now, it’s through technology. Most people need to be connected some way somehow. If they’re living on the grid, they need to be connected.”
- OSE community session participant: “Public transit is one of the things I think about a lot because I mean even to check wait times for the next bus or MAX, no matter what you are using (unless you call, which I don’t even know if they’re doing). The only way to do that is internet access. If you don’t have a data plan on your phone or there is no coverage, or if there’s a service outage, like last week when a cable went down. If you’re sitting waiting for the MAX you may not find out unless somebody else tells you.... Even the HOP Cards: if you get on the

bus and swipe your hop card and ... they say you can't get on, the only way to refill it is to go online. If you have no coverage or you have no data to refill it you are stuck. Coverage and affordability of data plans are really hard to find these days."

Finding: Reliable, quality internet access and internet-capable devices are cost-prohibitive to many in the three target communities.

- Disabled person: "It's quite expensive. My phone bill with access to the internet and data and you have to have up to date technology. \$600-800 for the phone. Available for all the family. Data is expensive: I have WiFi at home. For phone, data, mobile I pay over \$600. I have to have the highest plan, and they keep getting updated, so the text to speech won't work properly. I have to replace it at least every two years."
- Disabled senior: "When I was working it was a matter of what I could afford. I would wait for the price to drop. I looked into purchasing \$1200-\$1400-\$1600: just to get the next upgrade. I don't have that income right now."
- AARP community engagement session participant: "I just don't have the speed and I'm paying a premium price through CenturyLink."
- OSE community engagement session participant: "Basic should be free if you want to speed it up, then that's different."
- BIPOC senior: "I have a computer (over 10 years old), internet, a tablet and a Samsung phone that connect together that have unlimited data. I can download all kinds of photos and other things on my phone and then upload to my computer. Then when I create something, do something, finish something I just download it back to my phone and send it to whoever needed it. Until I get the internet, that's the way I have to do it."
- Disabled interviewee: "We are connected a lot online. There's a lot of online communities, social media groups, there's messaging boards. Word of mouth. But if a person's not connected. Some skills needed - it's going to be really hard. Unless you've tapped into an agency that does skill building."

Finding: Many community session participants and interviewees believe quality of service and lack of alternative options are geographic or site-specific.

- BIPOC senior: "I asked the building manager the other day because we used to have WiFi for the building but it doesn't seem to work anymore. I've been in this building for ten years. Three years ago, we could get WiFi easily but now we can't. Just getting internet [service] here would be really nice."
- AARP community engagement session participant: "I used to have great access in Troutdale; when I moved to Portland, the service, it's spotty. When you work from home, all through the day I'm having to log back in and log back in to our cryptic server. For me that's an issue. I haven't been able to fix that. I work at home so that has an impact. I have Comcast."

- NHA community engagement session participant: “Internet is in the basement, so it works for you if you live close to the internet. You can also get it from the lobby and on the street in front of the building.”
- NHA community engagement session participant: “The building is concrete and metal window seals, which blocks the service. Depends on what side of the building you're on. The service gets worse the higher you go.”

Finding: Particularly in the senior community, there is a need for better education and skill building with communications technology tools and services.

- Many interviewees and community engagement session participants don't understand the difference between “using data” and “being on WiFi,” which can result in those without unlimited data to hit their usage limits because they don't know how to, or that they can, switch to WiFi where it's available.
 - AARP community engagement session participant: “I find that when I go someplace and want to access my email, I have to do all this—'will you join our WiFi.' Or, 'give us the password, you can join'. That's a little confusing to me. I kind of know by now where I can get on because I used the password once and now, I can do it, but then the internet is something that I don't quite understand the difference between data and getting the signal through the air. And the fact that when you make a call it's something different. And I don't quite understand why or what.”
- Many shared stories of acquiring devices and tools but not knowing how to use them or not understanding costs involved.
 - BIPOC senior: “I can take pictures, but I can't get pictures out. I went to Walgreens, to get them printed - that was the first time.”
 - AARP community engagement session participant: “Sometimes I open my laptop and it says you're not connected and I don't understand why, and I have to go through settings and all kinds of stuff to get it and it's been there all along. I'd rate it a 3 because it's a nuisance to connect when I've been there all along. It's an area of frustration.”
 - AARP community engagement session participant: “Sometimes with each phone you have to have a complete different technique on it all together. You know how when you get a new phone it takes about 6 months to get really familiar with it? Because it can probably be done but you just need someone to show you how to do that. I've found that most of the time, whatever you were able to do with the old phone you can do it with the new one, you just have to learn how to do it.”
 - BIPOC senior: “I don't stream anything: I don't know what that means. Downstairs they gave me a smart tv, I tried to hook it up but I couldn't pick up a signal between walls.”
 - BIPOC senior: “I bought this desktop about three years ago (HP). But I have too many registration errors. I bought it from Best Buy and set it up, but maybe I did something wrong.”

