



Philadelphia Office: 73 Chestnut Road, Suite 203, Paoli, PA 19301 P/610-889-7470
St. Paul Office: 1597 Race Street, St. Paul, MN 55102 P/651-340-5300
New York Office: 404-408 Main Street, Suite 501, Boonton, NJ 07005 P/973-794-3171
www.cbgcommunications.com

FINAL DRAFT

REPORT ON THE CABLE TELEVISION- RELATED NEEDS AND INTERESTS ASCERTAINMENT FOR VANCOUVER/CLARK COUNTY, WASHINGTON

By

CBG Communications, Inc.
Thomas G. Robinson, President & CEO
Krystene Rivers, Senior Research Associate
Dick Nielsen, Senior Engineer

and

Constance Ledoux Book, Ph. D.
Telecommunications Research Corporation

and

Carson Hamlin
Media Integration Specialist

Issued: December 17, 2021

Table of Contents

EXECUTIVE SUMMARY	1
 <u>SECTION A</u>	
REVIEW OF CABLE-RELATED RESIDENTIAL COMMUNITY NEEDS AND INTERESTS	6
RESIDENTIAL COMMUNITY NEEDS ASSESSMENT	7
RESIDENTIAL COMMUNITY - WRITTEN SURVEY	7
Introduction.....	7
RESIDENTIAL WRITTEN SURVEY FINDINGS – CABLE SUBSCRIBERS AND NON-SUBSCRIBERS.....	9
Sample Description.....	9
Demographics	9
Cable Television Service	11
Non-subscribers to Comcast Cable Television Service	11
Subscribers to Comcast Cable Television.....	12
Overall Satisfaction with Comcast Cable Service	13
Service Characteristics and Comcast’s Cable Office.....	16
Communications with Comcast	17
Service Call or Installation with Comcast	18
Calls, Emails or Chatting with Comcast	19
Cable Signal Outages	21
Picture Quality	22
Educational and Government (EG) Access Programming	23
Online Access in Vancouver/Clark County	31
Final Comments	32
RESIDENTIAL COMMUNITY CONCLUSIONS AND RECOMMENDATIONS	34
ONLINE SUBSCRIBER AND NON-SUBSCRIBER STUDY FINDINGS	39
Residential Community Subscriber and Non-Subscriber Online Survey	39
Respondent Demographics	39
Non-Subscribers to Comcast Cable Service	40
Subscribers to Comcast Cable Service	40

Overall Satisfaction.....	41
Service Features	41
Calls, Emails and Online Chats with Comcast	41
Cable Outages	42
Technical Difficulties.....	42
Public, Education and Government Access Programming (PEG).....	42
Government Access	42
Educational Access	43
Local Community Programming	43
Electronic Program Guide/Menu	43
Funding PEG Access Programming	44
Internet Service in the Home	44
Final Comments	44
Summary	44

SECTION B

COMMUNITY ORGANIZATION NEEDS ASSESSMENT.....	45
COMMUNITY ORGANIZATION NEEDS ASSESSMENT.....	46
Introduction and Methodology	46
Key Findings.....	47

SECTION C

PUBLIC, EDUCATIONAL AND GOVERNMENT (PEG) ACCESS NEEDS ASSESSMENT	50
PUBLIC, EDUCATIONAL AND GOVERNMENT ACCESS COMMUNITY NEEDS ASSESSMENT	51
Introduction and Methodology	51
Findings – Government Access	53
Overview of CVTV.....	53
Interviews and Focused Discussions Concerning Vancouver/Clark County Government Access ..	54
Findings – Educational Access	59
Overview of TV ETC’s Educational Access Channels and School District Video Production Partners	59
Battle Ground Public Schools.....	60

Evergreen Public Schools	60
Vancouver Public Schools	61
Focus Group with TV ETC and School District Personnel	61
Focused Discussion with Representatives from Battle Ground Public Schools	65
FACILITY AND EQUIPMENT NEEDS	67
Equipment Baseline Definitions	67
High Definition and Distribution Options	67
EQUIPMENT DESCRIPTION SUMMARY	69
Field Acquisition.....	69
Post Production	69
Infrastructure.....	69
General Production Requirements-Storage and Playback Requirements	69
Studio/Studio Control	70
Council Chambers/Council Chamber Control Room	70
School Board Room/School Board Room Control.....	70
Ancillary Equipment.....	70
Installation/Training/Warranty	70
Sales Tax	71
Replacement and Purchase Strategies.....	71
ENTITY SPECIFIC EQUIPMENT NEEDS	72
CITY OF VANCOUVER/CLARK COUNTY (CVTV)	72
Field Acquisition.....	72
Post Production	73
Infrastructure.....	73
General Production Requirements-Storage and Playback Requirements	74
Studio/Council Chambers/Aspen Room/Combined Control	74
Vancouver Community Library	75
Clark County Meeting Rooms	76
Ancillary Equipment.....	77
THE VANCOUVER EDUCATIONAL TELECOMMUNICATIONS CONSORTIUM (TV ETC) ..	78
Field Acquisition.....	78
Post Production	79
Infrastructure.....	79

General Production Requirements-Storage and Playback Requirements	79
Columbia/Pacific Rooms/Control Room	80
Ancillary Equipment	80
BATTLE GROUND PUBLIC SCHOOLS	81
Field Acquisition	81
Infrastructure	82
General Production Requirements-Storage and Playback Requirements	82
Studio/Studio Control	82
Ancillary Equipment	83
EVERGREEN PUBLIC SCHOOLS	84
Field Acquisition	84
Post Production	85
Infrastructure	85
General Production Requirements-Storage and Playback Requirements	85
District Studio/District Studio Control Room	86
High School Studios/High School Studio Control Rooms	86
District Stadium Control Room	87
High School Auditoriums (5 Total)	88
Ancillary Equipment	88
VANCOUVER PUBLIC SCHOOLS	89
Field Acquisition	89
Post Production	90
Infrastructure	90
General Production Requirements-Storage and Playback Requirements	90
Sports Studio/School Board Room/Combined Control Room	91
School Studios/School Studios Control Rooms	92
Ancillary Equipment	94
PEG ACCESS NEEDS ASSESSMENT CONCLUSIONS AND RECOMMENDATIONS	95

- Exhibit A-1 – Vancouver/Clark County Cable-Related Residential Subscriber/Non-Subscriber Written Survey Markup
- Exhibit A-2 – Vancouver/Clark County Cable-Related Residential Subscriber/Non-Subscriber Online Survey Markup
- Exhibit C – Vancouver/Clark County Educational and Government Access Equipment and Facilities Upgrade and Replacement Spreadsheets

EXECUTIVE SUMMARY

CBG Communications, Inc. (CBG) in conjunction with its Team Partners, Constance Book, Ph.D., President of Telecommunications Research Corporation, and Carson Hamlin, Video Engineer/Media Integration Specialist, has conducted a cable-related Community Needs and Interests Ascertainment, including a Residential Community Needs Assessment, a Community Organization Needs Assessment, and a Public, Educational and Government (PEG) Access Needs Assessment, concerning the Comcast cable television system serving the City of Vancouver (City) and Unincorporated Clark County (County), Washington. This Community Needs Ascertainment, review and related research have been conducted as part of cable franchise renewal proceedings with the local cable television provider, Comcast.

The full results of the Residential Community Needs and Interests Assessment, Community Organization Needs Assessment, and PEG Access Needs Assessment are presented in the Report that follows and provide a wealth of information for the City, the County, and the City/County Telecommunications Commission (CCTC) regarding issues of significance to the residents and organizations in the City/County Comcast franchise area, related to cable communications and, correspondingly, the ability of the cable system and Comcast to meet demonstrated needs and interests. The key findings, recommendations and observations discussed in this summary and in the full Report are based on an extensive data collection including, but not limited to, the following:

- A written Residential Community survey of cable-related needs and interests randomly distributed to 4,000 households within the City and the Unincorporated County. Of the 4,000 mailed surveys, a total of 598 were returned for a total response rate of 15%. Of the 598 respondents, 235 (39%) were Comcast cable television subscribers and 363 (61%) were non-cable subscribers, including many that were previous Comcast cable subscribers.¹ Overall, the information obtained provides a substantial amount of statistically valid data on City/County residents' needs, interests, attitudes and opinions related to both cable television and broadband services in general and Comcast specifically.
- An online Residential Community survey of cable-related needs and interests. Five hundred and thirty-two (532) residents responded to the online survey from throughout the City/County cable franchise area. Fifty-eight percent (58%) or 306 of the online survey respondents reside in the City, and 42% or 226 live in Unincorporated Clark County. Of these, 527 chose to provide their cable subscriber information, and fifty-four percent (54%) or 285 online survey respondents were Comcast cable subscribers while forty-six percent (46%) or 242 were non-subscribers to Comcast cable television. Overall, the findings from the qualitative online survey, when added to the statistically valid written survey findings, help present an informative and detailed picture of residential cable-related needs and interests in the City and County.

¹ The distribution of Comcast cable subscribers and non-cable subscribers was consistent with what would be expected from a random sample of the Vancouver/Clark County household population, taking into account the timeframe for the residential telephone survey and the survey margin of error.

- Discussions with, and a survey of Community Organizations concerning the needs of neighborhoods, youth, arts & cultural organizations, civic-oriented organizations and others regarding PEG Access, as well as cable television and broadband service in general.
- Discussions with, and review of information provided by, City/County Government Access television (CCTV) management and staff, as well as a focused discussion with government agency representatives related to the programming provided by CCTV over two SD/HD access channels on the Comcast system.
- Discussions with, and a review of information provided by, representatives of Educational Service District (ESD) 112 and its Educational Access television hub organization (TV ETC) and three (3) of the school districts in Vancouver and Clark County – Battle Ground Public Schools (BGPS), Evergreen Public Schools (EPS) and Vancouver Public School (VPS) – which produce the lion's share of the programming for the three (3) TV ETC channels (two in SD and one in SD/HD), concerning current and projected Educational Access program production and distribution over TV ETC.
- On-site visits to the current City/County Government and Educational Access programming production and origination locations, including: CCTV's production facilities, production areas in City, County and regional government agency facilities, and TV ETC and individual school district programming production facilities, including TV ETC's master control/playback area, and a variety of Board rooms, meeting rooms, auditoriums, studios, and sports stadium locations throughout the area covered by BGPS, EPS, and VPS.
- A review of a significant amount of existing and historical data related to the needs and interests of a variety of diverse communities within the City/County, that was provided by CCTV, TV ETC and the individual school districts.

The analysis of this data enabled CBG and its Team Partners to focus on many elements related to a renewed cable franchise.

First, CBG and its Team Partners were able to assess needs and interests of the Residential Community. Specifically, we were able to review:

- The general level of satisfaction with Comcast
- Suggestions from both subscribers and non-subscribers on how to improve the services provided by Comcast
- Service availability
- The quality of specific cable service features and characteristics
- Ratings of communication experiences with Comcast
- Technical issues, including subscriber experiences with outages, picture and sound quality and restoration of services
- Viewership of and support for local community programming provided by CVTV and TV ETC
- The types of local programming that City and County franchise area subscribers want to see more of

Regarding the needs of Community Organizations, our analysis enabled us to review:

- Needs related to system build-out to expand the availability of cable television and broadband services to outlying areas of the County
- Technical issues with the cable system experienced by those living in certain neighborhoods within the County
- The importance of the community-oriented programming that CVTV provides, its partnerships with community organizations and the potential for the provision of local public/community access services.

Regarding PEG access and local community programming, the research methodologies utilized enabled CBG to review:

- The amount and type of Educational and Government Access programming currently provided over the CVTV and TV ETC Channels
- The need for expansion in content delivery capabilities, such as expanded, cable-based, EG video on demand (VOD) and HD provision for all PEG Channels
- The need for new, upgraded and replacement equipment, for each of the program producing and providing entities that contribute to productions for the CVTV and TV ETC Channels

Detailed Findings along with Conclusions and Recommendations are incorporated in the full Report. The key Findings, Conclusions and Recommendations for consideration by the City, County and CCTC are the following:

Residential Community Needs Assessment

- Thirty-seven percent (37%) of Comcast cable subscribers were not satisfied with Comcast cable service, including 11% being very dissatisfied. Those that rated cable service more negatively indicated that the primary reason was related to the cost of service, without a commensurate value. Survey respondents also indicated that their satisfaction rating would improve if Comcast offered a la carte programming and improved customer service.
- Regarding technical issues, 29% of Comcast cable subscribers indicated that they had experienced some type of technical difficulty with picture quality, audio or a general reception problem. Further, nearly half (49%) of Comcast cable subscribers had experienced cable signal outages for a period of fifteen minutes or more while they still had electricity. Outages were also the number one reason for calling, emailing, or chatting with Comcast's customer service at 47% of those who had contacted Comcast. These responses demonstrate a need to focus on system technical quality and reliability.
- Seventy-five percent (75%) of Comcast cable subscribers had called, emailed or chatted with Comcast's customer service operation in the past twelve months (May 2020 – June 2021). Beyond the primary reason for contacting Comcast (cable outages), nearly as many (44%) contacted Comcast customer service regarding billing questions and complaints and 29% contacted Comcast about other signal quality problems.

- Forty-three percent (43%) of Comcast cable subscribers were dissatisfied with the ability to get through to Comcast on the phone, including 24% that were very dissatisfied. Resolving the issues that are resulting in calls, emails and online chats to customer service will also likely help improve overall satisfaction with Comcast.
- Three percent (3%) to 4% of all Comcast cable subscribers reported watching the EG access channels on at least a weekly basis (including 1% that watched daily). An additional 5% to 8% watch the channels on a monthly basis. Although these percentages may at first appear to be low, they instead demonstrate substantial viewership. In fact, many commercial cable channels have average daily viewership of less than 2%. Accordingly, it is important to keep in mind that the cable television business model is rooted in niche channels, rather than mass appeal.
- For Comcast subscribers who watch the local access channels, the vast majority (80%) indicated that it is valuable to have detailed descriptions of local access programming on Comcast's electronic programming guide/menu.
- A wide majority (76%) believe that it is important that the local EG access channels should continue to be available to all cable subscribers, regardless of how much they watch.
- Even when considering the niche nature of EG programming services and those subscribers that never watch the EG channels, nearly 6 in 10 (59%) Comcast cable subscribers indicated that it was important that a portion of their cable bill continue to support local access programming.

Community Organization Needs Assessment

- Participants in the focus group as well as survey respondents indicated that CVTV is a very important resource for community outreach and want to work with CVTV to provide even more community-oriented programming.
- Representatives from neighborhoods, especially in the northern part of the County, noted that there were technical problems with the system including outages. They noted that cable system infrastructure in outlying areas appears old and could be the problem behind "faulty transmission".
- Community organization representatives whose constituents don't have access to the Comcast cable system noted the critical need for cable system expansion. They stressed the need for the County to resolve this issue during the franchise renewal process.

PEG Access Needs Assessment

- The current provision of the CVTV and TV ETC channels is valuable to the City, the County, regional government agencies, community organizations and partners, educators, students and parents, residential viewers and others and should be maintained.

- There is this significant need to provide PEG Access programming in all forms and formats desired by City and County residents and program producers, including:
 - All PEG Access channels in High Definition
 - Additional EG programs available via cable-based video on demand
 - Potential capacity for programming developed by local individuals and organizations in the City and County
- New, upgraded and replacement equipment needs to be provided consistent with the needs demonstrated in the associated projections made, including:
 - To support the production of programming by CVTV for the benefit of the City, County, regional government agencies and community organization partners in government facilities, studio, and offsite locations and by portable and remote operations, \$3,225,110 is needed over the next 10 years.
 - To support TV ETC's master playback facility and equipment, and the individual school districts' Board room, auditorium, studio, stadium, field production and post production equipment, \$6,823,109 is needed over the next 10 years. This would provide funding for TV ETC and its programming hub functions, as well as individual program production throughout the schools and other facilities of the three major Educational Access program production providing school districts – Battle Ground Public Schools, Evergreen Public Schools and Vancouver Public Schools.
- The amount of funding over a 10-year period to support the equipment and facility needs of CVTV and TV ETC, then, totals \$10,048,219. Comcast, for the City and County, is currently providing \$1.00 per subscriber, per month in support of EG access. This amount is somewhat lower than the \$1.38 per subscriber, per month (based on current subscribership) that is needed to support the EG Access equipment and facilities projected.
- Additionally, certain I-Net-related costs are funded by the current \$1.00 per subscriber, per month. Accordingly, this amount for the I-Net going forward would need to be added on top of the necessary \$1.38 per subscriber, per month needed for EG Access funding support.

The Findings, Conclusions and Recommendations summarized above and fully detailed in the Report and Exhibits, provide a strong and sound basis for the City, County and the CCTC to go forward in franchise renewal proceedings and to ensure that the needs and interests of residents, organizations, PEG Access channel providers and program producers, institutions and other diverse communities of interest in Vancouver and Clark County are met in any renewed franchise with Comcast.

SECTION A

REVIEW OF CABLE-RELATED RESIDENTIAL COMMUNITY NEEDS AND INTERESTS

RESIDENTIAL COMMUNITY NEEDS ASSESSMENT

RESIDENTIAL COMMUNITY - WRITTEN SURVEY

Introduction

As part of cable television franchise renewal proceedings for the Vancouver/Clark County (“City/County”) franchise area, the City/County conducted a random sample Written Survey of Vancouver/Clark County residents that were Comcast cable television subscribers and non-subscribers to Comcast cable service to document needs and interests related to cable service. The following narrative summary reports on the findings and conclusions of the mail-out survey.

The findings are based on 598² Written Surveys returned from a random set of 4,000 Vancouver/Clark County residents in the Comcast franchise area, pulled using the current United States Postal Service’s direct mail database and compared with City and County maps to ensure that each of the addresses included in the study lived within the City/County cable television franchise area. The addresses were further delineated based on the proportion of population in the city and the Unincorporated County. The 4,000 surveys included 1,800 addresses from the City of Vancouver and 2,200 addresses from the Unincorporated County (including 1,500 from the Urban Growth Area). The surveys were mailed first class to community residents in an envelope with a City/County logo in June 2021 with a three-week return of June 22, 2021. During the implementation of the Written Survey, 369 Written Surveys were returned by the Post Office as either “Address Unknown”, or “Insufficient Address”, even though the addresses came from the USPS database. In order to ensure that all randomly sampled households were given an equal opportunity to participate, these 369 returned mailings were reviewed, the addresses were verified and then surveys were resent to the current resident to participate in the study with a return date of September 10, 2021. As of September 30, 2021, 598 surveys were returned, coded and analyzed for the purpose of preparing this report (15% response rate); 235 were Comcast cable subscribers and 363 were non-subscribers to Comcast cable³. Statisticians have created a confidence rating in field survey research based on sample size. A sample size of approximately 598 randomly sampled households provides for a margin of error of ± 4.00 percent with a 95% confidence interval.⁴

Also, important to note during the reading of this narrative is that numbers were rounded off to the nearest whole number at the 0.5 level. As a result, when considering the total percentages related to any given response the numbers reported will fall between 99-101%.

² A symbol of N will be used periodically throughout this report to denote total responses.

³ Based on the information available to CBG at the time the survey was conducted, the percentage of subscribers/non-subscribers reflects the Comcast cable service penetration rate within the Vancouver/Clark County franchise area.

⁴ <https://surveysystem.com/sscalc.htm>; The margin of error for the cable subscribers sub-sample equal to 235 is $\pm 6.39\%$ with a 95% confidence interval, and the margin of error for the non-subscribers to Comcast cable services sub-sample equal to 363 is $\pm 5.13\%$ with a 95% confidence interval.

The survey instrument was designed to test community cable-related needs and interests and asked City/County residents to respond to a series of 35 questions related to a variety of cable-related issues. This included questions related to educational and government (EG) access programming that appears on the local access channels in the City/ County franchise area. The survey instrument was designed by CBG Communications and Dr. Constance Book with consultation, assistance and approval of representatives of the City/County.⁵

At the close of the survey, respondents were asked an open-ended question if there were any additional comments they would like to add about Comcast and its services and 28% of survey respondents added additional thoughts (N=168)⁶.

The survey instrument used during June of 2021⁷ was specifically designed to examine multiple areas of Comcast cable communications services. These included, but were not limited to:

- Respondents' familiarity and experiences with their Comcast cable provider.
- Reasons non-subscribers do not subscribe to Comcast cable television services or stopped subscribing to Comcast cable television services.
- Amount of the average monthly Comcast cable bill (all services, taxes and fees).
- Type of Comcast cable package subscribed to by respondents.
- High-speed Internet (broadband) services subscribed to with Comcast
- General level of satisfaction with Comcast.
- Suggestions on how to improve the services provided by Comcast.
- Quality of specific service features provided by Comcast.
- List of specific channels with technical issues.
- Ratings of communication with Comcast, including customer service provided by Comcast.
- The number of cable outages and subscriber experiences with restoration of services.
- Awareness and opinions of education and government access programming currently offered and future interest in local community programming.
- Evaluation of the programming's informational and educational value.
- The types of local community programming that subscribers would like to see more of.
- Importance of having local access programming available on the Comcast cable system.
- Importance of having detailed local community programming descriptions provided on the electronic program guide/menu.
- The presence of Internet services in the home in Vancouver/Clark County.

⁵ See Report Exhibit A-1 for the Vancouver/Clark County Cable-related Residential Subscriber/Non-Subscriber Written Survey Markup for individual question construction and a full summary of the results of the residential survey by question.

⁶ A full list of their comments combined into similar categories can be found in Exhibit A.

⁷ Three hundred and sixty-nine (N=369) surveys were returned by the Post Office as undeliverable. Addresses were verified and surveys were remailed to the current residents at the randomly selected addresses in August of 2021.

RESIDENTIAL WRITTEN SURVEY FINDINGS – CABLE SUBSCRIBERS AND NON-SUBSCRIBERS

Sample Description

The responding sample consisted of 598 randomly selected residents in the Vancouver/Clark County franchise area served by Comcast. Detailed instructions were provided to ensure that respondents only included those who made or equally shared in the decision as to whether the household subscribed to cable television service or did not subscribe. Respondents were also required to be 18 years or older. Zip codes were reviewed to ensure that all surveys returned and analyzed were from the City of Vancouver/Unincorporated Clark County franchise area.

The average age of the respondent was 59.7 years old and the range of ages responding to the survey was 19 years old to 92 years old.

Before launching into a summary of the findings, the reader would benefit from an understanding of who responded to the Written Survey.

Demographics

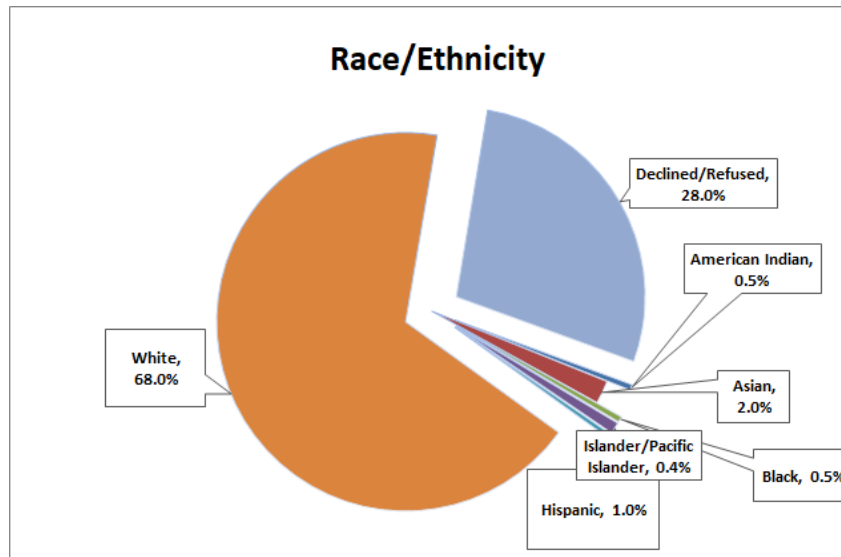
The sample was not specifically controlled for gender, and the final results were slightly weighted toward men. Fifty-one percent (51%) of the responding sample was male and forty-nine percent (49%) was female. Although the non-response rate to this question was 19%, the 2020 Census in Vancouver/Clark County reports the female adult population in Vancouver and Clark County to be 50.6% and 51.1% respectively.

The majority of the respondents reported they were White (68%)⁸ in the sample. Two percent (2%) reported that they were Asian. Hispanic accounted for one percent (1%), and Black and American Indian were each reported by 0.5%. Pacific Islander/Islander was reported by 0.4%. Twenty-eight percent (28%) opted not to respond to the question.⁹

⁸ When taking into account the total survey response number (N=598) the Caucasian only response percentage is within the margin of error for the City of Vancouver per the 2020 census at 71.5% of the population.

⁹ Twenty-eight percent (28%), or N=166 chose not to provide their race or ethnicity. This, as in other sensitive areas such as income which also had a substantial non-response rate, resulted in the survey respondents falling differently in a number of demographic groups when compared to the 2020 Census. Research provides evidence that younger respondents, women, people of color, less educated and lower income brackets are likely not to respond to demographic questions. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5844486/> ; <https://thedocs.worldbank.org/en/doc/708511466183857404-0050022016/original/paperreyes.pdf> ; https://nces.ed.gov/FCSM/pdf/IHSNG_asa02_DG.pdf

Figure 1. Respondents by Race



A majority of Vancouver/Clark County respondents owned their home (90%) and 1 in 10 (10%) reported renting. Additionally, nearly 1 in 4 respondents (22%) have children under the age of 18 living in their home. Eight percent (8%) of respondents to the survey declined to answer this question.

Even though the non-response rate was high related to income (41%), the sample (N=352) represented a diverse range of annual household income levels. Seven percent (7%) indicated earning an annual income of \$25,000 and under, whereas at the high end of the range nineteen percent (19%) of the sample had an income of \$150,001 or more. Seven percent (7%) reported an annual income between \$25,001 and \$35,000. Eleven percent (11%) had an income between \$35,001 and \$50,000. Fifteen percent (15%) reported an annual income between \$50,001 and \$75,000. Twenty-one percent (21%) indicated an income between \$75,001 and \$100,000. Twenty-two percent (22%) indicated an income between \$100,001 and \$150,000.

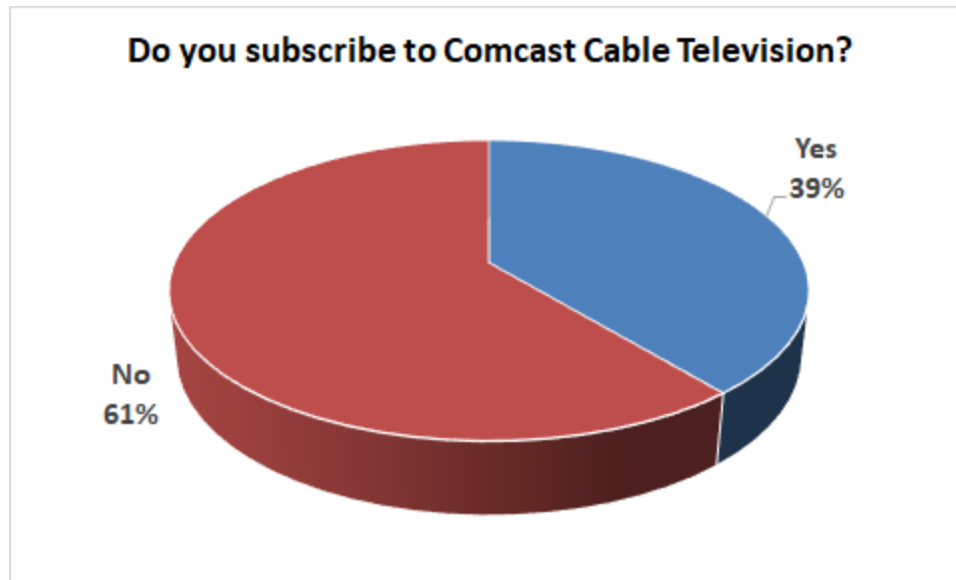
Respondents were asked to indicate the highest level of education they had completed. While 14% of respondents chose not to respond to this question, of those that did respond (N=516), 13% were high school graduates, 26% had some college or trade school, 46% held a four-year college degree and some post-graduate work, and 19% had a Master's degree or higher.

We also queried the sample to describe their current employment. Although eleven percent (11%) chose not to answer this question, 531 survey respondents did. Out of those, fifty-three percent (53%) indicated they were employed, twenty-five percent (25%) indicated they were retired, and 22% indicated they were not employed.

Cable Television Service

Of the 598 respondents, 39% indicated that they subscribe to Comcast cable television service in the Vancouver/Clark County Franchise area.¹⁰ This is similar to the national average. The National Cable Television Association (NCTA) currently reports that 47 million households subscribe to cable television service¹¹, reflecting 38.8% of Nielsen's estimate of television households in the United States.

Figure 2. – Cable Subscription in Vancouver/Clark County



Non-subscribers to Comcast Cable Television Service

Non-subscribers to Comcast cable (N=363) were asked for what reason(s) they chose not to currently subscribe to Comcast cable television service. A selection of reasons was provided for ease of answering, as well as an open ended “other” category, so that non-subscribers could report their own reasons if none of the topic categories provided fit their reason. The reason(s) reported were both personal and specifically related to Comcast service and its availability. The personal choice reasons selected from offered topics and those also reported by respondents included: “I watch streaming services instead” (38%); “I had Comcast but disconnected” (28%), “I don’t want cable TV” (26%), “I watch over-the-air broadcast TV” (18%), “I have never subscribed to Comcast cable TV” (16%), “I subscribe to satellite TV” (15%), and “I don’t watch TV” (7%). The reason(s)

¹⁰ The response from Comcast cable subscribers to the survey is proportional to Comcast’s overall subscribership in Vancouver/Clark County, taking into account the timeframe when the survey was conducted and its margin of error. Both the “N” number responding and the percentage of Comcast cable subscribers reporting data for each question can be found in Exhibit A-1 Vancouver/Clark County Cable-related Residential Subscriber/Non-Subscriber Written Survey Markup. -

¹¹ These metrics are from S&P Global Market Intelligence-Kagan, June 2020, which is the last time cable TV service-only stats were reported as part of the national operating metrics on the NCTA’s website.

provide specifically related to Comcast cable TV services and availability included: “the cost is too high” (59%), “there is nothing to watch/poor content” (8%), “too many service issues” (5%), “I object to the programming” (4%), and “Comcast is not available in my area” (19%). Specific neighborhoods that were mentioned in the Unincorporated Clark County included but were not limited to Amboy, Brush Prairie, and Yacolt. Neighborhoods mentioned in the City of Vancouver included but were not limited to: NW 157th Street, T Street, and Rose Village. A full list is available in Exhibit A-1.

Those who had **previously subscribed** to Comcast cable television services (N=102) but were not currently subscribing reported both cable-related reasons and personal preferences for no longer subscribing to Comcast cable TV services. When looking at the reasons that can be addressed by Comcast, previous subscribers were most likely to report that they discontinued service because of Cost (86%), followed by service issues (11%), object to programming (8%), and poor content/nothing to watch (8%). Three percent (3%) indicated it wasn’t available where they were currently. When we look closer at previous subscribers’ personal preference reasons for no longer subscribing, 45% watch streaming video services instead, twenty-four percent (24%) indicated that they don’t want cable TV, 22% watch over-the-air broadcast TV, 17% indicated that they chose to switch to satellite television, and 5% don’t watch TV anymore. It is notable that the top reason for unsubscribing is within the control of Comcast.

When testing Internet services that residents might receive from Comcast, thirty- six percent (36% / N=132) of non-subscribers to Comcast cable services (N=363) chose to subscribe to Xfinity High-speed Internet services (Broadband).

Subscribers to Comcast Cable Television

Comcast subscribers (N=235) were asked how long (in years) they subscribed to Comcast cable services in Vancouver/Clark County. The range of responses was from less than one year to 63 years.¹² The average response was 13.4 years, and the most common response was 20 years. The average respondent, then, demonstrates a substantial amount of experience with Comcast as their cable service provider.

Eighteen percent (18%) of Comcast cable subscribers reported having limited basic cable television service that has the broadcast networks and a minimum number of cable channels. The next most common Comcast cable service package subscribed to by respondents was their “Digital Preferred TV” package or higher tier of service (56%) which provides 220 channels or more. Nineteen percent (19%) indicated that they subscribed to the “Digital Starter” package and 26% of subscribers reported having premium channels such as HBO and Showtime.¹³

¹² Some respondents noted a length of time subscribing to Comcast beyond the length of time that Comcast has been in the City/County. These subscribers likely previously subscribed to cable providers that preceded Comcast and included their time in their answer.

¹³ Comcast packages named in the survey were confirmed as being offered during the time the survey was performed. Package names may have changed since the implementation of the survey.

Additionally, 91% of all Comcast cable subscribers indicated subscribing to Comcast broadband/cable modem services (N=213). For the remaining Comcast cable television subscriber respondents (N=22), two percent (N=4 / 2%) reported having such service with an alternative provider. Six percent (N=13 / 6%) of Comcast cable subscribers report not having Internet access available at home. Additionally, two percent (N=5 / 2%) of Comcast cable subscribers declined to answer this question.

Among all respondents to the survey, 11% (N=64) of those surveyed reported not having Internet services in the home. According to the US Census, the percentage of households with a Broadband/Internet subscription (five-year estimate 2015-2019) was 87.5% in Vancouver and 90.1% in Clark County¹⁴, which is almost the same penetration of Internet subscription service reported by survey respondents. The percentage of survey respondents not having Internet service in the home, is slightly higher than recent Pew Internet and American Life national adoption tracking data¹⁵ which was updated in April 2019 and showed 10% of Americans had not adopted Internet service at home.

The average monthly Comcast bill self-reported by Comcast cable subscribers surveyed is \$195.48 (including all services, taxes and fees). The most commonly self-reported Comcast bill (the mode) among subscribers was \$200 a month, with Comcast bills ranging from \$35 to \$500 a month.¹⁶

<p>Average Monthly Comcast Cable Subscriber Bill, including all services (cable television, cable modem and cable telephone) and fees = \$195.48 per customer</p>
--

It should be noted that the more people pay for Comcast cable services, the significantly more likely they are to report being less satisfied with the service.

Overall Satisfaction with Comcast Cable Service

A majority, or fifty-one percent (51%), of Comcast cable subscriber respondents that chose to answer the question (N=224) reported they are “satisfied” with their cable television service, and twelve percent (12%) of Comcast cable subscribers described themselves as “very satisfied”, for a total of 63% reporting they were either “satisfied” or “very satisfied”. Over 1 in 4 (26%) reported that they were “dissatisfied” and eleven percent (11%) reported that they were “very dissatisfied”,

¹⁴[U.S. Census Bureau QuickFacts: Vancouver city, Washington; Clark County, Washington; Washington](#). Sources: U.S. Census Bureau, American Community Survey (ACS), 5-Year Estimates. The computer and Internet use questions were added to the ACS in 2013 and were mandated by the 2008 Broadband Improvement Act. Data about computer and Internet use were asked of all occupied housing units.

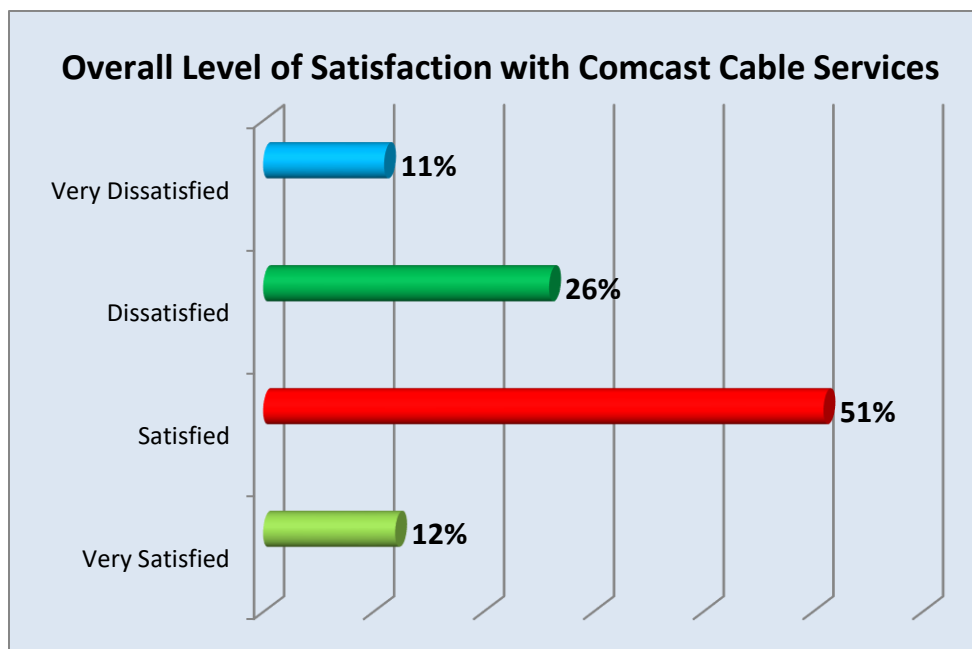
The computer use question asked if anyone in the household owned or used a computer and included four response categories for a desktop or laptop, a smartphone, a tablet or other portable wireless computer, or some other type of computer. The Internet question asked if any member of the household accesses the Internet. “Access” refers to whether or not someone in the household uses or connects to the Internet, regardless of whether or not they pay for the service.

¹⁵https://www.pewresearch.org/fact-tank/2019/04/22/some-americans-dont-use-the-internet-who-are-they/ft_19-04-22_noninternetusers_bar/.

¹⁶ This figure includes all services: cable television, broadband / internet and telephone.

for a total of 37% of Comcast cable subscribers reporting that they were either “dissatisfied” or “very dissatisfied.”

Figure 3. – Overall Satisfaction with Comcast Cable Service



Thirty-seven percent (37%) or over 1 in 3 Comcast cable television subscribers who indicated being “dissatisfied” or “very dissatisfied” with their cable service (N=83), were asked if there was anything the company could do better to improve their rating. Most often, dissatisfied subscribers said the company’s overall rating could be improved if rates were lowered (58%). They also suggested that the company offer a la carte channel selection (15%), followed by having better customer service (10%) and better Internet service (10%). Others also mentioned better equipment and better programs, improve consistency in service, and provide promotions for older customers.

Overall satisfaction with Comcast cable service was further analyzed to see if there was a difference between Comcast subscribers in the City and Comcast subscribers in the County. As shown in the charts below, City subscribers are more satisfied and very satisfied (combined 69%) than County subscribers at 58% satisfied/very satisfied.

Table 1: City Subscribers N=98

Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
12%	57%	24%	7%

Table 2: County Subscribers N=126

Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
11%	47%	28%	14%

To more fully understand the results of the residential survey in the City and County, an analysis of variance between tested items was conducted.¹⁷ This allows for an understanding of what questions are related to each other.

The overall reported satisfaction of Comcast cable television services was significantly related to:

- a. **The cost of cable television services.** The more people pay for Comcast cable television services, they are significantly more likely to report being less satisfied with the service.
- b. Cable television subscribers that reported **high levels of satisfaction with cable television picture quality, sound, programming packages available, reliability, phone customer service availability, location and hours of the cable office**; were significantly more likely to report overall higher levels of satisfaction with Comcast cable television service. *The opposite is true as well.* Cable subscribers that rated their satisfaction with these characteristics of cable television service as lower, were significantly more likely to report lower overall satisfaction with Comcast cable television service.
- c. Cable television subscribers that **reported contacting the cable television company through calling, emailing or chatting** were significantly more likely to report less overall satisfaction with Comcast.
- d. Cable television subscribers that **reported experiencing outages in the last 12 months** where they had lost their cable television signal for 15 minutes or more while they still had electricity were significantly more likely to report lower overall satisfaction with Comcast cable television services.
- e. Cable television subscribers who **reported not receiving a refund or credit** for the period of time cable television services were out, were significantly more likely to report higher levels of overall dissatisfaction with cable television services.
- f. Cable television subscribers that **reported other technical difficulties with cable service** were significantly more likely to report overall lower satisfaction with Comcast cable television services.
- g. Cable television subscribers that **reported lower satisfaction with tested service and installation features**, were significantly more likely to report overall lower satisfaction with Comcast cable television.

¹⁷ A one-way analysis of variance (ANOVA) is a statistical test to determine how tested items are related to each other and the strength of those relationships. For the purposes of this analysis only relationships that tested at the 90% probability are reported as significant. <https://www.scribbr.com/statistics/one-way-anova/>

- h. Cable television subscribers who **reported watching local education and government channels** at some level versus those that never watched were significantly more likely to report higher levels of overall satisfaction with cable television service.
- i. **Satisfaction with Comcast Internet services availability, reliability and cost** were all significantly related to overall satisfaction with cable television services.
- j. **Younger respondents (27 to 55 years old) to the Written Survey** were significantly more likely to report lower overall satisfaction with cable television services.
- k. **Households with lower annual incomes** were significantly more likely to report lower overall satisfaction with cable television services.
- l. **Vancouver subscribers who reported “working”** were significantly more likely to report lower overall satisfaction with cable television services.

Service Characteristics and Comcast’s Cable Office

Subscribers were asked to rate specific characteristics of Comcast’s cable television service. They were asked about, among others, the picture quality and sound level consistency within each channel, the reliability of their cable television service, the ability to get through to Comcast on the phone, the location of the Comcast cable office, and the hours the cable company office is open.

The following table details their responses to each of these questions on a scale from “very satisfied” to “very dissatisfied”:

Table 3. Satisfaction with Comcast Cable Service Characteristics and the local Comcast Cable Office in Vancouver/Clark County

Comcast Service Characteristics	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Don't Know/ Not Applicable
The picture quality N=222	37%	56%	5%	2%	NA
The sound level consistency within each channel N=222	25%	51%	19%	6%	NA
The cable programming packages available N=220	16%	40%	24%	21%	NA
The reliability of your cable television service N=223	25%	59%	10%	6%	NA
Your ability to get through to Comcast on the phone N=197	18%	39%	19%	24%	NA
Location of the cable company office N=179	24%	59%	14%	3%	NA
Hours the cable company office is open N=162	22%	65%	11%	3%	NA

Ninety-three percent 93% of Comcast cable subscribers indicated that they were “very satisfied” or “satisfied” with overall picture quality. Eighty-seven percent (87%) indicated being “very satisfied” or “satisfied with the hours the cable company office was open. Eighty-four percent (84%) of Comcast cable subscribers indicated being “very satisfied” or “satisfied” with the reliability of Comcast cable television service. Similarly, Comcast cable subscribers indicated that they were “very satisfied” or “satisfied” with the location of the Comcast cable office (83%). After this, most satisfaction rates fell into a range of between approximately two-thirds and three-quarters of subscriber survey requestion respondents. Specifically, 76% of Comcast subscribers who completed the question, were satisfied with the sound level consistency within each channel on the cable system. This means, though, of those Comcast cable subscribers that reported their satisfaction levels, almost 1 in 4 (25%) were not satisfied with Comcast’s sound level within each channel.

It should be noted that Comcast Cable television subscribers that reported lower satisfaction with the tested service features, were significantly more likely to report overall lower satisfaction with Comcast cable television.

Fifty-six percent (56%) of Comcast cable subscribers were satisfied with the cable programming packages available to them, leaving more than 2 in 5 (44%) dissatisfied (21% “very dissatisfied” and 24% “dissatisfied”).

Communications with Comcast

Fifty-seven percent (57%) of Comcast cable subscriber survey respondents were satisfied with the ability to get through to Comcast on the phone. This leaves more than 2 in 5 (43%) Comcast subscriber survey respondents not satisfied with the ability to get through to Comcast on the phone (24% “very dissatisfied”, 19% “dissatisfied”). Similarly, fifty-six percent (56%) of Comcast cable subscriber survey respondents were satisfied with the ability of Comcast to inform them regarding programming changes, leaving more than 2 in 5 (43%) dissatisfied (14% “very dissatisfied” and 29% “dissatisfied”).

Sixty-six percent (66%) of Comcast cable subscriber survey respondents were satisfied with the ability of Comcast to explain and address billing questions and complaints. This left 1 in 3 (34%) Comcast cable subscriber survey respondents dissatisfied with Comcast’s ability to explain and address billing questions and complaints (23% “dissatisfied” and 11% “very dissatisfied”).

Comcast’s communications with subscribers regarding rates changes earned the highest dissatisfaction scores. More than half (54%) of Comcast cable subscriber survey respondents were dissatisfied with this communication issue, including over 1 in 4 (27%) that indicated being “very dissatisfied.” Accordingly, a little less than one half (47%) of Comcast cable subscriber survey respondents reported that they were “very satisfied” or “satisfied” with the ability of Comcast to inform them regarding rates changes.

Table 4. Satisfaction with Comcast Cable Communications in Vancouver/Clark County

Communication Issues	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
The ability of Comcast to explain and address billing questions/complaints N=177	11%	55%	23%	11%
The ability of Comcast to inform YOU regarding programming changes N=170	9%	47%	29%	14%
The ability of Comcast to inform YOU regarding rate changes N=189	8%	39%	27%	27%

Service Call or Installation with Comcast

Comcast cable subscribers were asked to rate several service and installation features if they had a service call or installation in the past twelve months (June 2020 – May 2021).

The following table details their responses to each of these questions on a scale from “very satisfied” to “very dissatisfied”:

Table 5: Satisfaction with Comcast Cable TV Service/Installation Issues in Vancouver/Clark County

Service/Installation Issues	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
The available times for installation or service N=81	24%	61%	14%	3%
The arrival time of the service technician N=81	31%	61%	7%	1%
The ability of the technician to complete your request during their first visit. N=82	30%	56%	12%	2%

Eighty-five percent (85%) of Comcast cable subscriber survey respondents indicated that they were “very satisfied” or “satisfied” with the available times for service and eighty-six percent (86%) of Comcast cable subscriber survey respondents indicated that they were “very satisfied” or “satisfied” with the ability of the technician to complete their request during their first visit.

The arrival time of the service technician scored the highest satisfaction rating among Comcast cable subscriber survey respondents at 92%.