- Education and training should be geared to each particular community. For seniors, this means workshops and trainings should be slower-paced, methodical, and start with basics (e.g., what is WiFi versus data?). For communities of color, workshops and trainings should be culturally relevant.
 - BIPOC interviewee: “For Chinese seniors at Portland Manor, I have offered a session on how to use a Smartphone. For seniors, they have more problems using the technology thing. They have phones, they only have WeChat and phone calls. They don’t know how to use it for other things. We have a box checking for what they need to know: bus schedule, so they don’t have to wait a long time. How to connect to WiFi, how to connect to their TV. Younger people who know English, we find it easier to access technology. Even young people who don’t know English, it’s easy to research online. [Seniors] need more lessons, or workshops to teach them how to use them.”
 - BIPOC senior: “That Intro to Android phone class I complained about: the guy was rushing and wouldn’t slow down. And they wouldn’t let you use your own phone. They gave you a phone to practice on: what good is that? People teaching the class weren’t being sensitive to the people in the class, seniors and people who needed them to go slow.”

Finding: Trusted entities to educate and train about communications technology include public libraries, nonprofits that work with specific communities, and known community members.

- A few mentioned the Multnomah County Library monthly technology workshop (2nd Saturday of the month).
- Specifically mentioned community organizations were AARP, Asian Pacific American Network of Oregon, Immigrant and Refugee Community Organization, and Open School East.
- Some received information and education from carrier tech support (e.g., Verizon), which wasn’t deemed useful.
- Other individuals in the community, such as family members and neighbors, are trusted and relied upon for education and skill building.
- Many say that they use Google to find out how to do things.

Finding: Concerns about online security is a barrier for seniors to participate in daily activities and services online.

- AARP community engagement session participant: “I’m still not comfortable banking online. ... My kids tell me how safe it is. But I don’t know, I’m not there.”
- AARP community engagement session participant: “I feel like people need to realize if you have a cell phone and GPS, you have given up all of your privacy and for any of them to think they still have it? They do not.”
- NHA community engagement session participant: “I’ve gotten really nervous about filling out anything online because of identity theft. A few years ago,

someone hacked all of my social security disability one month. They just sucked it right out of my accounts.”

- BIPOC senior: “Somebody broke into my account and the Social Security office and my bank called me. My health provider called me too. Some of my accounts were compromised about two months ago. Someone got into my email and got my password. Health services wrote to me saying someone broke into their systems. I went to the bank to deal with it. Social Security called me and said someone was trying to use my SSN. But I only have a savings account and they wouldn’t be able to make withdrawals. I had to change my log in.”

Finding: Because of language barriers in communities of color, there can be inequitable access to communications technology services. In response, some communities build their own skills and capacity.

- LOC community engagement session: “I’ve spent the last 2-1/2 months helping fill out the FAFSA form with families. It’s so difficult because of language barriers. Technology shouldn’t have so much power.”
- BIPOC interviewee: “When I’m working in community, some are comfortable being spoken to in English, and there’s different degrees of Spanish. The issue of class is there in the Latinx communities [based on level of English and available translation].”
- LOC community engagement session: “If you want to use a scooter, you need a phone. The app is in English only - they [immigrants/non-English speakers] are cut out of a new era of technology. The divide exists and will continue to grow unless we put focus on it.”
- LOC community engagement session: “I think of Chrissy Young, Vietnamese American leader in tech, but she is doing all the translation for the rest of the family, all of it. You know, if grandma needs something, if mom needs something. I see that a lot, especially in my immigrant communities, there’s a person that’s the hub, and does everything for the whole family.”
- BIPOC interviewee: “People will get information from APANO from the [Chinese parents WeChat] group. Yesterday talking about wireless, people already created a group of over 500 to train people [community members teaching each other]. Very fast way to get people together, very good service. All that is free.”
- BIPOC interviewee: “Organizations need to be building capacity, language access. When we see that you only have one identified person, you actually have 200 people. The message needs to be given in a language they can understand. How much does the government want to invest?”