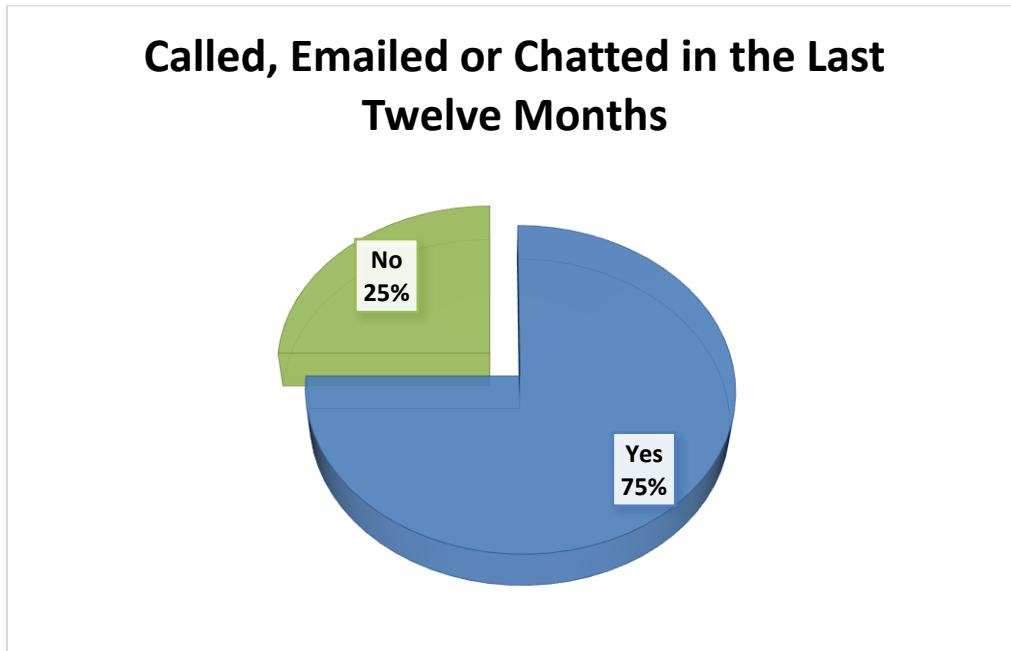
The available times for installation or service scored the highest dissatisfaction ratings among Comcast cable subscriber survey respondents at 17%.

It should be noted that Comcast Cable television subscribers that reported lower satisfaction with tested service and installation features, were significantly more likely to report overall lower satisfaction with Comcast cable television.

Calls, Emails or Chatting with Comcast

Comcast cable subscribers were asked if they had called, emailed or chatted with Comcast in the past twelve months (June 2020 to May 2021). Seventy-five percent (75%) said yes.

Figure 4: Comcast Cable Subscribers Who Called, Emailed or Chatted During the Past Twelve Months



Comcast cable subscribers who called, emailed or chatted with the company during the past twelve months (N=176) were asked the reason(s) for their call, email or chat. The most common reason for contacting Comcast was to report a *cable outage or loss of signal* (47%). This was followed by *to discuss a billing question or complaint* (44%) and *to change their type of service subscribed to or change their tier of service/package* (30%). Twenty-nine percent (29%) reported a *signal quality problem with picture or sound* and twenty-eight percent (28%) reported a *problem with their broadband service*. The chart below details all the reasons that subscribers contacted Comcast.

Table 6: Called, Emailed, or Chatted with Comcast

Percentage of Subscribers who Contacted Comcast	Reason for Calling, Emailing or Chatting
47%	Cable outage/Loss of signal
44%	Billing questions/complaints
30%	To change type of service subscribed to (Change tier/package)
29%	Signal quality problems (Picture, Sound)
28%	Problem with broadband service
14%	Problem with digital set-top
8%	Problem with installation
6%	Request additional programming (channel or program)
5%	Request broadband service
2%	Order Pay-Per-View event
1%	Don't know/Don't remember

The City/County has an active cable franchise administration and oversight component, which pursues complaints that it receives concerning cable providers. Accordingly, between the twelve months that we asked subscribers to report on (May 2020 through June 2021), fifty-six (56) complaints received by the City/County cable television office regarding Comcast were reviewed to identify any correlation with the information provided by survey respondents. The majority were related to billing issues (48%), followed by service, installation, and extension issues (34%); poor customer service or just not getting through to customer service (16%); and 2% complained about Comcast having a monopoly in the area forcing cable, phone and Internet service rates to be unreasonable. Together with the issues noted regarding technical difficulties and communicating with Comcast, these indicate areas of concern that need to be addressed.

Comcast cable subscribers that contacted Comcast (called, emailed, or chatted) were asked how soon after they called, emailed or chatted to report the problem or request service did Comcast begin working on that problem or service request. Sixty-one percent (61%) of Comcast cable subscriber survey respondents that contacted Comcast said the cable company began working on their problem or service request “the same day it was reported”.

Sixteen percent (16%) of Comcast cable subscriber survey respondents said the cable company began working on the problem or service request “the next business day”. Ten percent (10%) reported “days later”, three percent (3%) indicated it was “about a week later” and two percent (2%) said it was “about a month later.” Eight percent (8%) of Comcast cable subscriber survey respondents that called, emailed or chatted with Comcast to report a problem or request service said the problem or service request was “never worked on”.

The FCC benchmarks for customer service stipulate that the cable company must begin working on outages within 24 hours of problem notification and must begin working on resolution of other

problems “the next business day after learning of them.”¹⁸ Based on our findings, 23% of Comcast cable subscribers in Vancouver/Clark County that contacted Comcast to report a problem or request service reported that Comcast did not meet this FCC benchmark on customer service. These findings suggest customer care staffing may be falling short of meeting the FCC’s minimum standard.

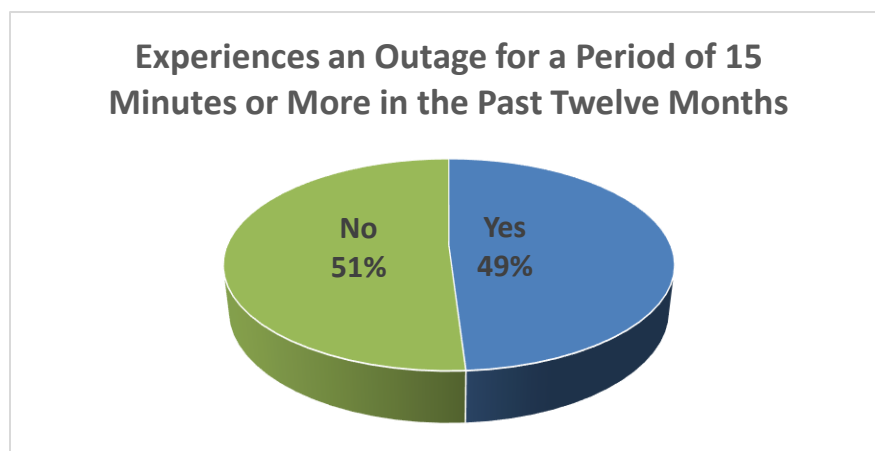
It should be noted that, Comcast cable television subscribers that reported contacting Comcast through calling, emailing or chatting were significantly more likely to report less overall satisfaction with Comcast.

Cable Signal Outages

Comcast cable television subscribers were asked if they had ever lost their entire cable signal during the past twelve months (June 2020 – May 2021), for a period of 15 minutes or more, while they still had electricity. Forty-nine percent (49%) of Comcast cable subscribers said that they had lost their entire cable signal in the last twelve months for a period of 15 minutes or longer while they still had electricity.

These subscribers were then asked to estimate how many times in the past twelve months they lost their entire cable signal for a period of 15 minutes or more. Comcast cable subscriber survey respondents that experienced such an outage reported an average of 4 service outages. The most common number of outages experienced was two and the range of outages provided by Comcast cable subscriber survey respondents was 1 to 48 outages. Analysis indicates that Comcast cable subscribers who experienced higher outage rates reported overall dissatisfaction with their Comcast cable service. In other words, a high number of outages is significantly related to overall dissatisfaction.

Figure 5. Comcast Cable Subscribers Who Experienced an Outage in the Past Twelve Months



¹⁸ The Federal Communications Commission (FCC) customer service standards for cable television can be found at <http://www.fcc.gov/guides/customer-service-standards>. FCC standards are incorporated into Comcast's Vancouver/Clark County franchise.

Comcast cable subscribers that experienced an outage in the past twelve months also reported a dissatisfaction rate of 35% with the length of time it took to restore their service.

These same Comcast cable subscribers were also asked if they had received a refund or credit for the period of time they went without cable television service. Ten percent (10%) of Comcast cable subscriber survey respondents who experienced an outage reported that they received a refund or credit. This leaves 90% who did not receive a credit or refund.

Comcast cable subscribers were also significantly more likely to report lower overall Comcast cable television service satisfaction because of reported outages and not having received a refund or credit.

Picture Quality

Comcast cable subscribers were asked if they had experienced any other technical difficulty with their cable service, such as picture quality, audio problems, or overall reception. Twenty-nine percent (29%) responded “Yes”.

These Comcast cable subscribers (N=66) were then asked to explain the technical difficulties and note the specific channels they experienced difficulties with. In regards to the technical difficulties experienced, ten percent (10%) reported *Bad Reception*, another 10% reported *DVR problems*, while still another 10% reported *that their TV screen wouldn't work*. Nine percent (9%) reported each of the following technical categories: *Lost Audio*, *Box Malfunction*, and *Pixelating Picture*. The Table below lists the different technical difficulties Comcast cable subscribers reported.

Table 7: Technical Difficulties Experienced by Comcast Cable Subscribers

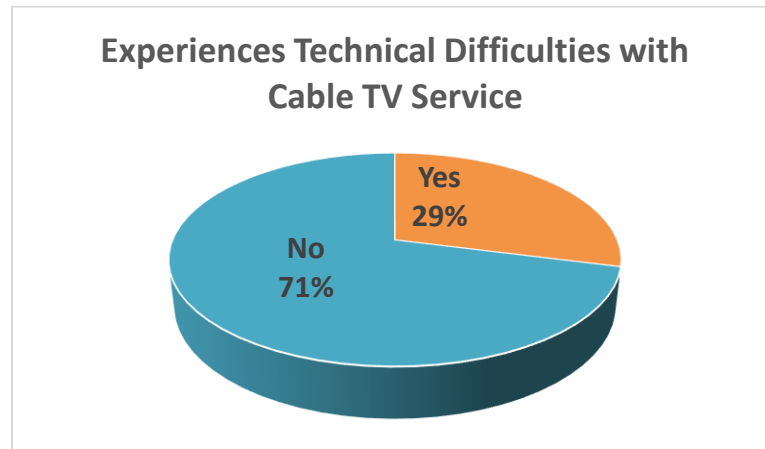
Cable Subscribers	Technical Difficulty Reported
10%	<i>Bad reception</i>
10%	<i>DVR problem</i>
10%	<i>Screen not working</i>
9%	Lost audio
9%	Box was malfunctioning
9%	Pixelating picture
9%	Equipment needed replacing
7%	Bad technical service
5%	Cable goes in and out

This group of Comcast cable subscribers also mentioned experiencing these technical difficulties on: “All Channels”, sports channels, On demand function, Channel 103, and Channel 12.

These Comcast cable subscribers were then asked how often they had technical difficulties with their cable service. Thirty-two percent (32%) described the problem as “a few times a month”, and twenty-three percent (23%) described the problem as “rarely.” Nineteen percent (19%) indicated

that the technical difficulties occurred “constantly”, and sixteen percent (16%) described the technical difficulties as occurring “every few days.”

Figure 6. Comcast Cable Subscribers Who Experienced Technical Difficulties with Cable TV Service



Here it should be noted that Comcast subscribers experiencing technical difficulties with cable service were also significantly more likely to report higher levels of dissatisfaction with cable television service overall. If the problems were recurring (constantly/every few days), they were also significantly more likely to be dissatisfied.

Educational and Government (EG) Access Programming

All Comcast cable subscribers were asked about their viewership of the local community (EG) access programming appearing on the Comcast cable system in Vancouver/Clark County. This includes local Government access programming such as: live meeting coverage, hearings and forums; talk shows; local election coverage; community programming and shows like: “*Real Vancouver*” and “*Clark County Close Up*” and more that can be seen on Channels 21/321 and 23/323 (CVTV – Clark/Vancouver Government TV). Local Educational access programming includes shows such as: School Board meetings, District and School sports, concerts, special events, and young filmmaker projects; Classic Arts Showcase; “*STEM in 30*”, “*Sit-down with the Superintendent*” and more that can be seen on Channels 27, 28/328 and 29 (TV ETC – The Vancouver Educational Telecommunications Consortium).

Forty-five percent (45%) of Comcast cable subscribers reported watching CVTV at least once or twice a year; fifty-two percent (52%) of Comcast cable subscribers indicated that they never watch local community programming on CVTV; and four percent (4%) chose not to respond to the question.

Thirty-two percent (32%) of Comcast cable subscribers reported watching TV ETC at least once or twice a year; sixty-five percent (65%) of Comcast cable subscribers indicated that they never

watch local community programming on TV ETC; and four percent (4%) chose not to respond to the question.

When looked at together, forty-six percent (N=109 / 46%) of Comcast cable subscribers watch the local EG channels at least yearly. Regarding overall satisfaction and its relationship to EG Access channels, Comcast cable subscribers were significantly more likely to be satisfied overall with cable television service if they watched the local community access channels.

To provide perspective, viewership data is also presented below for the Government Access channel (CVTV) regarding the percentages of those Comcast Cable subscribers watching the Government channel.

Vancouver/Clark County Government Access TV (CVTV)

Local Government Access programming (CVTV) appears on local Comcast Channels 21/321 and 23/323 and is regularly viewed on at least a monthly basis by 11% of all Comcast cable subscriber survey respondents (N=226) in Vancouver/Clark County (1% Daily, 2% Weekly, and 8% Monthly). Thirty-five percent (35%) indicated that they watch at least once or twice a year and 54% of Comcast cable subscriber survey respondents indicated that they never watch CVTV.

Specifically, when measuring how frequently CVTV programming is viewed by Comcast cable subscribers (N=105 Comcast cable subscribers who watch CVTV at least yearly), three percent (3%) of such Comcast subscribers reported watching CVTV “Daily”, and another 4% described themselves as “Weekly” viewers. Eighteen percent (18%) reported watching the channel “Monthly”. Three in four (75%) indicated that they watched the channels once or twice a year.

When looking at CVTV viewership out of all cable subscribers, we see that the viewership is still substantial among the total population of subscribers who responded to the survey.

Table 8: Subscriber Viewership of CVTV – All Comcast Subscribers, All Comcast Subscriber Survey Respondents and All Comcast Subscribers Who Watch Yearly –

	Cable Subscriber Viewership	All Comcast Cable Subscribers (N=235)	All Comcast Cable Subscriber Viewership Survey Question Respondents (N=226)	All Cable Subscribers Who Watch CVTV Access Channels (N=105)
1	Daily	1%	1%	3%
2	Weekly	2%	2%	4%
3	Monthly	8%	8%	18%
4	Once or twice a year	34%	35%	75%
5	Never	52%	54%	NA
	No Response/Decline	4%	NA	NA

These numbers indicate a significant level of viewership for government access programming. The television ratings industry in the United States is led by Nielsen Media Research. Using homes outfitted with meters, Nielsen offers an array of ratings as a fee-based service to media companies. These rating numbers serve as the currency for advertising sales for commercial channels. Public, Educational and Government channels, as non-commercial channels, do not participate in Nielsen ratings. However, there is a benefit in understand how many cable households watch EG channels, and understanding relative comparisons of viewership with other channels. For example, by comparison, around the same time as the residential survey was in process (July 2021), the #1 cable channel, averaging 2.16% of the total households (in primetime; 1.24% over all day-parts) over that month, was Fox News.¹⁹

Another number generated by Nielsen is referred to as CUME, an acronym for “cumulative audience.” It is defined by the television industry as the total, non-duplicated audience for a program or channel over a given time period. CUME is expressed as a percentage of the total television household universe that can access a particular program or channel.

In Vancouver/Clark County, the monthly CUMEs reported by all cable subscribers in our study of the educational and government access channels varies from 9% to 11% of all cable subscribers. In other words, 9% to 11% of all cable subscribers report at least viewing one of the access channels at some point in a given month. While not an exact comparison, reviewing the average daily viewership of many well-known cable networks across a particular month shows that, in a universe of more than 300 channels, 9% to 11% of viewers watching at least once per month is a considerable audience share.

These percentages, coupled with the niche-audience nature of cable television programming, demonstrate strong viewership by even a commercial cable channel standard.

Those Comcast cable subscribers who viewed the local government access programming on CVTV’s Channels 21/321 or 23/323 (N=105), were also asked to rate the informational and educational value of the government programming. More than 2 in 5 (43%) of Comcast cable subscriber survey respondents who watch the local government access channels rated the informational and educational value highly as “excellent” or “good”, with an additional 24% describing it as “fair”. No one rated it as poor and the remainder didn’t know.

¹⁹ Cable ratings for the month of July 2021 were retrieved from https://www.scribd.com/document/517584298/July-21-basic-cable-network-ranker-Total-Viewers#from_embed
<http://www.ratingsryan.com/p/universe-estimates.html>

This demonstrates that the top viewed cable network was Fox News Channel with 2.16% of the primetime audience. To provide another example, Home and Garden TV was the 3rd ranked cable network with 1.17% of the television audience during prime time. While these percentages are out of all multichannel video households, these viewership ratings continue to show the niche viewership nature of multichannel video services.

The Vancouver Educational Telecommunications Consortium (TV ETC)

Local educational access programming (TV ETC) appears on local Comcast Channels 27, 28/328, and 29 and is regularly viewed on at least a monthly basis by 9% of Comcast cable subscriber survey respondents in Vancouver/Clark County. Twenty-four percent (24%) indicated that they watch at least once or twice a year and 67% of Comcast cable subscriber survey respondents indicated that they never watch TV ETC.

Specifically, when measuring how frequently TV ETC programming is viewed (N=74 Comcast cable subscribers), three percent (3%) of such Comcast subscribers reported watching TV ETC “Daily”, and another 10% described themselves as “Weekly” viewers. Sixteen percent (16%) reported watching the channels “Monthly”. Almost 3 in 4 (72%) indicated that they watched the channel once or twice a year.

When looking at TV ETC viewership out of all cable subscribers, we see that the viewership is still substantial among the total population of subscribers who responded to the survey.

Table 9: Subscriber Viewership of TV ETC – All Comcast Subscribers, All Comcast Subscriber Survey Respondents and All Comcast Subscribers Who Watch TV ETC At Least Yearly –

	Cable Subscriber Viewership	All Comcast Cable Subscribers (N=235)	All Comcast Cable Subscriber Viewership Survey Question Respondents (N=226)	All Cable Subscribers Who Watch TV ETC Access Channel (N=74)
1	Daily	1%	1%	3%
2	Weekly	3%	3%	10%
3	Monthly	5%	5%	16%
4	Once or twice a year	23%	24%	75%
5	Never	65%	67%	
	No Response/Decline	4%		

Comcast cable subscribers who view the local educational access channels were also asked to rate the informational and educational value of TV ETC programming. The informational and educational value of TV ETC received a high rating with half (50%) of Comcast cable subscriber survey respondents that watch TV ETC rating it as “excellent” or “good”, and 21% describing it as “fair”. Only one Comcast cable subscriber rated it as “Poor” and the remainder “Didn’t Know”.

Viewership of the educational access channels among Comcast cable subscribers who viewed it at least yearly, was also significantly related to overall satisfaction with cable television service.

Future Additional Access Programming

All Comcast cable subscribers were asked “what kind of local community programming they would like to see More of on the Comcast cable TV system?” Sixty-eight percent (68%) of Comcast cable subscribers responded to this question. The table below details the programs considered and the level of additional interest from all cable subscribers that responded to the question regarding what they would like to see more of on the local access channels. The top four (4) local community programming categories were: *Community News (43%)*, *Local Sports (36%)*, *Local Historical Programming (35%)* and *Health and Wellness Programming (35%)*.

Table 10: Local Access Program Types– Comcast Subscribers Would Like to See More of in Vancouver/Clark County

<u>Percentage</u>	<u>Like to See More Of</u>
43%	<i>Community News</i>
36%	<i>Local Sports</i>
35%	<i>Local Historical Programming</i>
35%	<i>Health/Wellness Programs</i>
32%	Public/Community Events & Activities
31%	Local Arts Programs
30%	Local Senior Citizen Programs
30%	Public Safety Information
30%	Special Events Coverage
23%	K-12 School Events & Activities
23%	Higher Education Programs
16%	Government Meetings
14%	Local Public Access Programming by Residents and Organizations in Vancouver and Clark County
13%	Minority and Ethnic-focused Programs
11%	Local Business Programming
9%	Regional/Portland Metropolitan Area Programs on the CAN Channel
7%	Foreign Language Programs

When reviewing the responses of Comcast cable subscribers who watch the local EG Access Channels at least once or twice a year concerning what kind of local community programming they would like to see “More of” on the Comcast cable TV system, the top four categories of programming are: *Community News at 47%*, *Health and Wellness Programs at 44%*; *Local Sports at 43%*, and *Local Historical programming at 38%*.

The table below details the programs considered and the level of additional interest from cable subscribers that watch the local access channels.

Table 11: Local Access Programs Types – Comcast Cable Subscribers Who **Watch** Local Community Programming and Would Like to See More of in Vancouver/Clark County

<u>Percentage</u>	<u>Like to See More Of</u>
47%	<i>Community News</i>
44%	<i>Health/Wellness Programs</i>
43%	<i>Local Sports</i>
38%	<i>Local Historical Programming</i>
37%	Special Events Coverage
36%	Public Safety Information
35%	Local Arts Programs
34%	Public/Community Events & Activities
33%	Local Senior Citizen Programs
33%	Higher Education Programs
27%	K-12 School Events & Activities
24%	Government Meetings
18%	Minority and Ethnic-focused Programs
17%	Local Public Access Programming by Residents and Organizations in Vancouver and Clark County
15%	Regional/Portland Metropolitan Area Programs on the CAN Channel
13%	Local Business Programming
10%	Foreign Language Programs

Comcast Cable Subscribers Who “Never Watch” the Local EG Channels

Comcast cable subscribers who “never watch” the EG Channels also responded concerning what kind of local community programming they would like to see “More Of” on the Comcast cable TV system. The top three categories of programming were: *Community News* (39%), *Public/Community Events & Activities* (30%) and *Local Historical Programming* (30%). The table below details the programs considered and the level of additional interest from Comcast cable subscribers that “never watch” either of the local access channels CVTV or TV ETC.

Table 12: Local Community Programming that Comcast Cable Subscribers who “Never Watch” EG Channels Would Like to See More Of

Percent	See More Of
39%	<i>Community News</i>
30%	<i>Public/Community Events & Activities</i>
30%	<i>Local Historical Programming</i>
29%	Local Sports
27%	Local Senior Citizen Programs
26%	Local Arts Programs
24%	Health/Wellness Programs
23%	Public Safety Information
20%	Special Events Coverage
19%	K-12 School Events & Activities
11%	Higher Education Programs
10%	Local Public Access Programming by Residents and Organizations in Vancouver and Clark County
7%	Local Business Programming
7%	Government Meetings
7%	Minority and Ethnic-focused Programs
3%	Foreign Language Programs
1%	Regional/Portland Metropolitan Area Programs on the CAN Channel

Access Programming on the Electronic Program Guide/Menu

Vancouver/Clark County Comcast cable television subscribers were asked about the value of having detailed descriptions of local community programming on the electronic program guide/menu on the cable system (N=161 chose to answer this question).²⁰ Specifically, the majority of responding Comcast cable subscribers indicated that it would be valuable at some level (81%), including 13% who said it would be “very valuable”, 33% who said it would be “valuable” and 34% who said it would be “somewhat valuable”. Twenty percent (20%) indicated it would be “not at all valuable”.

In looking specifically at Comcast cable subscribers who watch the local government access channel (CVTV), 9 in 10 Comcast cable subscribers indicated that it would be valuable at some level (91%), including 15% who reported it would be “very valuable”, 41% who reported it would be “valuable” and 35% who reported it would be “somewhat valuable”.

²⁰ Comcast currently provides some programming information for the Vancouver/Clark County Government Access Channels (CVTV), on its electronic program guide, but no detailed programming information is provided for the Educational Access Channels (TV ETC) on the Comcast system. Comcast cable subscribers responding to the survey indicated that *detailed programming information* would be valuable to them on the electronic program guide similar to broadcast channels. The City/County should include in the next franchise a requirement that Comcast provide such valuable detailed programming information on the electronic guide on the system for all EG Channels.