Finding: Communications technology remains inaccessible to many in the disabled community because of cost and difficulty in receiving support.

- Disabled senior: “I canceled my home internet because I wasn’t using my computer. I have essential tremors so it’s hard to use a computer. But I also have unlimited data on my phone.”

- Disabled interviewee: “There’s affordability for technology. I’m privileged, lucky. People who are disabled, don’t have access. People who are dependent on government assistance, they don’t have an iPhone. One application I use is \$100. It’s called KNFB Reader and was created by the National Federation for the Blind. It is a scanning, text to speech application. Microsoft is now doing a free version.”
- Disabled interviewee: “There’s had so much red tape to teach people who are blind to access the internet. We have a lot of students that have adaptive software but they don’t have the skills to use it. [At Portland Community College where I work] we are not required to provide skills to access adaptive type technology. We are required to provide accommodations.

3. What are our communities’ communication technology future needs and interests (two-ten years)?

Finding: Those who have home-based businesses or work from home for larger employers will continue to rely on digital devices and connectivity to do paid work.

- LOC community engagement session participant: Folks are starting their business and using their cell phone as their main communication or access to the internet which is great.
- Disabled interviewee: Digital devices are pretty much my life. I wouldn’t be able to do my job, 90 percent of what I need on a daily basis.
- BIPOC interviewee: “I work a lot on the internet in my work as an interpreter. I usually train by listening to speech before going to any event. I use maps a lot, I check for mileage that is an important expense for me. I don’t have a regular income. They basically pay me when they want to. QuickBooks is starting to provide you with automatic mileage.”
- AARP community engagement session participant: “[Unreliable internet service] makes me less productive because I have to spend time to log back in and go through all our different things that we have to do to get onto our internal servers—so if I’m spending all this time getting kicked out and having to log back in—it just takes up time.”

Finding: Individuals in the disabled community and communities of color will need to overcome barriers of steeper learning curves, unstable life circumstances, lack of ADA compliance, and language barriers in order to achieve professional and career growth in the future.

- LOC community engagement session participant: “When people are challenged to [use technology] on a more professional basis there is a steeper learning curve. ... When they try to ascend to a more professional level the skills, they were self-taught don’t transfer as readily and they are competing against people that have access to resources and technology and were doing it from the jump.”

- LOC community engagement session participant: “FAFSA is emblematic of so many barriers. That kind of record keeping in the cloud. If you’re a family who is highly mobile, you can’t keep tax records, you can’t do the FAFSA.”
- Disabled interviewee: “A lot of websites are not compliant with web guidelines. I was filling out a job application for the state of Oregon and it was very, very inaccessible. I had to get a sighted person to come and see what was happening. Turns out things were popping up and I didn’t know because it was visual.”
- LOC community engagement session participant: “Immigrant adults can find technology; what they want is to be able to get a good job. All the technology that we have is usually in English.”

Finding: Schools and organizations that serve communities of color see communications technology challenges among families, which will affect educational and professional growth and development in the future. These challenges include prohibitive cost of internet access and tools, unstable life circumstances, lack of knowledge about support and services, and lack of role models or LOC in technology industries.

- LOC community engagement session participant: “Family engagement is a big part of the [Open School East] program. Most families are on pay as you go phone plan and at the end of month can’t be in touch. Some have WiFi at their housing complex, but not outside the home. Being able to reach families in real time is obviously a barrier when the family doesn’t have consistent cell access. For example, we needed to get an email newsletter out with important info. Of 130 kids, we only have 50 emails available. Many families don’t use email regularly. We use texting for quick updates; text is better, but there are character limits.”
- LOC community engagement session participant: “It’s a spectrum: for foster youth, access is not a given. We have the opposite extreme where they have so many barriers around them where just having a basic phone is a gift, because they are moving from house to house with a garbage bag. So, I think it depends, when you are saying, access, we are marginalized.”
- LOC community engagement session participant: “Last week in applying for a grant, I reached out to a parent for a letter of support through text and DMing. ... I didn’t hear anything. I called and she said, My computer blew up. There’s a fragility of our connection to the outside world via technology. It takes dropping a phone cracking a screen, having our hard drive not working quite right. ... I think a lot of people, no matter where they are on the technology ladder. It’s still one thing goes wrong and you could be broke.”
- LOC community engagement session participant: I shared with parents at Parkrose High school that “if you have a high school student and you have a computer you can have internet for \$10 a month or something like that. That was