Similarly, more than 9 in 10 (94%) Comcast cable subscribers who watch TV ETC indicated that it would be valuable at some level, including 17% who reported it would be “very valuable”, 44% who reported it would be “valuable” and 33% who reported it would be “somewhat valuable”.

As noted above, currently Comcast does not provide programming information on the program guide/electronic menu for TV ETC, but the Comcast cable subscribers who watch indicated that they would like to see it on the cable system.

Even the majority of those Comcast cable subscribers who *never watch* either CVTV or TV ETC local access programming indicated that it would be valuable, at some level, to have detailed descriptions of the local community programming on the electronic program guide/menu on the cable system, including 8% who reported it would be “very valuable” and 23% who reported it would be “valuable”.

Importance of Access Programming

All Comcast cable subscribers (N=235) were asked, regardless of how often they might watch local access channels, how important it was that the local EG access channels were available to all cable subscribers in Vancouver/Clark County. Three (3) in 4 (76%) indicated that these channels were important, including 20%, or almost 1 in 5 cable subscribers, who indicated they were “very important”, 33% who indicated “important”, and 23% who indicated “somewhat important.” Seventeen percent (17%) indicated “not at all important”. Table 13 below summarizes these results.

Table 13. How Important is it that Local Community Channels are Available to all Cable Subscribers?

1. Very Important	20%
2. Important	33%
3. Somewhat Important	23%
4. Not at all Important	17%
5. Don’t know	7%

In looking closer at those Comcast cable subscribers who *never watched* the local educational and government (EG) access channels (N=109²¹ / 46%) we see that almost 2 in 3 Comcast cable subscriber survey respondents who “never watch” the local community access channels, reported some level of importance, including 11% “very important”, 24% “important”, and 28% “somewhat important”. Only 1 in 4 (26%) indicated that it was not at all important. This indicates that regardless of whether Comcast cable subscribers watch the local access channels, a majority of them believe it is important for the local community access channels to be available to all cable subscribers.

²¹ N=109 Comcast cable subscribers who never watch the local access channels. This number represents the unduplicated number of Comcast cable subscribers who never watch either CVTV or TV ETC channels.

Funding Access Programming

A question was posed to all Comcast cable subscribers (N=235) related to funding for the local access channels. Comcast cable subscribers were asked how important it was to them that a portion of their cable bill continue to support local community programming.

Ninety-two percent (92% / N=215) of Comcast cable subscribers survey respondents chose to answer this question and the response was positive with almost 3 in 5 (59%) Comcast cable subscribers indicating some level of importance, including 10% who indicated “very important”, 20% that indicated “important”, and 29% the indicated “somewhat important”. Even when looking closer at those Comcast cable subscribers who *never watch* the local EG Channels (N=107), over 2 in 5 (41%) of Comcast cable subscriber survey respondents indicated some level of importance, including 9% who indicated “very important”, 9% who indicated “important” and 23% who indicated “somewhat important.” Forty-three percent (43%) of those that *never watch* indicated “not at all important” and 15% “don’t know”. Accordingly, even when a Comcast cable subscriber never watches the local community channels, a substantial number report that it is important that a portion of their cable bill continue to support local community programming.

Online Access in Vancouver/Clark County

A series of questions related to online access and interactivity were posed to all survey respondents. Among all survey respondents to the question (N=571), 89% indicated having high-speed Internet access at home, including 61% who subscribed with Comcast and 28% who subscribed to another Internet provider such as CenturyLink, TDS Telecom, AT&T, or another.²² This left 11% of survey respondents indicating that they did not have high-speed Internet at home.

Survey respondents with high-speed Internet at home were asked to rate a few home Internet service characteristics. These survey respondents were asked how reliable their home Internet service was. Nearly two-thirds of respondents reported that the reliability of their home Internet was “Excellent” (25%) and “Good” (40%). This left over one third (35%) of respondents with a less reliable experience with their home Internet service (22% indicated “Fair”, and 13% indicated “Poor”).

These respondents were then asked to rate the speed of their home Internet, and 3 in 5 indicated either “Excellent” (24%) or “Good” (37%), which leaves 39% less positive with twenty-one (21%) percent indicating “Fair”, and 18% indicating “Poor”, or 2 in 5 survey respondents.

The last category tested was the Cost of Home Internet Service. This question scored the highest dissatisfaction, with 69% indicating either “Fair” (38%) or “Poor” (31%). See the table below for specific categories and responses.

²² A full list can be found in Exhibit A-1.Vancouver/Clark County Cable-related Residential Subscriber/Non-Subscriber Written Survey Markup.

Table 14: Rating of Home Internet Service Characteristics

Home Internet Service Characteristics	Excellent	Good	Fair	Poor	Don't Know
Reliability of your home Internet Services N=557	25%	40%	22%	13%	0.5%
Speed of home Internet Services N=552	24%	37%	21%	18%	0.5%
Cost of your home Internet Services N=553	10%	21%	38%	31%	0.5%

It should be noted that satisfaction with Comcast Internet services availability, reliability and cost were all significantly related to overall satisfaction with cable television services.

All survey respondents who reported not having cable television services (N=363) were also asked who they had home high-speed Internet services (Broadband) with, and 14% (N=51) indicated they had no Internet services at home. Of the 86% who did have high-speed Internet services at home (N=312), 43% subscribe to Comcast Internet services, 50% subscribe to another Internet provider, 7% chose not to answer the question.

Respondents *without* Internet Service at Home

To better understand the environment for Vancouver/Clark County residents *without high-speed Internet at home*, a series of questions was posed to those without Internet at home (N=64, or 11%). First, these residents were asked why they had chosen not to subscribe to high-speed Internet service at home. The most frequent response was that it was too expensive (61%), this was followed by “unavailable in my area” (37%); “I use my mobile data plan for Internet Access” (30%); “speed of service is too slow” (30%), “I don’t own a computer/device” (28%); “I don’t have money for equipment or device” (28%), “I don’t think I need the Internet” (21%); “I’m concerned about my privacy” (14%), “I’m concerned about my safety” (9%), and “I don’t have time” (5%)

To further illustrate the population of Vancouver/Clark County respondents that do not have high speed Internet service at home, an analysis of the reported demographics was reviewed.²³ Those without high speed Internet service at home are more likely to report being employed, owning their own home, college educated, earning over \$100,000, with children at home, living in the Urban Growth Area and be between the age of 35 and 55. The areas mentioned by those with no available Internet in their area were: Yacolt, Brush Prairie, and Summer Hills.

Final Comments

When all respondents, subscribers and non-subscribers, were given a final opportunity to add any additional thoughts about cable television service in Vancouver/Clark County, twenty-eight percent (28%) chose to provide a response.

²³ To test for relationships between reporting no Internet access at home and the reported demographics, a crosstab was reviewed.

Among the 28% of survey respondents that provided final comments, the most frequent responses included comments emphasizing rate/cost issues (48%). This was followed by 8% who indicated that they would like more choices to pick from, poor service (7%) and “I don’t like Comcast” (7%).

A full list of categories that survey respondents’ answers were grouped into can be found at the end of Exhibit A-1– Vancouver-Clark County Cable-related Residential Subscriber/Non-Subscriber Written Survey Markup.

RESIDENTIAL COMMUNITY CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are based on themes and concerns that emerged from the residential Written Survey.

1. **Subscriber Satisfaction** – Sixty-three percent (63%) of Comcast cable subscribers are satisfied overall with their cable service, with 51% of Comcast subscribers indicating "satisfied" and 12% of Comcast subscribers indicating "very satisfied." The other 37% of Comcast subscribers trend negative, with 26% of Comcast subscribers indicating "dissatisfied" and 11% of Comcast subscribers indicating "very dissatisfied".

Overall, Comcast cable subscribers that rated cable service more negatively, indicated that the rating could be improved if rates were lowered (58%). Fifteen percent (15%) suggested that Comcast offer a la carte programming, and ten percent (10%) indicated that if Comcast improved their customer service or improved their Internet service it would improve their satisfaction. Working to improve the price/value relationship, including developing more affordable packages and channel selection, as well as improving customer service would improve the satisfaction of existing subscribers and help with retention. Additionally, as also noted below, addressing technical issues related to signal outages and other reception problems would drive higher customer satisfaction with cable television service.

2. **Reasons for Non-Subscribership** – Nineteen percent (19%) of non-Comcast cable subscribers reported that Comcast cable television service is not available in their area. The top areas mentioned included, but were not limited to: Brush Prairie, Yacolt, and Amboy.

Fifty-nine percent (59%) of non-Comcast cable subscribers indicated that they did not subscribe to Comcast cable TV services because the cost was too high. Eight percent (8%) indicated that the content on Comcast's system was poor and that there was nothing to watch, this was followed by those who had service issues (5%) and those who objected to the programming on Comcast's system (4%).

Regarding personal preferences, thirty-eight percent (38%) of non-Comcast cable television subscribers indicated that they did not subscribe to Comcast cable in Vancouver/Clark County because they watch streaming services instead. This was followed by 28% who had Comcast but chose to disconnect, 26% who "Don't watch cable TV", 18% who "watch over-the-air broadcast TV", 16% who "never subscribed to Comcast cable", 15% who "subscribe to satellite television", and 7% who "Don't watch TV".

Of the twenty-eight percent (28%) of non-Comcast cable television subscribers who had previously subscribed to Comcast but had disconnected, cost at 86% was the primary reasons cited for **no longer subscribing to** Comcast cable television service. This was followed by those that had experienced service issues (11%), those who objected to the

programming (8%), and those that had indicated that Comcast had poor content or that there was nothing to watch on the system (8%). Regarding personal preferences for disconnecting Comcast cable services, the number one reason was to start watching streaming services instead (45%), this was followed by 24% who “don’t want cable TV anymore”, 22% who watch over-the-air broadcast TV, 17% who chose to subscribe to satellite television and 5% who “don’t watch TV”.

The responses to questions posed to non-subscribers suggest that Comcast needs to expand its service area, work to rein in the cost of commercial cable programming services to lower the pace of cost increases, and address service issues. This, and satisfying other needs and interests identified by the survey, would help address the concerns of current non-subscribers, which in turn should help retain subscribers and attract those that have never subscribed.

- 3. Technical Issues** – While the majority of Comcast cable subscribers indicated they were satisfied overall with their cable service (63%), 37% of Comcast subscribers were dissatisfied, including 11% “very dissatisfied”. Dissatisfaction with technical issues is likely one significant reason. Specifically, cable signal outages for a period of 15 minutes or more were noted by 49% of subscribers. Outages were also the number one reason for calling, emailing, or chatting with Comcast customer service (47%). Twenty-nine percent (29%) of Comcast cable subscribers reported problems with other technical difficulties, including picture quality, audio problems, overall reception, and more, including 19% of those that indicated the technical difficulties were constant and sixteen percent (16%) that indicated that they occurred every few days. The most often cited problems were pixilation problems, grainy pictures and freezing up.

Regarding the response time for Comcast to resolve an outage problem, dissatisfaction with restoring service outages was high at 35%, with 8% indicating “very dissatisfied”. This dissatisfaction rate is significant and indicates a critical need to address the responsiveness of Comcast to resolve issues causing outages.

Both signal quality issues and outages resulted in calls, emails and chats with Comcast, adding to customer service volumes and as a result putting pressure on customer service and technical service response time which likely contributed to the potential reported non-compliance of Comcast with meeting FCC customer service standards (see <https://www.fcc.gov/consumers/guides/subscriber-signal-quality-standards> for response guidelines under customer service.). Improvements to technical operations in the areas discussed will likely reduce contact with Comcast customer service and could reduce the substantial number (35%) of Comcast cable subscribers who were dissatisfied with the length of time it took to restore their cable service.

- 4. Customer Service** – While the majority of Comcast cable subscribers are generally satisfied with Comcast’s customer service, there are certain areas where subscribers’ responses indicate potential non-compliance with FCC Customer Service Standards

(compliance with these standards is required by the Vancouver/Clark County Comcast franchise as well as by FCC regulation). These are:

- a. Telephone Answering – Seventy-five percent (75%) of Comcast cable subscribers had called, emailed or chatted with Comcast’s customer service operation in the past twelve months (May 2020 – June 2021). The primary reasons (as further discussed above and below) were related to cable outage/loss of signal (47%), billing questions and complaints (44%), and signal quality problems (29%). Forty-three percent (43%) of Comcast subscribers were dissatisfied with the ability to get through to Comcast on the phone, including 24% that were “very dissatisfied”. As noted above and below, resolving the issues that are driving calls, emails and online chats to customer service will likely help improve the overall satisfaction with Comcast.
- b. Picture Quality, Outages and Restoration of Service – As noted above, subscribers reported technical difficulties and outages with Comcast cable service and problematic experience with the company’s responsiveness to those problems. Taken all together, this indicates that improving the quality of technical customer service should be addressed in franchise renewal. Specifically, improvements need to be made in responsiveness to calls, emails or online chats made concerning problems and service requests, and the time it takes to make repairs and restore service.
- c. Billing – Forty-four percent (44%) of subscribers reported calling, emailing or chatting with Comcast customer service to ask a billing question or log a billing complaint. Over 1 in 3 (34%) subscribers were dissatisfied with Comcast’s ability to explain and address billing questions and complaints. By working to resolve the issues that are creating dissatisfaction with billing and billing-related calls, emails and chats to Comcast customer service, Comcast would not only improve customer satisfaction with billing, but will also likely reduce the contact volume related to billing issues and help address the potential reported noncompliance with FCC customer service standards. The City/County should also consider strengthening billing-related requirements in any renewed franchise, to further address customer dissatisfaction.
- d. Communicating with Comcast Cable Subscribers – Over half (54%) of Comcast cable subscriber respondents indicated they were “dissatisfied” (27%) or “very dissatisfied” (27%) with Comcast’s communications related to rate changes. More than 2 in 5 (43%) Comcast cable subscriber respondents indicated they were “dissatisfied” (29%) or “very dissatisfied” (14%) with Comcast’s communications related to programming changes. Accordingly, Comcast should review and improve how changes in programming, rates and services are communicated to Comcast cable subscribers and the means they use to communicate these changes. The company could, for example, consider

launching a broad television-based information campaign when channel realignments or rate increases are announced. This could help to reduce the number of the subscriber respondents who called Comcast about a billing question and improve the telephone answering issues that potentially do not comply with FCC and Franchise customer service standards.²⁴

Each of these is an area that we recommend be a focus in franchise renewal negotiations to secure improvements responsive to the concerns reported in the survey. Improvements should include enhanced means of monitoring and responding to these issues by Comcast under a renewal franchise.

- 5. Access Channels and Viewership** – A significant portion of cable subscribers in Vancouver/Clark County who watch the local access channels (46%) reported regular viewership of Vancouver/Clark County's local community/public, education and government (EG) access channels. Specifically, 3% to 4% of all Comcast subscribers reported watching the channels on at least a weekly basis, including one percent that watched daily. An additional 5% to 8% watch the channels on a monthly basis.

These percentages are significant when considering that cable television's business model is rooted in niche channels rather than mass appeal channels. As an example, the vast majority of cable networks have relatively small average daily viewing audiences under 2% of total viewing households. The 3% to 4% of Vancouver/Clark County Comcast cable subscribers who watch the local access channels on a weekly basis, including 1% that watch daily, then should be seen as viable and healthy cable television viewership and a valuable part of cable service.

Comcast cable subscribers also indicated a high level of importance that these local EG channels be available to all cable subscribers. The wide majority, 76%, thought that these channels were important, including 20% (or 1 in 5 Comcast cable subscribers) who indicated that they were "very important".

Additionally, especially considering the niche nature of cable programming services, nearly 6 in 10 (59%) Comcast cable subscribers indicated it was important on some level that a portion of their cable bill continue to support local access programming.

Further, for Comcast subscribers who watch the local access channels the vast majority (80%) indicated that it would be valuable to have detailed descriptions of local access programming on the electronic program guide/menu (13% very valuable, 33% valuable and 34% somewhat valuable).

Overall, the results from the Written Survey show a high level of interest in local EG access programming, indicating that a renewed franchise should have strong support for

²⁴ Several federal notice requirements have been eliminated since the current franchise became effective, but the FCC has made clear that localities can establish additional customer service requirements, including notice requirements.

continuation and enhancement of access programming and distribution. Such enhancements should occur in a variety of ways, most specifically including appropriate funding and ensuring that the channels are integrated into the system in a way that it puts them on a level playing field with other channels and cable programming.

These concluding remarks and recommendations are not meant to be a summary of the needs assessment findings as a whole, but rather are one part of the analysis, focusing on the issues identified by Written Survey respondents in a randomly sampled study. Other data presented in this narrative in other sections of the report, and in the report Exhibits, all amplify and add to the findings in this Section A and should also be considered by the City/County as they move forward with the franchise renewal process with Comcast. An informed understanding of the needs and interests in the community can serve to continue to improve cable service in Vancouver/Clark County.

ONLINE CABLE SUBSCRIBER AND NON-SUBSCRIBER STUDY FINDINGS

Residential Community Cable Subscriber and Non-Subscriber Online Survey

A cable television-related needs assessment Online Survey was developed and provided for access by those residing in the Vancouver and Clark County franchise area. The Survey followed the pattern of the Written Survey (described above). The Survey was available on the City and County websites. The Survey was available for submitting a response during several weeks in Fall, 2021. Overall, 532 residents responded to the Online Survey – 306 residing in the City of Vancouver and 226 living in Unincorporated Clark County. Of these, 527 chose to provide their cable subscriber information – 285 were Comcast cable television subscribers and 242 were non-subscribers to Comcast cable services.

Online surveys involved self-selected respondents and not a random sampling. As such, while the results point to trends, they are not necessarily representative of the City/County population as a whole. The Survey did, however, provide another opportunity for City and County residents to express their attitudes, opinions, needs and interests concerning Comcast cable television.

The complete findings of the Online Survey are included in the attachment to this Report, entitled Exhibit A-2- Vancouver/Clark County Cable-Related Residential Online Survey Markup. A review of the data shows that online respondents had similar needs, interest and experiences with cable services in Vancouver and Clark County. Some of the key findings are discussed below and where the needs, interests and opinions differed from the Written Survey data we have noted that in the narrative.

Respondent Demographics

The responding sample included a diversity of ages ranging from 22-86 years old. The average age of a respondent was 52.5 years old and the most common age reported (Mode) was 67 years old. Similar to the Written Survey, the non-response rate for this question was 23% (N=119), but unlike the Written Survey the largest responding group was younger than 65 years old (56% of the Online Survey respondents).

Regarding race and ethnicity, several categories had a little higher representation than the Written Survey respondents, such as Hispanic (3%), Asian (4%), and Biracial (3%). The responding sample reported a variety of education levels with some that differed from the Written Survey, such as a lower percentage of respondents for both those that graduated from high school (4%), and those that had a four-year college degree (37%). A larger percentage of those that had an associate's degree or went to a trade school (32%) responded to the Online Survey than the Written Survey. The largest set of respondents had achieved a four-year college degree (37%).

Thirty-one percent (31%) of respondents reported having children in their household. Home ownership was reported at 84% by Online Survey respondents.

Females responded to the Online Survey at a higher rate (55%) than males (43%), which was also higher than for the Written Survey.

A range of income levels was also reported, ranging from under \$25,000 annually (5%) up to \$150,000 or more annually (20%). The largest reported groups were those with incomes between \$100,000 to less than \$150,000 (23%).

Overall, the responding sample reflects a wide diversity of the residential population.

Findings – Online Survey

Non-Subscribers to Comcast Cable Service

Forty-six percent (46%/N=242) of the responding sample are not currently subscribing to Comcast's cable television service. Similar to the Written Survey, 28% of these were previous subscribers.

The largest reason for all respondents not subscribing to Comcast cable service was cost (57%), followed by watching streaming services instead (52%). Similar to the Written Survey, the largest reason for stopping subscription was cost (87% of those that previously subscribed N=67).

The top two (2) categories for not subscribing to cable service in the Written Survey were also cost (59%) and watching streaming services instead (38%).

Similar to the Written survey, seventeen percent (17%) of Online Survey respondents reported not subscribing because cable service was not available (In the Written Survey 19% of non-subscribers did not have it available). Areas mentioned by Online survey respondents included, but were not limited to: Battle Ground, Washougal, Brush Prairie, Summer Hills, Ridgefield and others.²⁵

Subscribers to Comcast Cable Service

Subscribers to Comcast cable television service in the Online Survey reported a mean subscription length of 12.22 years (the mean subscribership length is less than that reported on the Written Survey), with the mode given of 20 years, indicating long-time subscribership for many respondents.²⁶

A majority of the subscribers reported subscribing to Comcast's Digital Preferred TV service or higher (52%), followed by Digital Starter TV service at 24%, 9% with Limited Basic TV Service, and 36% who reported also having Premium Channels like HBO and Showtime. This is again

²⁵ A full list of neighborhoods and streets can be found in Exhibit A-2 Vancouver-Clark County Cable-related Residential Subscriber/Non-Subscriber Online Survey Markup.

²⁶ Again, some respondents noted a length of time subscribing to Comcast beyond the length of time that Comcast has provided service in the City/County. These subscribers likely previously subscribed to cable providers that preceded Comcast and included that time in their answer.

similar to the cable subscriber sample that responded to the Written Survey, except the percentage of Limited Basic TV service respondents was higher in the Written Survey (18%).

Ninety-eight percent (98%) of Online Survey Comcast cable subscribers also subscribe to Comcast's high speed Internet service.

The average monthly subscriber bill for both subscribers and non-cable television subscribers who subscribe to Comcast, including all services, taxes and fees, was reported at \$177.78, which is lower than that reported for the Written Survey.

Overall Satisfaction

Satisfaction rates were reported lower for Online Survey respondents than for Written Survey respondents, with 35% reporting being "satisfied" and 10% "very satisfied" (the Written Survey had 12% "very satisfied", and 51% "satisfied"). This left 37% as "dissatisfied", and 18% as "very dissatisfied".

When asked what would need to improve to cause them to consider a more positive rating, the top three improvements given were lower costs (62%), followed by better customer service or better at speaking to a live person (43%), and more reliable and better service (30%).

Service Features

Similar to the Written Survey response, picture quality was rated as the highest service characteristic (75% "satisfied and very satisfied"). The hours the cable company office is open also received a high level of satisfaction of 76% in the Online Survey, with sound level consistency rate at 69% "satisfied and very satisfied". Also similar to the Written Survey response, location of the cable company office had a high satisfaction rate (76%). The cable operator's ability to explain and address billing questions and complaints was similarly rated with 42% "dissatisfied" (19% "very dissatisfied").

The variety of cable programming packages offered received a higher dissatisfaction rating in the Online Survey than that expressed in the Written Survey, with 60% expressing either "dissatisfied or very dissatisfied".

Calls, Emails and Online Chats with Comcast

Similar to the Written Survey, seventy-seven percent (77%) of Online Survey subscriber respondents had called, emailed or chatted with Comcast in the past twelve months. The top two reasons were experiencing a cable outage/loss of signal (48%) and having a billing question or complaint (42%). These percentages are similar to those expressed in the Written Survey.

If the call, email or chat was to report a problem or request service, 62% (lower than the Written Survey response of 77%) indicated that their problem or service request was resolved in less than

24 hours. This left 38% of subscribers with their problem or request for service not worked on for over 24 hours and in some cases the problem or service request was never worked on (7%).

Cable Outages

Fifty-five percent (55%) indicated that they had lost their cable service during the past twelve months while they still had electricity. Those that had lost their cable service were asked how many times they had lost their entire signal in the past twelve months. The average number reported was 6 outages (more than the Written Survey) and one outage was the answer most often given (less than the Written Survey).

Online Survey respondents were less satisfied (58% Satisfied/very satisfied) with the length of time it took Comcast to restore their service (In the Written Survey, the Satisfaction level was 66%). Similar to the Written Survey only 9% of subscribers reported receiving a refund or credit for the period of time their cable television service was out. This indicates an area that should be addressed in franchise renewal.

Technical Difficulties

Forty percent (40%) of Subscribers, higher than what was reported in the Written Survey (29%), indicated that they had technical difficulties with picture quality, audio problems or overall reception issues. Specific problems that were reported included: Pixilation and signal breakup, cable box problems, problems with sound (fuzzy, crackling, loud, lost sound, etc.), On-Demand going out, sporadic loss of signal, etc. These similar types of picture/technical issues were also noted in the Written Survey.

Specific channel issues were also reported including: channels with inconsistent sound, sound lost on channel, channels are not accessible, channels go out intermittently, channels have pixilation problems, channels stutter, channels are grainy and pixelated, local channels freeze and skip, and more. Specific channels that were mentioned included, but not limited to: PBS, NBC, ESPN, HBO, BBC, CBS, FX, AMC, and ABC. A full list can be found in the attached survey markup – Exhibit A-2.

Educational and Government (EG) Access Programming

Government Access

Subscribers were asked how often they watched the programming that appeared on Channels 21/321 and 23/323 CVTV. Nineteen percent (19%) of respondents (1% Daily, 8% Weekly, and 10% Monthly) reported watching CVTV on a monthly basis (higher than for the Written Survey at 11% Monthly).

Educational Access

Subscribers were asked how often they watched the programming that appeared on Channels 27, 28/328, and 29 TV ETC. Ten percent (10%) of respondents (1% Daily, 3% Weekly, and 6% Monthly) reported watching TV ETC on a monthly basis (for the Written Survey at 9% Monthly).

Local Community Programming

Cable subscribers were also asked what kind of local community programming they would like to see more of. Sixty-five percent (65%/N=184) of subscriber respondents indicated that they would like to see more of the following local community programming:

Community News	48%
Public/Community Events & Activities	41%
Public Safety Information	41%
Local Historical Programming	32%
Special Events & Activities	29%
Local Arts	29%
Local Sports	28%
Government Meetings	27%
Health/Wellness Programs	25%
Public K-12 School Events & Activities	23%
Local Senior Citizen Programs	22%
Higher Educational Programs	20%
Local Public Access Programming	
by Residents and Organizations	14%
Minority and Ethnic-focused Programs	10%
Local Business Programming	8%
Foreign Language Programs	6%
Regional/Portland Metropolitan Area	
Programs on the CAN Channel	9%

Electronic Program Guide/Menu

Online Survey cable subscriber respondents indicated a high value (68% valuable) on having detailed descriptions of the local community programming described on the electronic program guide/menu on the cable system. Although this rating is lower than for the Written Survey subscribers (80% valuable), over 2 in 3 (68%) Online Survey cable subscriber respondents assigned a high value to having the local programming detailed on the electronic program guide/menu. Twenty-one percent (21%) of respondents indicated “very valuable”, with an additional 28% indicating “valuable” and 19% indicating “somewhat valuable”.

Funding PEG Access Programming

Subscribers also indicated a high level of importance on having a portion of their cable bill continue to support local community programming. Seventeen percent (17%) of respondents indicated that this facet was “very important”, with an additional 16% indicating “important and 30% indicating “somewhat important”.

Internet Service in the Home

Similar to the Written Survey respondents, eighty-one percent (81%) of Online Survey respondents reported that they have High speed Internet in the home from Comcast. Thirteen percent (13%) reported that they subscribe to another high-speed Internet provider and 6% reported that they don’t have high-speed Internet.

The number one reason for not having high-speed Internet in the home was that it is unavailable in their area (69% N=20). The one neighborhood mentioned was Summer Hills.

Final Comments

When asked if there was anything else that the respondent would like to say about Comcast’s service in their community, more than half (55%) indicated that there was. The full list of responses is contained in the Cable-related Residential Subscriber/Non-Subscriber Online Survey Markup Exhibit A-2.

Summary

The Online Cable-related Residential Survey gave the residents in the City and County an additional opportunity to weigh in with their attitudes, opinions, needs and interests concerning Comcast’s cable television service. The results were largely consistent with those of the Written Survey, except in certain areas described above.

Overall, the findings from the Online Survey, when added to the Written Survey findings, help present an informative and detailed picture of the cable-related needs and interests of the City’s and County’s residential community.

SECTION B

COMMUNITY ORGANIZATION NEEDS ASSESSMENT

COMMUNITY ORGANIZATION NEEDS ASSESSMENT

Introduction and Methodology

As part of the overall cable-related Community Needs Ascertainment, CBG conducted a Community Organization Needs Assessment to assist in identifying cable-related, and to the extent provided, broadband-related, needs and interests. CBG worked with the City/County Cable Television Office to develop a list of entities that would reflect the diversity of organizations serving the Vancouver and Clark County community, especially those that would reflect broader populations (such as neighborhood associations) and those that have had some involvement with CVTV and its focus on community-oriented programming within Vancouver and Clark County.

Then, a focus group was set up for early August, and this diverse group of organizations was invited to participate. Those that participated in the group included: a representative of the WSU-Vancouver Creative Media and Digital Culture Program (who also had been affiliated with the prior Public Access organization, Fort Vancouver Television); the Chair of the Clark County Arts Commission; two representatives from the Clark County Youth Commission; a representative of the West Hazel Dell Neighborhood Association; and a representative from the East Fork Alliance Neighborhood Association.

For those that were not able to attend, an Online Survey was developed and a link to the survey was subsequently distributed to them. Respondents to the survey included: the Marketing Director of the Vancouver Clinic; the Neighborhood Program Coordinator for the Clark County Manager's Office; and the Vice Chair of the Vancouver Neighborhood Alliance (representing over 60 neighborhood associations).

For the focus group, a PowerPoint discussion guide was prepared, and both it and the Online Survey incorporated discussion topics including perspectives on: the strong points, attributes and characteristics of CVTV, TV ETC and other video communications and outreach efforts that participants and respondents may have been a part of; the areas that need improvement concerning these types of video communications; the opportunities to enhance these types of video communications; the challenges that may need to be overcome in reaching goals and objectives related to these types of video communications; the importance of offering programming online as well as via the cable television channels; the importance of video on demand for participants' and respondents' constituencies; the importance of keeping up with technology; and other characteristics of both cable television and broadband service.

Key Findings

The key findings from the community organization focus group and survey are the following:

1. **CVTV is a very important resource for community outreach** – Participants in both the focus group and the survey noted that CVTV was an “excellent partner” that provided coverage of a wide range of community events and, as such, helped with both outreach and advocacy for the community organizations. Participants noted that coverage of community events, especially those that promote community dialogue and the exchange of information, was helpful to both the organizations in getting their message out and the community in understanding diverse views on issues.

Participants also noted that, by covering community events, CVTV enabled those that can’t participate in person to be a part of the proceedings. One survey respondent noted, “CVTV is known as a community partner providing access to people who are not able to attend events in person -- even more important during [the] pandemic.” Essentially, CVTV is a “local media outlet we can count on to provide coverage of significant community events.”

2. **Participants want to build on CVTV’s strengths and provide even more community-oriented programming** – Participants in the focus group and the survey indicated that they would like to see more coverage of meetings and events sponsored by neighborhood associations. For example, one survey respondent noted that neighborhood association meetings could be covered on a rotating basis so that each one was highlighted over a period of time. This would provide a critical information outlet for these entities as well as promote understanding of their issues by others that are in a different living situation. This was especially noted by those that are in the northern part of the County and other areas that are more rural and face challenges related to access to cable television and broadband. Other programming ideas included local news (consistent with the predominant view of respondents to the residential survey); healthcare programs, which potentially could have underwriting from healthcare organizations; and spotlights on local police, fire, facilities and planning. One survey participant responded that “more behind the scenes reporting on important issues to the citizens” would be an effective use of CVTV for both communications and public relations.
3. **Participants and respondents noted the need for more live coverage of community events and occurrences** – In response to the survey, all indicated that having the capability to have their organizations’ programs live streamed and/or cablecast from their organization location would be beneficial to them. Focus group participants indicated the same.

Conversely, once covered, focus group participants and survey respondents noted that having the ability to have on-demand access to the video programs through both an online and cable-based platform would be beneficial. One survey respondent noted that the

“ability to watch events later online as well are highly valued by the neighborhood residents ... especially for events that happen during working hours.”

- 4. Participants and respondents noted various technical issues with the existing Comcast system** – One survey respondent noted that they were dissatisfied with technical characteristics of the Comcast broadband service. Representatives from neighborhoods in the northern part of the County who had cable service noted that they had experienced a high degree of technical problems including outages, especially outages that were later termed by Comcast as planned outages, but no warning or no communication was given prior. Participants noted that this created problems in the current virtual environment when there was so much reliance on tele-education and tele-work capabilities. Others noted that the infrastructure in outlying areas appears old and could be the problem behind “faulty transmission”. One focus group participant noted that it was important for both Comcast and PEG channel providers to keep up with technology, and ensure that they are delivering video programs in all the various formats that consumers expect. Specifically, right now, video is accessed in multiple formats including all the way from standard definition to HD/4K and beyond. Whatever type of video is being provided, should be accessible in all those formats.
- 5. Participants without access to cable television and broadband indicated the critical need for such** – Those who currently don’t have access to the Comcast cable system noted the critical need for system expansion. Some, for example, noted that they were miles from the nearest Comcast plant and have been quoted exorbitant sums to reach them, which is highly problematic since Comcast is the sole provider for cable television and the dominant provider for high-speed broadband in Vancouver and Clark County. They stressed the need for the City and County to resolve this problem during the franchise renewal process. If not, participants indicated that the County should consider other options, especially for extending broadband service to all portions of the County.
- 6. Participants noted that CVTV could use additional staff and that this would result in additional programming that would be of value to community organizations and their constituencies** – Participants and survey respondents indicated that they understood that their desire for additional programming could create the need for additional staffing, but believe that the benefit outweighs the additional cost. One survey respondent noted, with additional resources, CVTV could provide a range of additional programming. One idea was to seek underwriting from both community organizations and potentially business sponsors as well, to help fund production operation resources. An underwriting model similar to PBS could be utilized.
- 7. There continues to be a need for, and an interest in, community-sponsored media** – All indicated how important CVTV was as a community resource, but some also believe that there needs to be at least a mechanism, such as a community portal, for residents and organizations who produce their own programming to have an outlet over the cable system for distribution of that programming. Youth Commission representatives noted that an

outlet for youth and other interest groups beyond the online environment would be very useful because it would be a local outlet that could be promoted locally as well.

Going further, some participants would like to see training and resources for both individuals and residents, similar to what Fort Vancouver Television was able to do in the past, but going forward, adopting a more workable model.

The key findings noted above from the Community Organization Needs Assessment should be considered by the Commission in its franchise renewal negotiations with Comcast.

SECTION C

PUBLIC, EDUCATIONAL AND GOVERNMENT (PEG) ACCESS NEEDS ASSESSMENT

PUBLIC, EDUCATIONAL AND GOVERNMENT ACCESS COMMUNITY NEEDS ASSESSMENT

Introduction and Methodology

CBG Communications, Inc. (CBG) and its Team Partner, Carson Hamlin (Media Integration Specialist), conducted an assessment of the jurisdictions represented by the Vancouver/Clark County City/County Telecommunications Commission (CCTC) regarding the communities' needs and interests within the City and County related to Public, Educational and Government (PEG) Access channels and programming.

Key stakeholders in the City and County were contacted for the PEG Access Needs Assessment, via focused discussions, interviews, surveys and physical site surveys of facilities and equipment. Specifically, information and opinions about PEG Access needs and interests were obtained from: Residential Community Written and Online Survey respondents (as profiled in Section A); CVTV (Clark/Vancouver Television) staff including the Video Services Manager and multiple other City and County stakeholders involved in the operation of and production of programming for the CVTV channels (Channel 21/321 and 23/323); staff from TV ETC (the Clark/Vancouver Educational Telecommunications Consortium) which administers and oversees the playback and program scheduling operations for Educational Access Channels 27, 28/328 and 29; staff from Battle Ground, Evergreen and Vancouver Public Schools that develop and provide programming sponsored by each of the School Districts and distributed over the TV ETC channels; and community organization representatives (as profiled in Section B), including some that work together with CVTV to develop Clark County and Vancouver community-oriented programs for provision over the channels.

The PEG Access Needs Assessment included a request for, and reviews of, documentation from the operators of each of the PEG channels. Requested documentation included:

- Annual production and programming statistics;
- Technology plans for future development;
- Facilities layout;
- Master control signal flow diagrams;
- Programming signal origination transport information;
- Equipment inventories;
- Operating rules and procedures;
- Operating and capital budgets;
- Staffing levels;
- Channel programming schedules;
- Programming samples;
- Website usage statistics, and
- Other documentation depicting current and planned operations.

Along with analysis of the information received, CBG conducted facilities surveys, interviews, and focused discussions with channel management, program producers and other production personnel.

Specifically, regarding Government Access, CBG toured the City and County production areas utilized by CVTV for the production of live meetings and a variety of other programming. Facilities and equipment were reviewed and current needs, as well as needs that will arise in the next 10 years, were identified and documented during these site visits. Additionally, interviews were conducted with CVTV personnel and focused discussions were held with government agency and community organization representatives. The subject matter covered in both the interviews and focused discussions included: the state of current video production facilities, equipment and programming; projected equipment and facilities needs for the future; and program content development, production and distribution related to both current and future Government Access television.

Regarding K-12 Educational Access, CBG held a focus group that included TV ETC and Educational Service District (ESD) 112 representatives and representatives involved in the production of programming for the TV ETC channels from Vancouver Public Schools and Evergreen Public Schools. Additional interviews were held with TV ETC staff and representatives from the Battle Ground Public Schools involved in program production and content development sponsored by Battle Ground Public Schools for distribution over the TV ETC channels. These focused discussions and interviews obtained information on both current and future program and content development, including coverage of School Board of Education meetings, activities at individual schools, special programs and School District events.

While Public/Community Access was not a substantial focus of the PEG Access portion of the overall Community Needs Ascertainment project, it was discussed at the Community Organization focused discussion and covered in the Community Organization Online Survey. Information concerning Public and Community Access is included in the synopsis of the Community Organization Needs Assessment found in Report Section B.

Findings concerning the PEG Access channel operators and stakeholders were used to develop facility, equipment, capacity and distribution needs and associated funding projections. These are described in the Conclusions and Recommendations at the end of this Section C. They are also the basis for the phasing of and priorities for equipment and facility upgrades and further replacement that PEG operators will need over a projected 10-year timeframe. These are detailed in the PEG Access Equipment and Facility Upgrade and Replacement Projection spreadsheets included in Exhibit C.

Detailed discussion of the PEG Access Needs Assessment and CBG's findings follows.

Findings – Government Access

Clark/Vancouver Television (CVTV) is the provider of Government Access services and video programming for Channels 21 (SD)/321 (HD) and 23 (SD)/323 (HD) on the Comcast cable system. Findings related to current and future needs related to CVTV were obtained through interviews, focused discussions, responses to the residential written and Online Surveys, review of written and web-based documentation and onsite visits to and tours of CVTV's production facilities.

Overview of CVTV

The City/County Cable Television Office is the Designated Access Provider (DAP) for Government Access television in the City of Vancouver and in Unincorporated Clark County. There are two Government Access channels simultaneously broadcasting in SD and HD, branded as CVTV, that are provided by the Cable Television Office. The Cable Television Office produces a wealth of programming for the channels that covers, for example, public meetings of the Vancouver City Council, the Planning Commission and other advisory City Boards, Authorities and Commissions; Clark County Council meetings, the Clark County Planning Commission and other Clark County Boards and Commissions; and regional agencies such as the C-TRAN Board of Directors, the Port of Vancouver Board of Commissioners, the Regional Transportation Council Board of Directors and the City/County Telecommunications Commission.

Beyond this, CVTV covers a variety of news and information programs focusing on City and County-sponsored events. This includes past programs like *City Five*, a bi-weekly news show providing the latest headline news from the City, and *Real Vancouver*, a show about people, places and history that are unique to the City of Vancouver. More recent shows include City-sponsored public events, including coverage of the 2021 Patriot Day ceremony, the groundbreaking ceremony for Fire Station 11, the General George C. Marshall Leadership Award ceremony and the 2021 *State of the City* address.

On the County side, news and information programs include *Clark County Close Up*, a magazine program about County issues, programs, activities and personalities, and *Clark County Focus*, which provides information directly from individual Clark County Council Members.

Regarding community-oriented programming, CVTV provided extensive 2021 election coverage as well as coverage of the 2021 Veterans' Day ceremony, coverage of multiple Joint Executive Group on Homelessness meetings, and coverage of the recent Interstate Bridge Replacement Program meeting.

All in all, in 2020 (a year which challenged CVTV like many other Government Access television providers to adapt to a restrictive and constraining COVID-19 pandemic environment), CVTV produced 304 programs including 377 hours of original, local programming. This included 28 COVID-19 mayoral updates and multiple PSAs for the City and County regarding COVID-19-related messages; continuing coverage of local public meetings, adapting to the virtual, rather than in-person, meeting environment; 23 elections programs, including live primary and general

election night coverage and commentary, all done remotely; as well as videos highlighting how local restaurants adapted during the pandemic to be able to continue serving their customers.

This level of programming, despite the challenges in developing and completing productions and airing the programming, was nearly consistent with the high level of programming produced in recent, pre-COVID years. Specifically, in 2019, 337 programs were produced equating to 435 hours of original, local programming, and in 2018, 396 programs were produced offering 429 hours of locally produced programming.

On Channel 21/321, CVTV also provides news programming, a Seattle broadcast network affiliate, KIRO. Overall, CVTV provides video programming throughout the program day with some bulletin board programming running in the overnight hours and between video programs, depending on the length of the program.

CVTV notes that its primary mission “is to engage and inform citizens about local government and public affairs through television, web and social media”. As such, CVTV also streams both channels real time and provides a number of its programs online, on-demand through archives accessible through its website.

During 2020, CVTV’s online presence generated 2,435 total plays for a total play time of 804 hours and 21 minutes. This included 1,731 programs accessed on demand, 386 programs accessed live and 318 24/7 live streams. The top viewer location was the City of Vancouver, and total views during 2020 came from over 23,000 unique viewing locations. As explained in more detail later in this Section, CVTV has a variety of facilities for the production of programming, including the Council Chambers in City Hall, the CVTV Studio in City Hall, the Clark County Public Service Center, the Port of Vancouver Boardroom, the Fort Vancouver Regional Library, the C-TRAN Administrative Building and the Northwest Regional Training Center. Beyond this, a substantial amount of programming is produced in the field.

The City/County Video Services Manager is responsible for the operation, programming content development and scheduling of the channel. The Director is assisted by 2 FTEs. CVTV’s capital production, post production and playback equipment is primarily funded through the PEG Fee, and its operations are funded by the City and the County.

Interviews and Focused Discussions Concerning Vancouver/Clark County Government Access

Throughout the course of the PEG Access Needs Assessment portion of the project, discussions were held with the Video Services Manager concerning CVTV operations, facility and equipment use, and video programming and other content development. Additional discussions were held during the onsite visit by Carson Hamlin in late August of 2021. The results of these discussions were used to help develop the facility and equipment projections and the Needs Assessment’s Conclusions and Recommendations related to CVTV and Government Access television overall.

Additionally, input from community organizations during a focused discussion held in early August, 2021, and several survey responses filed by community organizations in the Fall of 2021 were also helpful in identifying and reaching conclusions and recommendations related to Government Access needs.

Further, also in early August of 2021, a focus group was conducted with City, County and regional government agency and community partner organization representatives to discuss their experiences with and needs related to CVTV and Government Access television. The focus group was guided by a PowerPoint discussion guide that covered a variety of topics including: strengths of the current CVTV Government Access operation; areas that need enhancement or improvement; opportunities to implement enhancements, improvements and additional content development envisioned for the future; support for content development for the partner agencies by CVTV staff; and overall content development and service delivery needs for Government Access in the future.

Attendees at the focus group included representatives from the Vancouver Parks Department, the staff to the Vancouver City Council, Clark County Communications, Clark Community Development Department, C-TRAN, a regional transportation agency, and the League of Women Voters of Clark County. Job functions of the participants included Public Information Officers, Communications Manager, Clerks and Assistants to elected and appointed officials and Executive leadership.

The following are the key findings from that focus group discussion:

- **CVTV provides critical information to City and County residents and organizations** – Participants in the focus group indicated that one of the key benefits of the information provided by CVTV through its video programs and other content on the channels and online was that the information could be counted on to be accurate and thorough, not just sound bites. Essentially, CVTV serves as a trusted clearinghouse for all types of public agency and governing body-sponsored information.

Participants noted that the pandemic further reinforced how CVTV is able to react and adapt to whatever the situation is to continue to be a crucial information resource to City and County residents. In other words, whatever is required, CVTV creates the innovations needed (such as the hybrid cable-online virtual provision of elected official meetings during the pandemic) to continue to be a crucial information resource.

- **CVTV promotes and provides transparency that is essential to trust and civic engagement in government** – Participants noted that CVTV covers myriad City, County and regional public agency government meetings and, as such, not only serves as a window into the ongoing operations of local government, but also promotes engagement by those who couldn't, because of the circumstances of the pandemic, or because of their own situation (lack of transportation, homebound for health reasons, etc.) couldn't participate, regardless of the pandemic.

- **CVTV promotes diversity and inclusion** – Focus group participants noted that CVTV’s Government Access channels provide programming that not only informs and educates the viewing public on the diversity of issues that are faced by the City and the County and its residents, but also develops content that reflects the diversity of the Vancouver/Clark County community. As such, it fosters an inclusive environment where viewers do not feel excluded and instead feel that the content is pertinent to them.
- **CVTV helps educate and expand the impact of the educational efforts of its partner agencies** – Focus group participants noted that CVTV’s experienced staff have the ability to turn complicated concepts into understandable content in a very accessible video program. One participant noted that CVTV was adept in helping them develop “explainer videos” that provide agencies’ educational and informative content in an interesting, attractive and approachable manner; consequently, making the information easy to understand. The League of Women Voters’ representatives discussed how CVTV’s work with them on voter education about candidates and issues contributes greatly to their efforts and civic engagement overall. Other participants noted that CVTV puts a lot of “creative thinking” into the programming developed, and because of this, the content attracts viewers that are subsequently informed and educated.

Participants also noted that CVTV’s productions were of “high quality” that result in a highly satisfactory viewing experience that, again, enhances the impact of the information presented.

- **CVTV amplifies the efforts of its partner agencies** – Participants noted that the CVTV staff well understands the needs of its partner agencies and, as such, effectively enhances the outreach of those agencies.

CVTV, with its experience in developing effective video content, adds to the resources of the agencies and provides another platform beyond the ones that they might otherwise only have available. Participants also noted that the combination of live coverage and produced content enabled agencies to efficiently, effectively and continually get their message out.

Participants also noted their longstanding history in working with CVTV, and that they have always had a good working relationship. They noted that this team effort results in producing effective video programs.

Participants also noted that CVTV was quick to react to the needs of the partner agencies. Accordingly, CVTV serves as a valuable resource, for example, when there are immediate needs to communicate.

- **In today’s multi-platform environment, CVTV’s online streaming and on-demand presence is important** – Participants noted that with residents, businesses and community organizations accessing content through so many different platforms, it was important that CVTV maintain and, as needed, enhance its delivery of services through multiple means. As an example, CVTV’s ability to respond to the pandemic was critical in enabling full

virtual meetings which then migrated to a hybrid environment. This adaptability has allowed the public face of government to continue on nearly unimpeded and allowed people both now and in the future to continue to interact remotely with their elected officials in a meaningful way.