something they didn't know. And that was something that made them think, 'This is something that I can have at the house. My student can have this.' ...So, having all the information out there, and that's where the family engagement is really important. So, we can find these resources and share them down with them. Otherwise they don't know there are these resources."

- LOC community engagement session participant: "We provide mentorship for tech youth. If they are not at the table, all decisions will be made by white people. We need to think about the ladder that gets you there. They don't have role models. How do we keep them there? Access must include people who have the lived experience."

4. What is the role of local government in meeting the communications technology-related needs of our communities?

Finding: In all target communities, individuals expressed apprehension and suspicion when asked about the role of government in educating about communications technology or ensuring access to communications technology.

- BIPOC interviewee: "It's mixed. Some folks don't want the government to be involved. I don't think the general public wants the government to be involved."
- BIPOC senior: "I would trust that but I think it would come with some apprehensions. Fear of Portland becoming Big Brother watching. It really should be free anyway. How can you charge people for something nobody really owns? The only people who really own anything [are those who own] satellites in orbit. They just tap into the satellite. Why can't everybody tap into the satellite?"
- Disabled senior: "There's the big brother fear: if they provide access, do they start to control access or limit access? They will be able to message what info goes out there. And I'm a Republican!"

Finding: In all target communities, there is broad belief that the government should provide or subsidize internet devices and access.

- BIPOC interviewee: "What's the minimal, most basic in terms of technology, in terms of internet speed that would be sufficient for your lowest or no income family that would suffice in terms of getting connected through school, occupation, transportation. This is the minimal: limited to just a few apps that everybody can have access to. I think that might be able to help."
- BIPOC senior: "When they said they were making WiFi, I thought that would solve the problem. We would be able to hook up from our building. The Government can make it easier/affordable if every building/apartment can have WiFi."
- BIPOC interviewee: "I think their intentions are wonderful. The general consensus of government is that they want everybody to have access. They're trying to go on the lines of equality and equity. They're pushing that intention. But

not everybody is created equal or has the same education or the same knowledge.”

- Disabled senior: “Limiting access to force people to pay more - if you can’t pay more, you can’t pay more - the government can help with that. If you have SNAP, that’s how you would qualify.”

Finding: Currently available subsidized phones and service do not support basic phone calling and internet needs.

- NHA community engagement session participant: “The Obama phone is free but they are bad phones and have bad service. They suck; it just shuts off. If you get food stamps it’s free.”
- BIPOC senior: “I have the Obama phone and the service is terrible. I’m surprised our call hasn’t been dropped already.”
- NHA community engagement session participant: “I used to have Assurance, but both the phone and the service are so unreliable that it scared me. I have some medical issues and I just couldn’t count on it being there if I needed to call 911.”
- NHA community engagement session participant: “When they first came out with the free phone for low income - Assurance - Virgin Mobile on Verizon carrier. They gave us the really dinky phone that didn’t have anything except phone. If you’re going to give us these - they upgraded to cheapest smartphone to access the internet. It took me seven months to get a working phone...The government could spend money on decent technology which would get more people online. It should be open for all to provide - not everyone is able to.”

Finding: In all target communities, individuals often know about available government support and services but find in person and online access to be limited. With larger bureaucratic systems, online engagement is not preferable to in-person engagements for those in the senior community.

- At OSE, only half of the attendees have library cards because there aren’t libraries in locations convenient to them.
- BIPOC senior: “If I want to talk to social security or human services, I go to the office, take a number, and stand in line. It’s frustrating on the phone or internet.”
- Disabled senior: “I actually go into the office. I have found that government agencies over the internet is more of a pain than a help - all kinds of forms and you have to wait anyways. I either go to Aging and Disability or go to the Social Security office. The reason I go in is to talk to people. They know what the program I’m interfacing with is--it cuts out all the BS in between. I’m far more interested in interfacing with people, than dealing with online paperwork that is more confusing than clarifying.”