- **Going forward, participants noted a number of enhancements that would be beneficial to CVTV and Government Access overall** – Participants discussed a number of enhancements that they believe would continue to expand the accessibility of the news, information and education that CVTV is known for, including:
 - **New content development** – League of Women Voters’ representatives noted that there is a great need in the community for civics education. They currently provide forums, programs and education that aren’t able to be covered by CVTV. If CVTV had the resources in the future to expand programming efforts in this regard, it would expand the amount of programming that could be produced in partnership with one another (expansions of other types of programming were noted by residents in response to the Residential Community Surveys, as profiled in Section A of this Report).
 - **Programming accessibility** – Participants indicated that it would be important for CVTV to continue to enhance the accessibility of its programming through developing more programming in multiple languages (Spanish and Russian were mentioned most often) and through enhanced use of closed captioning for the deaf and hard of hearing community.
 - **Expand live origination connections** – A number of new live origination connections were noted by focus group participants, including locations such as:
 - The Convention Center
 - Community Centers throughout Vancouver and Clark County
 - Fort Vancouver
 - The envisioned new Performing Arts Center
 - College and University campuses
 - The County Fairgrounds Event Center
 - The Water Resource Education Center
 - Esther Short Park
 - **Additional staff** – Focus group participants noted that the current relatively small staff was efficient and effective in being able to produce the high level of programming that is created on an annual basis. With the additional content that could be developed that would be beneficial for City and County viewers, it will be important to find ways that staff could be expanded.
 - **Provision on multiple platforms** – Participants noted that it was important to continue to ensure the utility of CVTV by enabling its video programming to be provided over multiple platforms through both streaming and on-demand access.

There was discussion of a potential CVTV app, for instance, that with one push of a smart phone icon would lead you to be able to access myriad Government Access content.

- **Keeping up with technology** – Participants noted that in order to maintain the high quality of CVTV’s programming in the future, it will be important to keep up with technological advances in video and television (HD/4K, as an example) and always be able to find video content in the formats that viewers expect.
- **Expand promotion of CVTV** – Participants agreed that it was important to expand the publicity about what CVTV has to offer. They noted that by increasing awareness; reaching out to diverse audiences with the types of programming that they want to see and making it highly accessible to them in multiple ways, this would attract, increase and keep viewers.

One participant noted that CVTV, by partnering with entities that already reach diverse populations, could leverage such partnerships to expand both programming diversity and promotion of the channels to diverse audiences.

Findings – Educational Access

Educational Access is provided on three SD channels, Comcast 27, 28 and 29, and Channel 28 is simulcast in HD on Channel 328.

The Vancouver Educational Telecommunications Consortium (TV ETC) is coordinated by Educational Service District (ESD) 112 and is made up of a variety of educational organizations within Clark County, including:

- Battle Ground Public Schools (BGPS)
- Camas School District
- Evergreen Public Schools (EPS)
- Hockinson Public Schools
- La Center School District
- Vancouver Public Schools (VPS)
- The Washington School for the Deaf
- Washougal School District, and
- Other Educational Organizations within Clark County

The TV ETC channels lineup is coordinated and scheduled by TV ETC with programming primarily produced by Battle Ground Public Schools, Evergreen Public Schools and Vancouver Public Schools.

TV ETC and the three-video program-producing School Districts submitted a wealth of information for review by CBG. Additionally, a TV ETC focus group was held which included ESD 112 and TV ETC representatives as well as key operational and program production personnel from EPS and VPS. A separate smaller group interview was held with representatives from BGPS. Additionally, a number of discussions were held with TV ETC's Video Coordinator, and site visits were made to the TV ETC master control facilities at ESD 112 and video production locations within the three program-producing School Districts.

Overview of TV ETC's Educational Access Channels and School District Video Production Partners

TV ETC's master control facilities are within the Communications Department at Educational Services District 112 located in Vancouver. TV ETC has two employees, a TV ETC Coordinator and a Playback Operator, both at 7/8 FTE. TV ETC's channel operations are also supported by a half-time TV ETC Video Coordinator and a half-time TV ETC Administrative Specialist. TV ETC also employs freelancers and contractors on an as-needed basis to ensure the proper operation and distribution of a large amount of high-quality content on all four of the TV ETC channels.

The four TV ETC channels provide video programming throughout the majority of each programming day, with some reader board content shown in between video programming. In its

most recent Annual Report dated May, 2021, TV ETC indicated that it averaged 21 hours of video programming per day on Channel 27, 23 hours per day on Channel 28 (simulcast in HD on Channel 328) and 23 hours per day on Channel 29. Channel 29, besides locally produced programming, also shows *Classic Arts Showcase* in the late night and overnight hours.

The amount of original local educational programming provided by the TV ETC members for 2020 (the annual period covered by the May, 2021 report), was down substantially from previous years at 157 hours of locally produced educational programming. This was due to the impact of the pandemic on public schools and the move to virtual education for a large portion of the school year, thus limiting access to production facilities and causing the canceling of multiple sporting events and other activities typically covered by the three School Districts that are the primary providers of programming for TV ETC. In previous years, more than double that amount of local educational programming was produced. TV ETC and its members anticipate that the May, 2022 report, showcasing programming produced and provided in 2021, will show video program production back up toward pre-pandemic levels.

The three major School Districts that produce programming provide it to TV ETC's server and master control through fiber optic connections between the individual School Districts and ESD 112. Each of the School Districts and their provision of programming are profiled next.

Battle Ground Public Schools

Educational Access programming produced by BGPS primarily emanates from one of its high school studios and from the use of multi-camera field production equipment covering sports and other events throughout the School District. The productions are developed by BGPS's video teacher and a roster of student volunteers. Video programs are produced by the video teacher and between 3 and 8 student volunteers, depending upon the type of production and the availability of students. The programming consists of everything from sports programming to coverage of school concerts and student activities at the schools throughout the district.

Evergreen Public Schools

EPS has a larger staff than BGPS, including two full-time District staff (the Electronics Communication Supervisor and the Video Services Coordinator) who together coordinate the coverage of live sports, concerts and other performing arts and various events, news and information sponsored by the District and schools throughout EPS.

Also, the District Career and Technical Education program enables students to take various courses in digital arts that include video production, with four full-time teachers leading video production classes. The coursework in these classes produces additional Educational Access programming for EPS. Specifically, in any given year, more than 60 students take part in live and prerecorded video productions that are provided to TV ETC for cablecast on the Comcast channels. Further, the EPS Video Services Department offers video production internships, and these interns learn high-level video production skills and, in turn, assist District staff members in video productions at the District level.

Facilities used by EPS include a variety of single camera and multi-camera field production equipment which is utilized throughout the District and high schools and in the District's Sports Stadium. There is also an EPS District-level studio, several high school studios and five high school auditoriums that are used to produce video programs that cover high school events.

Vancouver Public Schools

VPS has two District-level employees, one that works year-round and one that works during the school year. The VPS Athletic Department also funds two contract positions that work on live sports broadcasts. Additionally, the VPS Career and Technical Education Department provides 5-10 student interns per year to assist in a variety of sports and other video production projects, as well as 10-20 student volunteers who also work on various productions throughout the school year. Similar to EPS, VPS productions focus on sports, the arts and coverage of events and activities at various schools throughout the School District. VPS covers their School Board meetings as well.

Similar to EPS, this level of video production requires a variety of single camera and multi-camera field production equipment being used throughout the District at various high schools and at the District Sports Stadium. There is also a District-level studio, the School Boardroom, several high school studios and studio control rooms with fixed equipment. In addition, there are a number of high school auditoriums that require video production equipment.

Focus Group with TV ETC and School District Personnel

In mid-September of 2021, a focus group was held with a variety of Educational Service District 112, TV ETC and School District personnel from the Vancouver Public Schools and the Evergreen Public Schools.

Based on the timing of the focus group, personnel from Battle Ground Public Schools were not able to attend, and, therefore, a separate discussion was set up with BGPS.

The attendees at the focus group represented a range of functions and leadership roles, including Executive Director, Director, Supervisor, Manager, Chief, Specialist and faculty, providing for a knowledgeable and diverse group of participants. This included: TV ETC Board Members; the TV ETC Coordinator; the Executive Director of Communications and Public Engagement for ESD 112; the Chief Communications and Public Engagement Officer for VPS; the Moving Image Arts Teacher for VPS; the Executive Director of Communications for EPS; the Electronic Communications Supervisor for EPS; the Fine Arts and TV Specialist, K-12 for EPS, and the Director of Athletics and Activities for EPS. Also attending the meeting was the former TV ETC Coordinator for the past 20 years, who provided a wealth of institutional knowledge, and the Video Services Manager for the City of Vancouver and Clark County, who oversees PEG Access for the City/County Cable Television Office and the City/County Telecommunications Commission.

A PowerPoint focused discussion guide was used as a basis for the topics discussed during the focus group, which included subjects such as the importance of local educational programming

available in Vancouver and Clark County; the strengths of current Educational Access programming; the areas that need improvement or enhancements; the opportunities that participants see to enhance Educational Access television in the future; the importance of offering programming online to complement cable-based Educational Access television; characteristics of live program origination; additional needs for student-generated productions in the future; challenges that participants envision will need to be overcome in the future; and any wrap-up comments they may have. Key findings from the TV ETC Educational Access focus group were the following.

- **The TV ETC channels are very important to students and their families** – Participants noted that video programming on the TV ETC channels provides an ongoing documentation of the activities of students for their parents to be able to view and observe and the students to be able to see themselves in action. Overall, it provides an ongoing window into the various schools and their activities, initiatives and programs. As such, these programs represent an important part of the information provided by the School Districts to the community over the course of any given school year.
- **TV ETC provides local information and local stories from an educational perspective** – Participants noted that other sources for hyper-local news in the Vancouver and Clark County community were fading away and that the TV ETC channels, from an educational perspective, fill the gap in the information provided to the community that is otherwise not available from other sources. Accordingly, the video programming on the TV ETC channels is important not just to students and their families, but also to the entire Vancouver and Clark County community.

Essentially, the video programs provide coverage of what is happening in the schools and allows all those in the surrounding area to be informed and to be engaged in what's happening, whether it be sports, performing arts or coverage of other events and activities in the Districts. Participants noted that TV ETC shows the whole community what the Districts are doing and, as such, provides them with examples of the “return on the community’s investment” in the various School Districts.

- **TV ETC provides broad accessibility to the public to school activities and information** – Participants noted that, especially for those that are mobility limited or otherwise place-bound, the ability to participate in events through live broadcasts, when they can't participate in person is critically important. This was especially highlighted during the pandemic when the video provided by TV ETC, through both the Comcast channels and the School Districts' online presence, provided a virtual connection between the Districts and children, their parents and the general public.
- **TV ETC channels speak to the diversity of the students in the Vancouver and Clark County schools and how their diverse needs are being met** – Participants noted that the programming on the TV ETC channels “crosses all paths”. In other words, the programming that is developed seeks to reflect and promote the diversity of the students in the various schools, their activities and their experiences. Whether it be poetry

competitions, regional arts shows, athletics or other District-sponsored events, the TV ETC programming shows the multi-faceted learning experience that is occurring in the various schools.

Again, this was really important during the pandemic, where some activities were cancelled altogether, and others could occur but only fully virtually. In this case, only video programs can provide the in-depth coverage of those virtual events.

- **The PEG capital fund is extremely important in assisting the public schools in accessing the equipment they need to develop high quality programming** – Participants noted that the School Districts see the development of video programming and the use of the TV ETC channels as a partnership. Specifically, while the Districts spend the operational dollars and develop the personnel resources to produce video programming, the PEG capital funds (coming from the Comcast PEG Fee) assist them in procuring much of the production equipment that they need. This partnership helps promote equity by meeting the needs of students involved in video productions throughout the various School Districts and also by meeting the needs of the smaller Districts and providing them with an outlet for their programming and outreach efforts.
- **Public school students are involved in the productions and benefit from the experience of helping develop Educational Access programming** – Participants, especially those directly involved with students in the production of programming, indicated that another important aspect of Educational Access television was helping students learn valuable video production skills. It also enables them to take on leadership roles such as producing and directing video programs, and for some, it's the start of a career path. For the Districts themselves, it also helps support the production of more original programming because it provides crew and other personnel for production purposes.
- **Participants noted a variety of capital, capacity and operating-related needs going forward in the future** – These needs expressed included:
 - **The Districts need to keep up with advances in technology** – This means being able to continue to migrate and advance their production technology to HD/4K and successor technologies as that evolves over the life of a renewed cable franchise projected at 10 years.

This also means getting all three TV ETC channels in HD. This is the industry standard now, and programming is being produced in HD throughout the public schools, but has to be down-converted for playback on the Comcast SD channels.
 - **Expansion of video on demand (VOD)** – TV ETC sees this as an extremely valuable service and needs to increase the number of hours available on Comcast's video on demand platform from 5 to 10 to 15. This will continue to help complement their online presence on YouTube.

VOD programs also needs to be easier to get to on the Comcast VOD menu. For example, participants noted that, because TV ETC Sports is some of their most popular programming, having it appear as a selection higher up in the on-demand menu would increase its utility and viewer awareness of the programming.

- **New live origination connections are needed** – Participants noted that while some live events can be facilitated by using bonded cellular systems, additional fiber or other wireline connections would be helpful for sporting events that come from baseball and soccer fields, for example.
- **There needs to be support for certain operational costs** – This includes funding for putting listings on the onscreen menu/digital guide and for supporting subscription services, such as software updates and music services. A number of these were previously capital costs, and support for them would be useful to the Districts while they focus operational dollars on human resources.

Additionally, the listing on the onscreen guide will help provide full functionality for the TV ETC channels; for example, for DVR recording and other channel use functions.

- **New video programming and content is anticipated for the future that will need PEG capital funding and other support** – For example, both VPS and EPS envision the ability to provide additional news and information programming by leveraging daily, live news shows that currently occur at a variety of different schools. Further, more feature stories about teachers, how they work and what they envision for the future of education from their perspectives, are envisioned as well.
- **Additional operational support is needed** – Participants discussed the need for certain types of additional operational funding such as small stipends for teachers involved in video production that would help expand the amount of original programming that can be produced.

Also, there is a need for a broadcast/television engineer to replace a current person who is retiring. This position could be developed to assist all the Districts with broadcast engineering needs.

- **More promotion of TV ETC is needed** – While participants indicated that they are sometimes stopped while they are out in public and asked about programs that residents have seen, they still believe that many are unaware of the amount and diversity of programming that is on TV ETC channels. Accordingly, a broader push for promotion of the TV ETC channels as part of TV ETC's and the Districts' overall communications and outreach strategies would help with both viewer awareness and viewer engagement.

Focused Discussion with Representatives from Battle Ground Public Schools

A focused discussion was also held with the Communications Officer from Battle Ground Public Schools, who is also a TV ETC Board Member, and the Video Production teacher at Battle Ground Public Schools, concerning the Educational Access programming developed by BGPS for the TV ETC channels. A focused discussion guide was used for the discussion with the BGPS representatives that covered the same subject matter as discussed during the broader TV ETC focus group. Key findings from that focused discussion are the following:

- **The programming produced by BGPS for the TV ETC channels is important to the community served by Battle Ground Public Schools** – BGPS believes that the programming produced for the TV ETC channels is important to the community based on feedback from students, parents and other members of the community that BGPS serves. Specifically, they indicate that the live programming and the sports programming that they produce is the most viewed by the community, especially big live events like games between high school sports rivals. They indicate that high school graduations are also viewed by many and that coverage of arts events helps expand their audience.

Essentially, BGPS focuses on content that the community likes to see.

- **BGPS wants to expand its programming provided to TV ETC for provision over the channels in the future** – BGPS currently employs a Video Producer for the Communications Office that only produces productions for the District's online presence. Participants in the focused discussion indicated that it will be beneficial in the future to leverage some of this programming for transmission over the TV ETC channels as well.

Also, some programming such as School Board meetings, which continue to be conducted via Zoom but now in a hybrid fashion, are only streamed. It would be beneficial to provide this programming over the TV ETC channels, too.

Further, a focus on having mobile equipment available at both of the high schools (the video teacher's time is split between teaching production classes at each high school, but to date, much of the equipment for Educational Access program production was only available at one of the schools) would enable BGPS, with additional crew assistance, to expand the amount of programming and provide more diverse programming over the channels. One example is more news style programming which would leverage video already being produced by students in some of the schools providing information about their school activities. Participants in the focused discussion also talked about potentially doing a news magazine-style show as well as a video podcast. The news magazine-style show could leverage portions of longer productions edited into a magazine format, and a video podcast could be produced in a quicker and more efficient timeframe.

- **It would be useful to expand staffing if the operational funding was available** – Participants in the focused discussion noted that much of the envisioned expanded

production is related to staffing availability, and, accordingly, personnel resources would need to be developed to assist the current video teacher, as well as potentially leverage more student resources. Technology can play a part by making some functions more automated, but to achieve all of their future programming needs, some additional level of personnel would be needed.

- **More promotion of BGPS programming on the TV ETC channels is needed** – BGPS participants noted, similar to those in the larger focus group, that it will be important to have detailed program descriptions on the Electronic Program Guide. The District itself also wants to do a better job of promoting the presence of its programming and availability of the diversity of programming for viewing on the TV ETC channels through the use of its own newsletters and other outreach materials. All of this will help increase viewership.
- **Involvement of the students in BGPS programming is critically important** – Not only do the students provide critical personnel for crew and other production-related activities, but involvement in such activities provides important skills and learning for the students. As they become more adept, the ability for BGPS to rely on students to efficiently and effectively assist in productions increases. In the future, BGPS wants to have more student-produced shows as well as student-directed shows where there is a great deal of reliance on the students and less reliance on the faculty. This is a win-win-win for the students, the School District and the viewers.
- **It will be important for BGPS programming to be available in multiple formats and to keep up with technology** – Participants in the focused discussion noted that, while it was producing programming in high definition, it wasn't always appearing in high definition on the TV ETC channels (only one of the TV ETC channels is in HD). Accordingly, it is important for the BGPS programming to be consistent with the industry standard (currently HD migrating to HD/4K) and also to be available in HD/4K as that becomes the dominant form of both production and viewing over multiple platforms.

Additionally, it will be important for BGPS to continue to have, through TV ETC, access to a video on demand platform consistent with its ability to provide videos online. Overall, viewers should receive the same technical quality of programming for BGPS productions as they would from any other channel on the cable system.

- **Use of the PEG Fee to support a portion of BGPS' video production equipment needs is very important** – Focused discussion participants noted that the ability to access grants funded by the PEG Fee to obtain the funding necessary for equipment replacement and upgrades as technology shifts was very important and is much appreciated by the District.

FACILITY AND EQUIPMENT NEEDS

In order to help meet the needs described above, CBG developed specific equipment and facility requirements, as described below.

Equipment Baseline Definitions

CBG's assessment established certain "baseline requirements" that apply to CBG's needs assessment and the associated equipment projections for all Vancouver/Clark County Access Television production facilities. The goal of the Baseline Definitions is to define core requirements for programmers to establish video production environments consistent with the current industry standard of HD/4K and other associated digital technologies, and to successor digital technology as it becomes industry standard, in order to meet the needs assessed in this report.

The spreadsheets have been exclusively designed for each entity within the Vancouver/Clark County EG Entities and includes a description of the type and range of equipment and facilities needed in order to function adequately at the HD/4K digital level. Some equipment that is not related to HD/4K digital implementation, but is still critical for video production, is also included in the spreadsheets.

In the report below and in the accompanying spreadsheet (Exhibit C), all recommended equipment replacement is a direct replacement of existing equipment unless noted otherwise.

High Definition and Distribution Options

It's important to consider all forms of distribution when thinking of programming. We continue to see a generation of improved technology that allows for access to information on multiple devices. Our society demands up-to-date information pushed to them through social media, computer and device notifications as well as many smart phone applications.

What this means is that in order to stay viable and competitive for viewership and information sharing, Vancouver/Clark County EG Entities should be prepared to produce programming on all platforms in addition to continue to update their equipment to stay relevant with current and future technology.

School Districts, in particular, rely on these platforms for information sharing. And additionally, sports programming is particularly increasing in popularity as friends and family members are able to watch school sports when they cannot be there in person.

With that in mind, it is important for access providers to use diverse platforms to distribute their programming, including traditional cable TV and streaming platforms. This will ensure the widest possible audience will view their programming.

Accordingly, to address both the traditional TV and new media markets, all new equipment purchased should be High Definition (HD), HD 4K, or HD with a projected transition to 4K in the near future HD/4K is currently the industry standard as well as a 16x9 aspect ratio and produces a high, professional-level video quality.

It is CBG's experience that in order for television providers to remain competitive and expand viewership, they must deliver programming in HD or HD 4K. This applies to Access organizations as much as to commercial cable channels as the vast majority of cable subscribers are primarily watching programs in the HD tiers.

As mentioned above, organizations looking to the future, need to also be aware of HD 4K television that has become more common. This will more than likely become the standard as soon as broadcasters and cable operators are able to optimize compression standards for over-the-air broadcasting and cable system distribution.

There has been a continuing desire to provide local government, educational and local public produced programming for Vancouver and Clark County residents. The renewal of the cable franchise with Comcast has created the opportunity to assess future needs to continue to enhance government and educational programming.

From the data gathered, it is evident that the goal of the Government and Educational stakeholders are to provide a transparent view, essential information, a public forum and overall, a great value to the communities they serve. With the technology identified in the accompanying spreadsheets, information and programming will be accessible to the public and meet these goals.

Based on the information gathered from site reviews, interviews and focused discussions, an analysis was made by CBG to determine the cable-related facility and equipment needs, current and projected, of the Vancouver/Clark County CVTV Government Access and the TV ETC Educational Access operations, using our expertise, experience, comparisons with other similarly situated operations and our understanding of the capital and operating funds needed to meet the needs. We then made pertinent facility and equipment projections, including specifications and costs for recommended equipment. Key projections are detailed below and included in spreadsheets contained in Exhibit C.

Based on the assessed needs of Government and Educational Access program producers and providers as described in this report, CBG recommends that all new equipment purchases be HD with a projected transition to HD 4K at some point before the end of any renewed franchise period. CBG has accounted for this and added technology in the spreadsheets to accommodate this need.

EQUIPMENT DESCRIPTION SUMMARY

The following equipment list describes the functional areas of the City of Vancouver/Clark County, TV ETC, and Vancouver, Evergreen and Battle Ground Public Schools production facilities. Not all of the functional areas are needed by every production facility, but a description is provided for all equipment that has been recommended with a list of the facilities that will require them discussed later in the report.

Field Acquisition

Field Acquisition refers to equipment that would be used for events in the community outside of the normal production facilities. Equipment such as cameras, flypack (studio in a box), aerial drones and mobile production vehicles are included in this functional area.

Post Production

In post-production, raw footage of video and audio are edited to create a finished program. Graphics and other additions can also be inserted to create a more professional product. Software programs will be available for the editor to add creative touches to the product that could include banners, music and multiple graphics to add interest and emphasis to parts of the program.

Infrastructure

Infrastructure includes all the equipment necessary to transport video/audio internally and externally, do live streaming and provide for playback capabilities.

Infrastructure is the backbone for all existing and new equipment needed to communicate throughout the facility and it is essential that current infrastructure components be upgraded and new components be added to handle both the existing equipment and new equipment we have recommended.

General Production Requirements-Storage and Playback Requirements

The General Production Requirements area refers to equipment such as archival storage, playback servers, and character-generating systems that support the operations and distribution of programming.

Archival storage is vital in most production environments and has been accounted for in every entity for Vancouver.