Finding: Those in the disabled community believe government should lead in accessibility inclusion as well compliance with ADA standards.

- Disabled interviewee: “They should be the leaders--they are one of the least accessible to people using assistive technology. They should be hiring more people with disabilities.”
- Disabled interviewee: “I was applying for a women’s small business certification. It took me several weeks, hours and hours to go through that. I figured out how to do it by myself with sighted help and I have an advanced screen reader. I have not renewed by application because of that. They offered to send it as a word doc, but that would have been worse. The design of it [would have made it better], people knowing what they are doing, for compatibility with assistive technology. It’s federal law. Thirty years, and they’re still struggling with basic compliance.
- Disabled interviewee: “If the library would help people with voting, if they have free services in a public space like that, that would be amazing. I’ve never experienced free services like that. A lot of students I work with are homeless, they don’t have resources. If 211 had information on this.”
- BIPOC senior interviewee: “Handicap makes it harder to access educational opportunities. I was going to make an appointment at the library. It would be nice. I would rather learn outside.”

6. How have our communities’ access to communications technology changed in the past 10 years?

Finding: For all target communities, reliable and affordable internet access is more necessary than ten years ago.

- OSE community engagement session participant: “I think the most difficult thing is that applications are mostly done online now for jobs, and it’s really difficult when you don’t have access to that, or your internet’s slow and their like, hey you need this application by this day. And you’re like, hey it’s Wednesday and I need it by Thursday and my internet won’t work, or you just can’t access it. They don’t have paper forms anymore.”

Finding: All target communities describe increased community engagement through social media and media production over the past 10 years.

- BIPOC interviewee: “I do theater productions and being able to pass on our information like a production. Instead of passing out fliers and email blasting, hardly anybody checks email now, you can slap it on Facebook and Instagram. It’s advertising and promotion. Just another way of getting that information out.”
- BIPOC interviewee: “Cell phones have all the apps, all the social media apps that you can download and use. Can connect statewide and nationally. Someone in Laos right now. As an activist, it’s a great way to disseminate information.”

- AARP community engagement session participant: “When I grew up everyone was around. You didn’t Facebook or anything like that. And everybody grew up and moved far away and nobody’s around anymore. The only way you can keep communication with them is through Facebook.”

Finding: Individuals in all target communities have taken advantage of advanced capabilities of devices to meet needs and maintain relationships.

- Disabled senior: “I remember when we had 1 GB and now, they have Terabytes - they have tiny chips/thumb drives. It’s amazing how much has changed because hardware has gotten smaller - larger quality of chips - because robots can do extremely small movements. Access to the internet is better. Download speeds are faster.”
- Disabled interviewee: “This is already in existence, but it’s \$100 a month - IRA it’s a service and it’s a live service, they can see through your iPhone, they can tell you what’s around in real time. People use it when they get lost. They are able to provide 5 free minutes - if we had that kind of access. Some malls purchase this service - if government purchased this service. - Visual access helpline. A friend works at Trimet and uses it in his job - not sure if Trimet pays for it. I had a friend that used that service - went to Hawaii by herself using that service.”
- Disabled interviewee: “It’s tremendously changed. Extremely life changing - IRA, free AI software. Free service “be my eyes” they can do similar things, not professional like IRA. This technology has made a lot of people independent. Independence helps bring a sense of well-being - mental health, you feel like you’re part of society, lowering costs in many ways. Mobility devices - digital readouts.”
- BIPOC senior: I was not able to afford certain software so I couldn’t keep things updated. It finally got to the point where I couldn’t afford internet anymore. ... So, I figured out a way to do it without internet through my phone. ... Where I do everything on my phone or my computer, download or upload, and it doesn’t stop me from accomplishing what I need to do. People still come to me to do stuff but I have to say, ‘sorry I don’t have the up to date software. I don’t have internet, I don’t have this, I don’t have that. Can’t do it.’ I’m limited because my current income because my current income has prohibited me from advancing myself. I do pretty good without the internet. Everybody’s shocked. You do this from your phone? I say yeah. You do what you have to do.”