Current playback technology is very robust and flexible, with the ability to transcode multiple format types. With advanced automation capabilities, current playback equipment enables

playback scheduling to be programmed for multiple days or weeks if desired. Modern playback technology also has the ability to output playback schedules to web sites and social media.

Studio/Studio Control

Studio and Studio Control speaks to the equipment necessary to produce programming in a studio environment. This is generally including interview-type programs, roundtables, and smaller panel discussions.

Council Chambers/Council Chamber Control Room

In this functional area, equipment is included for programming that includes public meetings or larger gatherings related to government business.

School Board Room/School Board Room Control

In this functional area, equipment is included for programming that relates to School Board functions, public meetings and district activities.

Ancillary Equipment

This spreadsheet category includes basic items such as teleprompter equipment, PA, miscellaneous stands, tripods, recorders, workstations, fixtures, and the like, plus their upgrades and replacements.

In working with many communities, this type of equipment usually needs replaced on a regular basis as it also includes consumables such as light bulbs, connectors and other small items that are needed in the production facility. This will further include other items such as equipment racks, audio/video cables, batteries, gaffers' tape and other similar items.

Rather than calling these items out separately, we recommend this as a new budgetary line item to accommodate these types of replacements. It is necessary for any Government and Educational production facility and must be replaced, upgraded and added to, over the term of a renewed franchise.

Installation/Training/Warranty

Included with all the entities in the accompanying spreadsheets, a line item has been included for "Installation, Training and Warranty".

This is included for those costs not covered in the actual purchase price of the equipment but will be needed to make the equipment functional and integrated with the entire operation. This cost is calculated to be 30% of the cost of such equipment. This is an average percentage taking into account some equipment, such as field cameras, that may not require a great deal of integration or

training as well as other equipment, such as productions switchers and playback systems, that will require a great deal. For budgeting purposes, CBG has averaged out the overall cost across the entire equipment projections.

Sales Tax

Sales tax of 8.8% is required by the State of Washington for all the Entities included in this report. CBG has accounted for this requirement in the accompanying spreadsheet projections.

Replacement and Purchase Strategies

Within the accompanying spreadsheets, CBG has provided ten-year projections of replacement equipment need as well as recommendations of when equipment should be initially purchased. This is based on current equipment age and condition as well as industry-standard expected lifespans.

ENTITY SPECIFIC EQUIPMENT NEEDS

CITY OF VANCOUVER/CLARK COUNTY (CVTV)

While conducting the needs assessment, CBG reviewed the operations of the two CVTV government channels (Channels 21/321 and 23/323) in SD and HD format.

Channel 21 plays local government programming and also re-cablecasts news from a local Seattle broadcast network affiliate. Channel 23 plays local government programming and local bulletin board information.

CVTV also televises from several locations throughout the community including the City building, County building, Library, Port of Vancouver, C-TRAN and the North-West Regional Training Facility and uses their mobile flypack equipment to televises from many other locations using fiber transport. CVTV uses Comcast fiber for most of the transport except the C-TRAN location. There are twelve fiber-connected locations identified in the accompanying spreadsheets.

It should be noted that the Library and the County both have their own control room because of the need to have control room operations close to the meeting rooms used to televises from. Staff needs to be physically close to presenters to assist with technical needs.

Field Acquisition

Equipment that is needed includes:

- ❖ Three professional-grade camera packages
 - These types of cameras have a more complicated menu and offer a greater variety of shooting styles.
 - Tripod
 - 2 channels of wireless audio
 - Light kit and accessories
- ❖ Two DSLR camera packages
 - Single channel wireless audio system
 - Light-weight tripod
 - Interchangeable lens package
 - Portable light kit
 - 32GB memory card
 - Carrying case.
- ❖ Audio Field Packages
 - 16-channel audio mixer
 - 12 boundary tabletop microphones
 - Audio Snake
- ❖ Flypack

- Three PTZ tilt, zoom (PTZ) remote cameras and camera controller
- Two traditional cameras
- Portable switcher capable of switching live camera feeds
- Computer inputs and includes a CG, 32" multiviewer monitor
- Bonded cellular encoder/decoder and tapeless recorder.
- ❖ Flypack (Studio in a Box)
 - Intended use with studio cameras
 - Portable switcher capable of switching live camera feeds
 - Computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder
 - Housed in a flight case and can be integrated with camera field packages
- ❖ Mobile Production Vehicles
 - Two customized Sprinter van
 - One SUV

There are three vehicles identified in the spreadsheet, two vans and one SUV. All of these are direct replacements of existing vehicles.

In the accompanying spreadsheet, two flypacks are recommended, one larger with increased capabilities such as bonded cellular, three PTZ robotic cameras and two traditional cameras. This is intended to be used for large events such as large meetings and community events. The smaller flypack is intended to be used for smaller meetings in the buildings and used with the existing studio cameras or with the field packages as necessary.

Post Production

Equipment that is needed includes:

- ❖ One system for post-production which includes:
 - Ingestion system
 - Audio Mixer
 - Engineering Monitoring
 - Edit Systems
 - Portable Edit Systems (6)
 - Solid State Recorder
 - Duplication Systems

Six portable edit systems are currently used by staff in remote locations and various control rooms. This adds to flexibility, productivity and the ability to edit programs quickly when needed.

Infrastructure

Equipment that is needed includes:

- ❖ Optical Transmitters/Receivers (12)

- ❖ Video Over Ethernet Encoder
- ❖ Bonded Cellular Technology
- ❖ Closed Captioning Encoder (2)
 - Should be able to utilize cloud automatic voice to text captioning or traditional live transcription
- ❖ Cabling
 - 1000 feet
- ❖ Routing
 - 16x16 HD/4K Router
- ❖ Patching
- ❖ Signal Converters

General Production Requirements-Storage and Playback Requirements

Equipment that is needed includes:

- ❖ Archival Storage – 160 Terabytes
- ❖ LTO Storage – 576 Terabytes
 - Linear Tape-Open or LTO Storage is a magnetic tape data storage technology as an open standards alternative to the proprietary magnetic tape formats that were available at the time. The City of Vancouver/Clark County uses this technology for long-term storage which is more economical than hard-drive storage.
- ❖ Server Based Playback Systems (2) (CableCast)
- ❖ On Demand Streaming Encoders (2) (CableCast)

Studio/Council Chambers/Aspen Room/Combined Control

Equipment that is needed includes:

Studio

- ❖ Three PTZ Cameras including tripod and tripod adapter
- ❖ Teleprompter System
- ❖ Monitoring (1)
- ❖ LED Lighting System
 - Multi-colored lighting
 - Dimmer control
 - Upgradable emitter technology
- ❖ Virtual Set Technology

Council Chambers

- ❖ Three PTZ Cameras including tripod or wall mount adapter (3)
- ❖ Wired Audio Microphones (12)
- ❖ Wireless Audio Microphones (2)
- ❖ TV Monitors – 65” (4)
- ❖ Assisted Listening Devices (3) (County, C-Tran, City Hall)
- ❖ Digital DSP Audio System

Aspen Room

- ❖ Four PTZ Cameras including tripod or wall mount adapter
- ❖ Wireless Audio Microphones (1)
- ❖ Video Projection System
- ❖ Assisted Listening Devices (3) (County, C-Tran, City Hall)
- ❖ Digital DSP Audio System

Combined Control Room

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - File storage
 - Virtual set technology
 - Multi-viewer output
 - Chromakey production
 - 10 inputs
- ❖ Robotic Camera Control
 - Control multiple cameras
 - Stored presets
 - Camera setup capability
- ❖ Character Generator
 - Built-in stillstore
 - 3D graphics and motion clip playback
 - If included in the Switcher, this category as a standalone item is not necessary
- ❖ Audio Mixing
 - 32 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder
- ❖ Cooling Systems
 - Capable of cooling 20 BTUs for every square foot of space needed with a low sound to noise level and a high energy efficiency ratio
- ❖ Misc. D/A's and Cabling

Vancouver Community Library

Equipment that is needed includes:

Library

- ❖ Four PTZ Cameras including tripod or wall mount adapter

Library Control

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - File storage
 - Virtual set technology

- Multi-viewer output
- Chromakey production
- 10 inputs
- ❖ Robotic Camera Control
 - Control multiple cameras
 - Stored presets
 - Camera setup capability
- ❖ Character Generator
 - Built-in stillstore
 - 3D graphics and motion clip playback
 - If included in the Switcher, this category is not necessary
- ❖ Audio Mixing
 - 32 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder
- ❖ Misc. D/A's and Cabling

Clark County Meeting Rooms

Equipment that is needed includes:

Hearing Room

- ❖ Four PTZ Cameras including tripod or wall mount adapter
- ❖ Wired Audio Microphones (12)
- ❖ Wireless Audio Microphones (2)

Training Room

- ❖ Three PTZ Cameras including tripod or wall mount adapter
- ❖ Wireless Audio Microphones System
 - Includes 8 microphones
 - Rechargeable batteries/docking station

Hearing/Training Room Control

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - File storage
 - Virtual set technology
 - Multi-viewer output
 - Chromakey production
 - 10 inputs
- ❖ Robotic Camera Control
 - Control multiple cameras
 - Stored presets
 - Camera setup capability

- ❖ Character Generator
 - Built-in stillstore
 - 3D graphics and motion clip playback
 - If included in the Switcher, this category is not necessary
- ❖ Audio Mixing
 - 16 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder
- ❖ Misc. D/A's and Cabling

Ancillary Equipment

CBG is recommending a budgetary item which includes \$10,000 per year for ancillary equipment during a 10-year franchise period.

THE VANCOUVER EDUCATIONAL TELECOMMUNICATIONS CONSORTIUM (TV ETC)

TV ETC acts as the educational hub transmitting programming from three local school districts, Vancouver, Evergreen and Battle Ground. They operate four channels on the Comcast system. While Channels 27, 28 and 29 are standard-definition, 328 is the high-definition version of Channel 28. Their desire is to have all of their channels in high definition.

TV ETC staff indicated they currently have five hours of video-on-demand content on the Comcast system and have a desire for more hours because of the amount of programming they produce. They stated ten to fifteen hours would be adequate.

Field Acquisition

Equipment that is needed includes:

- ❖ Two professional-grade camera packages
 - These types of cameras have a more complicated menu and offer a greater variety of shooting styles.
 - Tripod
 - 2 channels of wireless audio
 - Light kit and accessories
- ❖ Two DSLR camera packages
 - Single channel wireless audio system
 - Light-weight tripod
 - Interchangeable lens package
 - Portable light kit
 - 32GB memory card
 - Carrying case
- ❖ Aerial Video Drone – (This item would be a new acquisition, instead of a replacement of existing equipment. The equipment specified in this Section C are replacements and upgrades of existing equipment, except where noted as a new acquisition.)
 - Capture HD and 4K video
 - Include a 3-axis gimbal stabilization
 - GPS and vision positioning as well as extra batteries for extended flight time
 - FAA certified pilot required to fly
- ❖ Audio Field Packages
 - 6-8 channel audio mixer
 - Audio snake
 - 8 boundary table-top microphones
- ❖ Mobile Production Vehicle (New acquisition)
 - Customized Sprinter-type van

Post Production

Equipment that is needed includes:

- ❖ One system for post-production which includes:
 - Ingestion system
 - Audio Mixer
 - Engineering Monitoring
 - Edit Systems
 - Turnkey (including both hardware and software) "state of the art" computer with I/O card with dual monitors
 - Portable Edit Systems (New acquisition)
 - Portable laptop computer system with card reader configured for non-linear editing
 - Solid State Recorder
 - Duplication System

Infrastructure

Equipment that is needed includes:

- ❖ Optical Transmitters/Receivers
- ❖ Bonded Cellular Technology (New acquisition)
- ❖ Closed Captioning Encoder (New acquisition)
 - Should be able to utilize cloud automatic voice to text captioning or traditional live transcription
- ❖ Cabling
 - 500 feet
- ❖ Routing
 - 64x64 HD/4K Router
- ❖ Patching
- ❖ Signal Converters

General Production Requirements-Storage and Playback Requirements

- ❖ Archival Storage
 - 30 Terabytes
- ❖ Server-Based Playback System (2)
- ❖ Character Generator (3)
 - Built-in stillstore
 - 3D graphics, and motion clip playback
 - May not be needed if part of the playback system.
- ❖ On Demand Streaming Encoder (3)

Columbia/Pacific Rooms/Control Room

The Columbia and Pacific Rooms are additional rooms used by TV ETC staff and other Educational Service District 112 personnel for public meetings and staff development.

Equipment that is needed includes:

Columbia/Pacific Rooms

- ❖ Three PTZ Cameras including tripod or wall mount adapter (New acquisition)
- ❖ Monitors (2)
 - Used for confidence and engineering monitoring

Columbia/Pacific Rooms Control Room

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - File storage
 - Virtual set technology
 - Multi-viewer output
 - Chromakey production
 - 10 inputs
- ❖ Robotic Camera Control
 - Control multiple cameras
 - Stored presets
 - Camera setup capability
- ❖ Audio Mixing
 - 32 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder
- ❖ Misc. D/A's and Cabling
- ❖ Control Room Remodel (New acquisition)
 - Remodel needed to enclose the control room (currently in a large open office area), An additional HVAC system and raised computer flooring are needed for the remodel.

Ancillary Equipment

CBG is recommending a budgetary item which includes \$10,000 per year for ancillary equipment during a 10-year franchise period.

BATTLE GROUND PUBLIC SCHOOLS

The equipment list in the accompanying spreadsheet for Battle Ground Public Schools is comparatively smaller than the other school districts because the equipment in many typical functional areas is only used for classroom purposes. Of the equipment listed specifically in the spreadsheets, all of it is used for development of cable-related programming.

The accompanying spreadsheet lists recommended replacement years for all the functional areas and within those, there are some years that have larger dollar amounts as compared to others due to the age of existing equipment within the Battle Ground Public Schools.

The equipment recommended for replacement in Years One, Two and Three is older and should be purchased first. This equipment usually has a recommended replacement schedule of five to seven years, meaning it will appear again on the ten-year replacement schedule in Years Eight, Nine and Ten.

Field Acquisition

In some instances, such as the main school district fly pack, the output has been upgraded to support both HD as well as 4K and has supporting equipment such as 4K cameras and bonded cellular transport, designed to transport video over multiple cellular carriers and via a fiber encoder.

The large flypack is equipped with traditional cameras and used for sports production whereas the smaller one, used mostly for concerts and theatre production, is equipped with robotic PTZ cameras intended to be used by one operator. These are replacements of existing equipment.

Equipment that is needed includes:

- ❖ Flypack
 - Used for sports productions
 - Includes 4 HD/4K traditional cameras
 - Portable switcher capable of switching live camera feeds, and slow-motion replay
 - Computer inputs
 - A Character Generator
 - 32" multiviewer monitor
 - Fiber encoder
 - Bonded cellular encoder/decoder
 - Tapeless recorder
- ❖ Flypack
 - Used for concerts and theatre productions
 - Includes portable switcher capable of switching live camera feeds
 - 3 robotic PTZ cameras and controllers
 - Computer inputs

- A Character Generator
- 32" multiviewer monitor
- Tapeless recorder

Infrastructure

Equipment that is needed includes:

- ❖ Optical Transmitters/Receivers
- ❖ Cabling
 - 1000 feet
- ❖ Routing
 - 16x16 HD/4K Router
- ❖ Patching
- ❖ Signal Converters

General Production Requirements-Storage and Playback Requirements

- ❖ Archival Storage
 - 75 Terabytes

Studio/Studio Control

Equipment that is needed includes:

Studio

- ❖ Traditional Studio Cameras (3)
 - Capable of HD/4K production
 - Includes CCU, camera head, studio viewfinder, tripod adapter, and lens
- ❖ Monitoring (2)
- ❖ LED Lighting System
 - Multi-colored lighting
 - Dimmer control
 - Upgradable emitter technology
- ❖ Virtual Set Technology

Studio Control

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - File storage
 - Virtual set technology
 - Multi-viewer output
 - Chromakey production
 - 10 inputs

- ❖ Character Generator
 - Built-in stillstore
 - 3D graphics and motion clip playback
 - If included in the Switcher, this category is not necessary
- ❖ Audio Mixing
 - 16 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder

Ancillary Equipment

CBG is recommending a budgetary item which includes \$10,000 per year for ancillary equipment during a 10-year franchise period.

EVERGREEN PUBLIC SCHOOLS

During the site visit, staff shared that the number of students served by the district is roughly 25,000. There are four high schools with a fifth one currently under construction and all the high schools have active video production activities.

The district is deploying a new type of video transport technology called NDI (Network Device Interface). They are using this to transmit video signals over their IP network from various locations such as the stadium to their video production switcher. Instead of using a fiber transport system, NDI uses a traditional (copper/CAT5/CAT6) network transport which is more economical.

Field Acquisition

Equipment that is needed includes:

- ❖ Twenty (20) prosumer (entry level) grade HD camera systems including:
 - One channel wired audio and accessories
 - One tripod
 - Small lighting package
 - Four cameras for each of the 5 High Schools
- ❖ Four professional-grade camera packages
 - These types of cameras have a more complicated menu and offer a greater variety of shooting styles.
 - Tripod
 - 2 channels of wireless audio
 - Light kit and accessories
- ❖ Five Stadium Cameras
 - Traditional camera
 - Should be capable of HD/4K production
 - Include CCU, camera head, studio viewfinder, tripod adapter, and lens
- ❖ Ten DSLR camera packages
 - Single channel wireless audio system
 - Light-weight tripod
 - Interchangeable lens package
 - Portable light kit
 - 32GB memory card
 - Carrying case
- ❖ Flypack (School District)
 - Six traditional HD/4K cameras
 - Portable switcher capable of switching live camera feeds, and slow-motion replay
 - Computer inputs and includes a CG, 32" multiviewer monitor, fiber encoder, bonded cellular encoder/decoder and tapeless recorder
- ❖ Flypack (General Production)
 - Portable switcher capable of switching live camera feeds

- 3 robotic PTZ cameras and controllers
- Computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder
- ❖ Flypack (High School)
 - Portable switcher capable of switching live camera feeds
 - Computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder
 - Housed in a flight case and be integrated with camera field packages and located in each high school.

Post Production

Equipment that is needed includes:

- ❖ Two systems for post-production, each of which includes:
 - Ingestion system
 - Audio Mixer
 - Engineering Monitoring
 - Edit Systems
 - Turnkey (including both hardware and software) "state of the art" computer with I/O card with dual monitors
 - Solid State Recorder

Infrastructure

Equipment that is needed includes:

- ❖ Optical Transmitters/Receivers
- ❖ Video over Ethernet Encoder/Decoder (4)
- ❖ Bonded Cellular Technology (New acquisition)
- ❖ Cabling
 - 1000 feet
- ❖ Routing
 - 64x64 HD/4K Router
- ❖ Patching (6)
- ❖ Signal Converters

General Production Requirements-Storage and Playback Requirements

- ❖ Archival Storage
 - 200 Terabytes

District Studio/District Studio Control Room

Equipment that is needed includes:

District Studio

- ❖ Cameras
 - Traditional studio camera, should be capable of HD/4K production
 - Camera includes CCU, camera head, studio viewfinder, tripod adapter, and lens
- ❖ Monitor
 - Capable of HD/4K Signal

District Studio Control Room

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - File storage
 - Virtual set technology
 - Multi-viewer output
 - Chromakey production
 - 10 inputs
- ❖ Character Generator
 - Built-in stillstore
 - 3D graphics and motion clip playback
 - If included in the Switcher, this category is not necessary
- ❖ Audio Mixing
 - 16 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder

High School Studios/High School Studio Control Rooms

Equipment that is needed includes:

High School Studio

- ❖ Cameras (12)
 - Traditional studio camera, should be capable of HD/4K production
 - Camera includes CCU, camera head, studio viewfinder, tripod adapter, and lens
- ❖ Monitor
 - Capable of HD/4K Signal
- ❖ Lighting System
 - Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology

High School Studio Control Rooms

- ❖ Switcher

- M/E capable of upstream and downstream keying
- File storage
- Virtual set technology
- Multi-viewer output
- 4 inputs
- ❖ Character Generator
 - Built-in stillstore
 - 3D graphics and motion clip playback
 - If included in the Switcher, this category is not necessary
- ❖ Audio Mixing
 - 8 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder

District Stadium Control Room

Staff expressed a need for a dedicated control room for sporting events taking place at the District Stadium. Currently, equipment is being transported and setup for each event. With the increase in events, it is more practical to have a control room at the stadium to eliminate the wear and tear on the equipment and for staff efficiency. All equipment in the District Stadium Control Room is a new acquisition.

Equipment that is needed includes:

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - File storage
 - Virtual set technology
 - Multi-viewer output
 - 10 inputs
- ❖ Character Generator
 - Built-in stillstore
 - 3D graphics and motion clip playback
 - If included in the Switcher, this category is not necessary
- ❖ Audio Mixing
 - 16 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Intercom System
- ❖ Solid State Recorder

High School Auditoriums (5 Total)

Equipment that is needed includes:

- ❖ Cameras
 - These cameras are robotic, PTZ
 - Capable of SDI or HDMI/4K output
 - Up to 1080p and capable of power over ethernet
 - Costs listed are per camera and could include tripod or wall mounted adapter.

Ancillary Equipment

CBG is recommending a budgetary item which includes \$10,000 per year for ancillary equipment during a 10-year franchise period.

VANCOUVER PUBLIC SCHOOLS

The Vancouver Public School system has a robust video production department with three high schools using video equipment on a regular basis, including auditoriums and a sports stadium.

Field Acquisition

Equipment that is needed includes:

- ❖ Forty (40) prosumer (entry level) grade HD camera systems including:
 - One channel wired audio and accessories
 - One tripod
 - Small lighting package
 - 10 to each existing school
- ❖ Three professional-grade camera packages
 - These types of cameras have a more complicated menu and offer a greater variety of shooting styles.
 - Tripod
 - 2 channels of wireless audio
 - Light kit and accessories
- ❖ Five Stadium Cameras
 - Traditional camera
 - Should be capable of HD/4K production
 - Include CCU, camera head, studio viewfinder, tripod adapter, and lens
- ❖ Ten DSLR camera packages
 - Single channel wireless audio system
 - Light-weight tripod
 - Interchangeable lens package
 - Portable light kit
 - 32GB memory card
 - Carrying case
- ❖ Flypack (School District)
 - Three traditional HD/4K cameras
 - Portable switcher capable of switching live camera feeds, and slow-motion replay
 - Computer inputs and includes a CG, 32" multiviewer monitor, fiber encoder, bonded cellular encoder/decoder and tapeless recorder
- ❖ Flypack (High School) (5)
 - Portable switcher capable of switching live camera feeds
 - Computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder
 - Housed in a flight case and be integrated with camera field packages and located in each high school.

Post Production

Equipment that is needed includes:

- ❖ One system for post-production which includes:
 - Ingestion system
 - Audio Mixer
 - Engineering Monitoring
 - Edit Systems
 - Turnkey (including both hardware and software) "state of the art" computer with I/O card with dual monitors
 - Solid State Recorder

Infrastructure

Equipment that is needed includes:

- ❖ Optical Transmitters/Receivers
- ❖ Video over Ethernet Encoder/Decoder (4)
- ❖ Cabling
 - 1000 feet
- ❖ Routing
 - 64x64 HD/4K Router
- ❖ Patching (6)
- ❖ Signal Converters

General Production Requirements-Storage and Playback Requirements

- ❖ Archival Storage
 - 160 Terabytes

Podcast Studio

All equipment in the Podcast Studio is a new acquisition.