ATTACHMENT 6
PROJECT PLANNING MATERIALS

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Key Questions, Sectors, Stakeholders, Categories & Elements

1. What is the level of communications technology and services in our communities today?
2. What barriers are creating inequities for underserved communities?
3. What are our communities' communication technology future needs and interests (2-10 years)?
4. What is the role of local government in meeting the communications technology-related needs of our communities?
5. What has been the impact within our communities of existing public benefit requirements of the cable franchise agreement?
6. How have our communities' access to communications technology changed in the past 10 years?

Stakeholder Categories and Examples:

Demographics	Sectors	Unique to MHCRC
Communities of Color	Business	I-Net Users
Immigrants & Refugees	Education	Grantees
English Language Learners	Nonprofit	Jurisdictions
People with Disabilities	Healthcare	Community Media Producers
Youth	Local Government	Cable Subscribers
Seniors		
Renters		

*Categories and Elements to be Addressed

<p>Access to Technology</p> <ul style="list-style-type: none"> • Equity • Geographic accessibility • Affordability • Adoption/Utilization • Multimedia Literacy • Capacity/Speed • Mobility • Digital Inclusion 	<p>Open Government</p> <ul style="list-style-type: none"> • Accessible Services • Transparency • Open Data
<p>Content</p> <ul style="list-style-type: none"> • Relevancy • Localism • Access • Creation • Distribution • Interactivity 	<p>Economic Development</p> <ul style="list-style-type: none"> • Multimedia Literacy Skills • Local Workforce Development • New IT & Tech Business Development • Local Economy • Employment • Sustainability
<p>Regulation in the Public Interest</p> <ul style="list-style-type: none"> • Role of Local Government • Value of Local Franchise • Use of Public Right of Way • Consumer Protection • Privacy • Neighborhood Aesthetics • Emergency Preparedness 	<p>System Capacity</p> <ul style="list-style-type: none"> • Emerging Technologies • Bandwidth Capacity & Management • Universal Coverage • Connectivity • Mobility • Transport • Resiliency
<p>Civic/Community Engagement</p> <ul style="list-style-type: none"> • Civic Participation • Community Building • Sustainability 	

*Equity and Inclusion (E&I) are not highlighted within any one category above, as the MHCRC’s intent is to ensure that E&I are considered across *all* categories. Specific target populations include people of color, people living with disabilities, and Seniors.

Community Technology Needs Ascertainment - People to Vet Lead Research Questions

Community Technology Needs Ascertainment - Development People/Groups - Lead Research Questions Vetting

August 27, 2019

Jonathon Simeone – OEHR, City of Portland (resource about people living with disabilities; Jonathon is blind)

Anais Keenon – BHR, City of Portland (disability resources & employment specialist; Anais is deaf)

Joanne Johnson -- Civic Life, Disability program, City of Portland (Joanne is physically challenged and uses a wheelchair)

August 28, 2019

Digital Inclusion Network, coalition of groups working on digital equity

August 26, 2019

Open Signal & MetroEast Community Media, Executive Directors

August 13, 2019

Smart City Steering Committee, City of Portland

September 5, 2019

Open Data program, BPS, City of Portland

Climate Action group, BPS, City of Portland

October 10, 2019

Smart City program, City of Portland, Program Director

October 9, 2019

Multnomah County Commissioner Vega Pederson & staff

September 3, 2019

Cities of Fairview, Wood Village, Troutdale – City Administrators & staff

October 16, 2019

City of Gresham staff

September 9, 2019

Portland City Council staff

Various dates August-October 2019

Multnomah County Library leadership (vetted by library staff)

Multnomah County Commissioners & staff (vetted by library and County staff)

MHCRC Community Technology Needs Ascertainment Lead Research Questions

NOTES: People = individuals, residents / Communities = demographic groups, non-profits, stakeholders, sectors, etc.

Every lead research question will specifically include data collection and research focused on people of color, people with disabilities, and seniors. Other demographic data will be included as appropriate or doable depending on data collection method.

Key Ascertainment Questions and Lead Research Questions

1. What is the level of communications technology and services in our communities today?

- What are the primary factors in how and where people access the Internet?
- How and why do communities access content and information?
- How are our communities creating and sharing local content?
- What are the primary factors in our community's adoption of technology?
- How have public entities and communities been successful at addressing adoption barriers for people?
- What is the value/benefit of free WiFi and to whom?
- How do people prefer to communicate with local government and to civically engage?
- How are people using technologies to connect with their communities and businesses?
- How does communications technology influence our local economy and what key communities are affected?
- How does broadband adoption affect our community's prosperity and opportunity?
- What is the state of communications network infrastructure availability in our communities?

2. What barriers are creating inequities for underserved communities?

NOTE: Adoption = affordability, digital literacy training, tech support, and free/low-cost device.

- What are the reasons that people are less likely to have Internet at home?
- What is an affordable monthly cost for Internet service?
- How do people / families make decisions about connectivity and respond to digital divide challenges?
- What are the primary factors in non-adoption of technology?
- What are the trusted entities to assist with receiving information and training to use the Internet and/or multimedia technology?

- Who is trusted to assist with Internet service sign-up? (community center, Internet provider, library, local nonprofit, neighborhood store, school, other)
- What is people's awareness of low or no cost availability of Internet and multimedia services?
- If people don't have connectivity at home, how do they do broadband activities, or do they just not do them?
- Does training and education around safety, security, and privacy increase adoption?
- Are people aware of assistive technologies, and how do they use them?
- How does the lack of home Internet service/digital literacy impact a person's employment opportunities?

3. What are our communities' communication technology future needs and interests (two-ten years)?

- What do communities want to do that they don't have the technology for now?
- What are the key trends in communications technology advancements and innovations; how will these potentially benefit or burden our communities?
- What communication technology needs will drive bandwidth growth and higher speeds?
- What communications technology will local governments need to support transparency and equity of decision-making and sharing information?
- What are the important characteristics of communications technology that people will need?
- What are the plans for improved communications and community technology infrastructure by private companies and/or public agencies?
- What key work skills will be most relevant in the future workforce/digital economy?
- How might future technologies enhance relevant, local, diverse content?
- What are people's perceptions about how they will participate and engage with new communication technologies? Do people see themselves using new technologies?
- What are the emerging/new technologies that will, most likely, need to use public right-of-way and assets to function effectively?

4. What is the role of local government in meeting the communications technology-related needs of our communities?

- What is public perception about the role of local government on educating on the importance/benefits of broadband?
- How can public agencies help remove barriers or obstacle to adoption?
- What are the perceptions/attitudes of our communities about the role of local government to ensure local, equitable access to communications technology?
- What is the role of local government in a 'competitive' market?
- Do people view the Internet as a public utility and as a necessity?
- What are people's primary consumer protection concerns?

- What are the responsibilities of local governments in protecting public interests related to current and new technologies that use public right-of-way and assets?
- What do communities believe is the role for local governments in ensuring relevant, diverse, local content availability?
- What public policies have supported public benefits that have addressed barriers to communications technology adoption (access, devices, training, affordability, tech support, transparent government, etc.) (examples around universal service or coverage, examples from other areas as well)?
- What type of local data do people and communities want to access and how do they prefer to access it?

5. What has been the impact within our communities of the existing public benefit requirements of the cable franchise agreement?

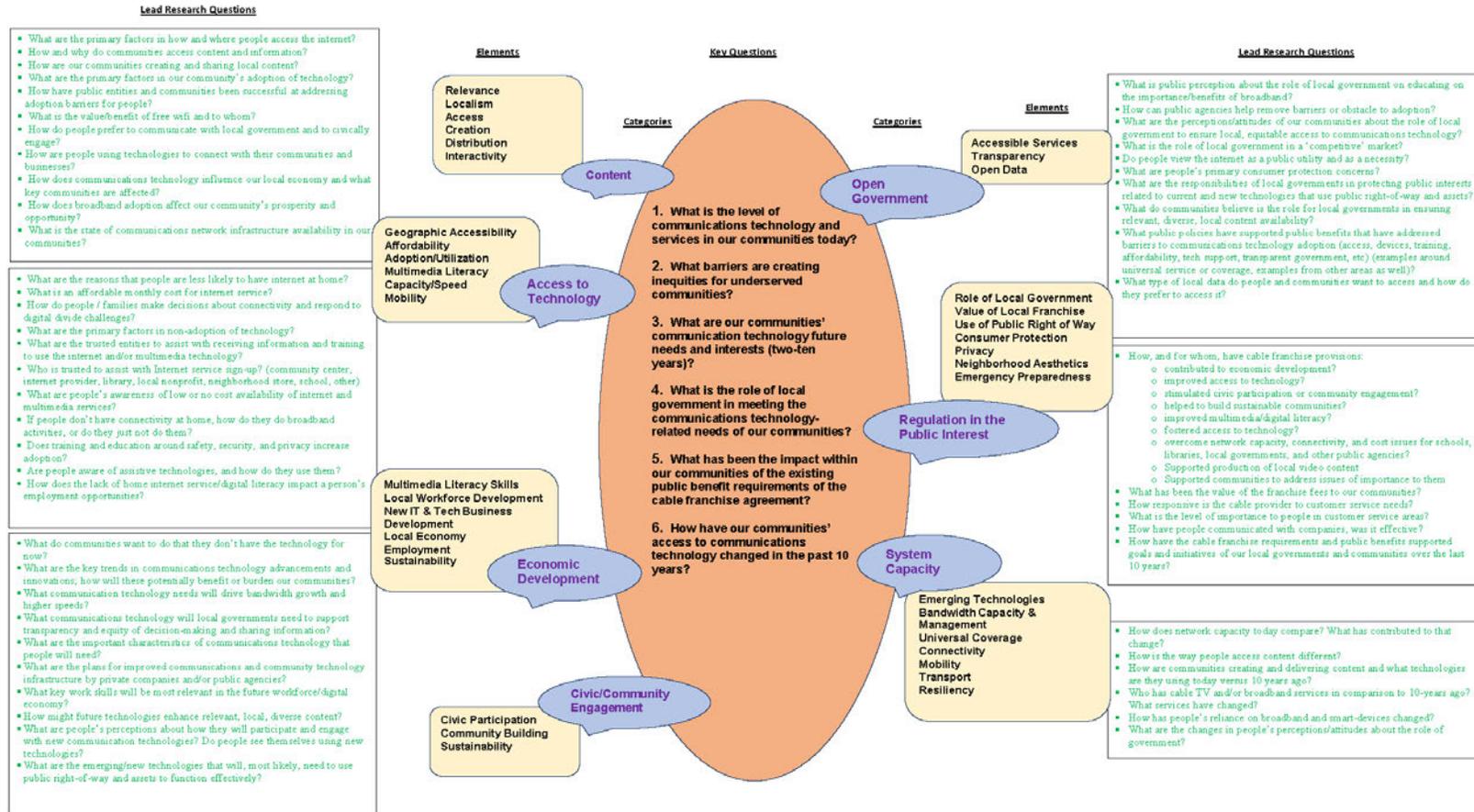
- How, and for whom, have cable franchise provisions:
 - contributed to economic development?
 - improved access to technology?
 - stimulated civic participation or community engagement?
 - helped to build sustainable communities?
 - improved multimedia/digital literacy?
 - fostered access to technology?
 - overcome network capacity, connectivity, and cost issues for schools, libraries, local governments, and other public agencies?
 - Supported production of local video content
 - Supported communities to address issues of importance to them
- What has been the value of the franchise fees to our communities?
- How responsive is the cable provider to customer service needs?
- What is the level of importance to people in customer service areas?
- How have people communicated with companies was it effective?
- How have the cable franchise requirements and public benefits supported goals and initiatives of our local governments and communities over the last 10 years?

6. How have our communities' access to communications technology changed in the past 10 years?

- How does network capacity today compare? What has contributed to that change?
- How is the way people access content different?
- How are communities creating and delivering content and what technologies are they using today versus 10 years ago?
- Who has cable TV and/or broadband services in comparison to 10-years ago? What services have changed?
- How has people's reliance on broadband and smart-devices changed?
- What are the changes in people's perceptions/attitudes about the role of government?

MHCRC Community Technology Ascertainment Research Question Map

MHCRC COMMUNITY TECHNOLOGY ASCERTAINMENT RESEARCH QUESTIONS MAP



ATTACHMENT 7
DATA RESOURCES BIBLIOGRAPHY

Attachment 7

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