Equipment that is needed includes:

- ❖ Condenser Microphones (4)
- ❖ Audio Mixing
 - 6-8 inputs
- ❖ Headphones (4)
- ❖ Telephone Audio Interface
- ❖ Headphone Amplifier
- ❖ Telescoping Tabletop Microphone Stands (4)

Sports Studio/School Board Room/Combined Control Room

Equipment that is needed includes:

Sports Studio

- ❖ Cameras (3)
 - Traditional studio camera
 - Capable of HD/4K production
 - Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens.
- ❖ Monitoring (2)
 - Capable of HD/4K signal
- ❖ Lighting System
 - Multiple LED fixtures capable of multi-colored lighting
 - Dimmer control
 - Capable of upgradable emitter technology

School Board Room

- ❖ Cameras (3)
 - HD/4K robotic cameras capable of panning and zooming
 - Camera, lens and robotic head
- ❖ Wired Audio Microphones (12)
 - Wired microphones with mute functions and lectern microphones
- ❖ Wireless Audio Microphones (2)
 - Complete wireless microphone system with hand-held and lavalier with transmitter and receiver
- ❖ TV Monitors (4)
 - Three 65" and one 80"
- ❖ Assisted Listening Devices
 - Wireless assistive listening system designed to accommodate up to 5 users
 - Includes wireless transmitters and 5 belt-pack receivers with headphones
- ❖ Scan Converter
 - Capable of converting computer output to SDI video
 - Should be capable of HD/ 4K output

Combined Control Room

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - File storage
 - Virtual set technology
 - Multi-viewer output
 - Chromakey production
 - 10 inputs
- ❖ Robotic Camera Control

- Control multiple cameras
 - Stored presets
 - Camera setup capability
- ❖ Multi-channel Sports Slow Motion Replay System
 - Capable of HD/4K and integrated with the video switcher
- ❖ Character Generator
 - Built-in stillstore
 - 3D graphics and motion clip playback
 - If included in the Switcher, this category is not necessary
- ❖ Audio Mixing
 - 16 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder

School Studios/School Studios Control Rooms

Equipment that is needed includes:

School Studios

Fort Vancouver High School, Columbia River High School, Hudson's Bay High School

- ❖ Cameras (12)
 - Traditional studio camera
 - Capable of HD/4K production
 - Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens.
- ❖ Monitoring (6)
 - Capable of HD/4K signal
- ❖ Lighting System
 - Multiple LED fixtures capable of multi-colored lighting
 - Dimmer control
 - Capable of upgradable emitter technology

School Studios Control Rooms (3)

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - 4 inputs
- ❖ Audio Mixing
 - 16 inputs
- ❖ Multi-view Monitors (8)
- ❖ Engineering Monitor (3)
 - Used for monitoring video output signal
 - Should incorporate built-in waveform/vector scope
 - Capable of analyzing digital signals including HD/4K

- ❖ Solid State Recorder (3)
 - Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow

Other Meeting Rooms (High School Auditoriums)

Equipment that is needed includes:

Auditorium – Fort Vancouver High School

Currently using a Flypack, but staff is requesting eventually being wired to the Studio Control Room

- ❖ Cameras (5)
 - Robotic, PTZ
 - Capable of SDI or HDMI/4K output
 - Capable of power over ethernet
 - Costs listed are per camera and could include tripod or wall mounted adapter
- ❖ Lighting System
 - Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology

Auditorium – Skyview High School

- ❖ PTZ Cameras (3)
 - Capable of SDI or HDMI/4K output
 - Capable of power over ethernet
 - Costs listed are per camera and could include tripod or wall mounted adapter
- ❖ Traditional Cameras (2)
 - Should be capable of HD/4K production
 - Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens
- ❖ Lighting System
 - Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology

Skyview High School – Auditorium Control Room

- ❖ Switcher
 - M/E capable of upstream and downstream keying
 - 4 inputs
- ❖ Robotic Camera Control
 - Control multiple cameras
 - Stored presets
 - Camera setup capability
- ❖ Audio Mixing
 - 16 inputs
- ❖ Multi-view Monitor
- ❖ Engineering Monitor
- ❖ Solid State Recorder

❖ Misc. D/A's and Cabling

Ancillary Equipment

CBG is recommending a budgetary item which includes \$10,000 per year for ancillary equipment during a 10-year franchise period.

PEG ACCESS NEEDS ASSESSMENT CONCLUSIONS AND RECOMMENDATIONS

After review and analysis of all the data and information gathered from the focused discussions, interviews, residential and community organizations surveys, onsite facility reviews, and related web-based and written documents and materials, during the PEG Access Needs Assessment, CBG has developed the following conclusions and recommendations. CBG's recommendations on how these needs should be fulfilled are detailed below and should be pursued with Comcast during franchise renewal negotiations.

- 1. Access Channel Capacity** -- CBG recommends that the current Educational and Government Access Channels be maintained, and that capacity be implemented to provide for all of the Access Channels to be cablecast in HD, as well as an expansion of capacity for the provision of more Educational Access programming on demand, as further described below. This includes continued delivery of:

- a. Two (2) Government Access Channels in HD for CVTV to provide coverage of City, County and regional public agency meetings as well as other programs focused on the Vancouver and Clark County community and City, County and regional government agencies' initiatives, programs and services.

Comcast must also continue to provide each of these channels in an SD version until the entire system may be converted to HD, so that every subscriber, regardless of their tier of cable service, will always be able to receive all of the PEG Access channels.

- b. Three (3) Educational Access Channels administered by TV ETC and providing the programming submitted by Battle Ground Public Schools, Evergreen Public Schools, Vancouver Public Schools and other TV ETC members that serve the Vancouver and Clark County Franchise Area. Each channel should continue to provide coverage of local School District meetings, sporting events and performing arts programs, as well as other programs covering activities and events at individual schools throughout the districts.

Currently, one (1) of the Educational Access Channels is also simulcast in HD. Going forward, all three (3) need to be provided in HD, and similar to the recommendation for CVTV above, each of the channels should continue to be provided in an SD version until the entire system is converted to HD.

It will also be important to ensure that all of the PEG channels are provided in successor formats (such as HD/4K) in the future so that the quality of the Access Channels is always at least equal in quality to local broadcast and other commercial channels on the cable system. As noted further below, equipment upgrades and replacements will be needed to support all of the channels to ensure that the Access Channels are able to continue migrating to the evolving television production industry standards, and they are provided

without noticeable degradation or decrease in quality, from the point of origination at the Access Channel origination site to delivery to the subscriber.

Regarding Public Access, the Commission may wish to consider negotiating with Comcast to obtain one (1) SD/HD channel in reserve for the potential future provision of individual Vancouver and Clark County resident-produced and sponsored programming and programs produced and sponsored by community organizations within the City and County. This could potentially be accomplished through establishing a portal that would enable the uploading of programming that could then be scheduled and distributed on such a Public Access Channel.

As described in this Report, it will also be important to ensure that a certain amount of cable-based video on demand capacity continues to be available, and is expanded, for Access Channel programming that is both time sensitive and evergreen. This will provide the ability to match the time-shifting needs of subscribers and, consequently, provide the highest possible accessibility to subscribers by being available through both real time and time-shifted distribution methods. Based on the needs assessed herein, we anticipate that initially the current five (5) hours of video on demand capacity for TV ETC will need to be expanded to 10 to 15 hours. Thereafter, there should be the provision to increase it to twice this level, as the need may be demonstrated by any of the Access Channel programmers.

The provision of cable-based video on demand should also include all the necessary equipment to provide VOD programs to Comcast in the format that it requires, with an ongoing requirement to upgrade such equipment if Comcast changes its standards. The programming submitted for cable-based VOD distribution should be able to be updated and refreshed on at least a monthly basis, as needed.

Regarding promoting awareness to cable subscribers, each of the Access Channel programmers should continue to have access to Comcast's Electronic Program Guide (EPG)/digital menu for both real time (linear) and VOD program content descriptions. These descriptions should be detailed and enable viewers to select and record specific programs based on accessing them through the EPG/digital menu. The cost of this to both CVTV and TV ETC should be defrayed through PEG support funding provided by Comcast.

As additional advanced platforms of video delivery continue to be provided on the cable system, it will be important to make these platforms available to PEG Access Channel program providers, producers and users, again, to facilitate the widest possible delivery to residents in Vancouver and Clark County and, therefore, the greatest accessibility by both viewers and content users.

2. **Access Equipment** -- New, upgraded and replacement equipment for the PEG Access Channels needs to be provided consistent with the projections shown in Exhibit C to this Report. Equipment category projections have been made from the information provided

by the Access Channel operators and associated stakeholders, as well as that obtained through onsite review of equipment amounts, types and conditions, along with the projections for expansions in the nature and level of Access Channel content development. Our review indicates that the following Access equipment funding is required to meet the needs assessed over the course of a projected 10-year timeframe:

- a. *CVTV Government Access* -- To provide new, upgraded and replacement equipment for CVTV to produce programming in Council Chambers and other meeting rooms as well as through studio, portable and remote operations throughout Vancouver and Clark County, approximately \$3,225,110 (\$2,251,520 base cost + \$675,456 installation/training/warranty cost + \$198,134 taxes + \$100,000 ancillary cost) will be needed over a period of 10 years in order to support the City, County and regional Government Access programmatic initiatives indicated by our Assessment findings.
- b. *TV ETC Educational Access* -- For new, upgraded and replacement equipment for TV ETC's master playback facility and equipment and the individual School Districts Boardroom, auditorium, studio, stadium, field production and post-production equipment, \$6,823,109 is needed over the next 10 years. This breaks down to:
 - i. TV ETC -- \$973,052 (\$629,000 base cost + \$188,700 installation/training/warranty cost + \$55,352 taxes + \$100,000 ancillary cost).
 - ii. Battle Ground Public Schools -- \$985,128 (\$637,700 base cost + \$191,310 installation/training/warranty cost + \$56,118 taxes + \$100,000 ancillary cost).
 - iii. Evergreen Public Schools -- \$2,460,710 (\$1,700,800 base cost + \$510,240 installation/training/warranty cost + \$149,670 taxes + \$100,000 ancillary cost).
 - iv. Vancouver Public Schools -- \$2,404,219 (\$1,660,100 base cost + \$498,030 installation/training/warranty cost + \$146,089 taxes + \$100,000 ancillary cost).
- c. *Public Access* -- Because the exact form of Public Access to be developed in the future (for example, through the portal concept discussed above and in Section B) is not yet known, no funding has been forecast for Public Access. If, for example, the portal concept is developed, then at a minimum, a server and a fiber-based or other wireline connection from the server location to Comcast's hub or headend would need to be developed. This could be funded through the PEG capital support fund as part of, for example, a server upgrade, if one of the existing Access providers were to take on the administration and scheduling responsibility for such a Public Access programming portal.

- 3. Capital Support for Facilities and Equipment** -- As indicated above, for facilities and equipment, the total dollar figure needed for a 10-year period equals \$10,048,219 (including base cost, plus installation/training/warranty cost, taxes and ancillary cost) to support CVTV Government Access and TV ETC Educational Access.

Comcast is currently providing PEG Fee funding of \$1.00 per subscriber per month to support the current Access Channels. Our understanding is that the same \$1.00 per subscriber per month has been in place since 1997, while the rest of the cable service rates have risen dramatically (as an example, between 2015 and 2021, Comcast's Digital Preferred rates in Vancouver and Clark County rose 29.7%, while Limited Basic rose 102%) and the number of subscribers has declined. This has created a situation where PEG Access for Vancouver and Clark County will be substantially underfunded without an increase in the amount per subscriber. Assuming that the current level of subscribers as reported to us is maintained, this number would need to rise to \$1.38 per subscriber per month in order to provide the funding needed over a 10-year period to support all of the PEG Access equipment and facilities detailed herein. If, however, that subscribership drops, then the PEG Fee would need to rise commensurately (for example, a 2% drop in subscribers annually would mean a 2% increase in the PEG Fee would be needed to maintain the same amount on an annual basis). This does not take into account any funding support for the I-Net. Our understanding is that certain I-Net-related costs are currently funded by the \$1.00 per subscriber per month as well. This amount for the I-Net going forward would need to be added on top of the \$1.38 per subscriber per month, in order to cover both PEG channel equipment and facility funding and I-Net-related costs.

REPORT EXHIBITS

EXHIBIT A-1

VANCOUVER/CLARK COUNTY CABLE- RELATED RESIDENTIAL SUBSCRIBER/NON- SUBSCRIBER WRITTEN SURVEY MARKUP



EXHIBIT A-1
CITY OF VANCOUVER/CLARK COUNTY
CABLE TELEVISION/BROADBAND RESIDENTIAL SURVEY
N¹=598



(N=235 Comcast Subscribers; N=363 Non-Comcast Subscribers)

(N=247 City of Vancouver residents; N=238 Vancouver Urban Growth Area part of Unincorporated County; N=113 Unincorporated Clark County)

Dear Resident:

The City of Vancouver/Clark County (City/County) Telecommunications Commission is the agency responsible for monitoring and administering the local contract to provide cable television service in the area, commonly called, a cable television franchise. Comcast has applied for renewal of its franchise. Understanding your needs and interests, as they relate to cable television and broadband services, is important to the City/County so that we can make the best decision for our residents in this matter. Please have the person in the household 18 years of age or over who makes, or equally shares in, the decision **to subscribe or not to subscribe to cable television**, take a few minutes to let us know how members of your household feel about these issues. **Please return the survey by June 22, 2021 in the enclosed pre-paid envelope.** Your specific responses will remain anonymous and only be reported as part of a larger group. If you have any questions, if you need a Spanish version of the survey, or want to fill out the survey online, please call us at 360-487-8702 or email us at tracie.ramirez@cityofvancouver.us.

1. Does your household currently subscribe to Comcast cable television? (N=235² Comcast Subscribers; N=363 Non-Comcast Subscribers)

39%³ Yes, I subscribe to **Comcast cable television (Go to Q.3)**
61% No (*Continue*)

2. For what reasons are you not currently subscribing to Comcast cable television service? (*Mark all that apply*)
N=363 Non-Comcast Subscribers

Personal Choice

38% Watch streaming services instead
28% Had, but disconnected (N=102)
26% Don't want cable TV
18% Watch over-the-air broadcast TV
16% Never subscribed to Comcast cable TV (N=59)
15% Subscribe to satellite television
7% Don't watch TV

Comcast-specific

59% Cost is too high
8% Poor content/Nothing to watch
5% Service issues
4% Object to programming

¹ "N" is equal to the number of respondents that answered the particular question noted or the number of respondents that were asked a series of questions in a particular group of questions as noted (for example, N=598 is the number of respondents who chose to answer the question).

² Based on the information available to CBG at the time the survey was conducted, the response from Comcast cable subscribers to the survey is proportional to Comcast's overall subscribership in the City of Vancouver and Clark County, WA.

³ Figures rounded to whole numbers are used in this report so that columns, rows and totals will not always equal 100%, but rather fall between 99-101%.

19% Not available (please indicate your Street, Road or Neighborhood; N=68; 4-were in the City of Vancouver; 64-were from Unincorporated Clark County)

Locations provided⁴:

- Ave Amboy
- NE 24157 CT
- NE 192nd Ave, Brush Prairie 98606
- 128th St Brush Prairie WA
- NE 212 Ave Brush Prairie
- NE 265th Ave Brush Prairie 98606
- NE 202nd Ave
- NE 190th Ct Brush Prairie WA
- NE 144th St Brush Prairie
- NE 119 St 98606
- NE Grantham Rd Amboy WA 98601
- NW 157th St Vancouver, WA 98685
- NE Lucia Falls Rd, Yacolt, WA 98675
- NE 130th Circle Brush Prairie WA
- 188th Place Amboy
- 189th Ave NE
- N.E Wright RA Amboy
- NE 174th St
- 192nd Ave. Brush Prairie
- 199th CT
- NE 147th St Brush Prairie
- NE Rawson Rd Brush Prairie
- NE Doll Valley Rd Yacolt WA 98675
- NE 128th St Brush Prairie 98606
- 246th Ave Brush Prairie
- NE 153rd St Brush Prairie
- 256th Ave NW Amboy
- NE Hantwick Rd Yacolt WA 98675
- NE 172nd Ave Amboy WA
- Oak St Yacolt WA 98675
- W Humphrey St Yacolt WA 98629
- Bonanza Rd Brush Prairie 98606
- Brush Prairie
- Brush Prairie
- Christy St Yacolt WA
- Deer Ridge Rd Yacolt
- Gabriel Rd Yacolt
- Hockinson/Hockinson Rd (7)
- Munch Rd Amboy (2)
- NE 124th Circle Brush Prairie
- Near NE 136th St & 182nd AVE

⁴ To protect personal information, any house numbers provided have been omitted from this markup.

- NE 159 Street
- NE 174th St Hockinson
- NE 246th Ct summer hills
- NE 256th Ave
- NE Hucla Falls Rd Yacolt
- NE WH Gardner Rd
- Nesliderber Rd Brush Prairie
- Nesterholm Rd Brush Prairie
- Railroad Ave Yacolt
- Richmond Road, Hockinson, 98606
- Rose Village, Vancouver, 97266
- Summer Hills (2)
- T Street, Vancouver, 98661
- Yacolt WA
- Yale Bridge Rd Amboy

Other: (*Describe*) N=22

	First Answer <u>N=22</u>	2nd Answer <u>N=3</u>
Monopoly, only one company to choose on	5%	
Bad customer service / need better customer service	5%	
Improve internet service	9%	
A la carte programming needed	18%	
Do not like Comcast company	23%	33%
Use other internet company	18%	33%
Don't want bundle	5%	
Bad reputation	5%	
Want choices	5%	33%
Only need Wi-Fi	9%	

Subset – Non-Comcast Subscribers Who Used to be Subscribers

N=102 Non-Comcast Subscribers

(N=53 from the City; N=43 were from the Urban Growth Area; N=6 were from Unincorporated Clark County)

Personal Preferences

- 45% Watch streaming services instead
- 24% Don't want cable TV
- 22% Watch over-the-air broadcast TV
- 17% Subscribe to satellite television
- 5% Don't watch TV
- 4% Other N=4

- Want A la carte programming N=1
- Do not like Comcast N=2
- Do not want a Bundle N=1

Cable-related Reason(s)

- 86% Cost
- 11% Service issues
- 8% Object to programming
- 8% Poor content/Nothing to watch
- 3% Not available (Brush Prairie, Rose Village)

QUESTIONS FOR COMCAST CABLE TELEVISION SUBSCRIBERS; NON-CABLE SUBSCRIBERS GO TO Q.23

3. How long have you subscribed to **Comcast cable service** in the City/County? _____ (Years)

N=235

Range from 1 month – 63 yrs.⁵; Average = 13.4 yrs.; Mode 20 yrs.

4. What services do you currently receive from **Comcast**? (*Mark all that apply*) N=235

- 18% Comcast Limited Basic TV Service
- 56% Xfinity Digital Preferred TV or higher tier of service
- 19% Xfinity Digital Starter TV Service
- 26% ***Premium channels*** (HBO, Showtime, etc.)
- 24% Other: (***Describe***) N=57

- Alarm system (N=2)
- Alarm system and internet (N=5)
- Alarm system, phone and Internet (N=2)
- Broadband / high speed Internet only (N=26)
- Double play & internet
- Home service
- Internet and landline phone (N=6)
- Internet and mobile phone
- Internet and TV
- Sports package
- Telephone
- Triple bundle
- Wi-Fi (N=5)
- X1 double server play
- X1 premier pro
- X1 saver pro (N=2)

5. How much is your total monthly **Comcast** bill on average, including all services, taxes and fees?

N=223

Range from \$35 - \$500; Average = \$195.48; Mode \$200

⁵ Many respondents noted a length of time subscribing to Comcast beyond the length of time that Comcast has been in the City/County. These subscribers most likely previously subscribed to cable providers that preceded Comcast and included their time in their answer.

6. **Overall**, how would you describe your **level of satisfaction** with your current **Comcast** cable television service(s)?
(Circle #) N=224

Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
12%	51%	26%	11%

City Subscribers N=98

Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
12%	57%	24%	7%

County Subscribers N=126

Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
11%	47%	28%	14%

7. If you indicated anything less than Very Satisfied or Satisfied, is there anything Comcast could do **better** to make you consider an **improved level of satisfaction** with its cable television services? N=83

	First Answer N=72	2nd Answer N=12
Cost	58%	8%
Poor customer service	10%	17%
Internet service not good	10%	8%
Equipment not good	1%	8%
Cable outages too frequent		8%
Better programs and channels needed	1%	
Bad telephone service		8%
Raising rates continually	1%	
Improve consistency	1%	
A la carte	15%	8%
New promo for older customers	1%	8%
No competition		8%
More internet options		17%

Customer Service

8. **How satisfied have you been** with each of the following characteristics of your cable television service during the **past twelve months (June 2020 through May 2021)? (Circle #)**

Comcast Service Characteristics	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Don't Know/ Not Applicable
The picture quality N=222	37%	56%	5%	2%	NA
The sound level consistency within each channel N=222	25%	51%	19%	6%	NA
The cable programming packages available N=220	16%	40%	24%	21%	NA
The reliability of your cable television service N=223	25%	59%	10%	6%	NA
Your ability to get through to Comcast on the phone N=197	18%	39%	19%	24%	NA
Location of the cable company office N=179	24%	59%	14%	3%	NA
Hours the cable company office is open N=162	22%	65%	11%	3%	NA

9. In the past twelve months, have you had occasion to **call, email or chat with** Comcast? N=235
75% Yes 25% No (*Go to Q.10*)

9a. If Yes, for what **reason(s)** did you **call, email or chat with** Comcast? (*Mark all that apply*) N=170

- 47% Cable outage/Loss of signal
- 44% Billing questions/complaints
- 30% To change Type of Service subscribed to (Change tier/package)
- 29% Signal Quality problems (Picture, Sound)
- 28% Problem with broadband service
- 14% Problem with digital set-top
- 8% Problem with installation
- 6% Request additional programming (channel or program)
- 5% Request broadband service
- 2% Order Pay-Per-View event
- 1% Don't know/Don't remember
- 12% Other (*Please specify*) N=20
 - 20% Equipment not working/technical issue
 - 5% Moving residence
 - 15% New equipment
 - 5% Ordered additional equipment
 - 30% Internet service
 - 5% Too much data usage
 - 10% Downgrade service for internet only
 - 5% Get better pricing
 - 5% Remove cable from tree

9b. If Yes, if your call, email or chat with Comcast was to report a problem or request service, how long after your contact did Comcast begin working on the problem or service request? N=158

- 61% Same day reported 16% Next business day
- 10% Days later 3% A week later
- 2% A month later 8% The problem or service request was never worked on

10. The next few questions are about cable signal **outages**. During the **past twelve months (June 2020 - May 2021)**, have you ever **lost** your **entire** cable signal (all channels) for a period of **fifteen minutes or more** when you still had electricity? N=235 49% Yes 51% No (*Go to Q.13*)

10a. If Yes, can you estimate how many times in the past twelve months you've lost your entire cable signal for a period of fifteen minutes or more? N=109

Range from 1 – 48 outages; Average = 4 outages ; Mode 2 outages

10b. If Yes, did you **contact** the Comcast office to notify them of the outage(s)? N=105

- 66% Yes 34% No

11. How satisfied were you with the length of time it took Comcast to restore your cable service? (*Circle #*) N=102

Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
12%	54%	27%	8%

12. Did you receive a **refund or credit** from Comcast for the period of time your cable television service was out?
N=114

10% Yes 90% No

13. Has your household had any other technical difficulty with your cable service (i.e., picture quality, audio problems or overall reception)? N=227 N=66/29% Yes N=161/71% No (**Go to Q.14**)

13a. If Yes, please explain and note specific channels:

10%	<i>Bad reception</i>
10%	<i>DVR problem</i>
10%	<i>Screen not working</i>
9%	Lost audio
9%	Box was malfunctioning
9%	Pixelating picture
9%	Equipment needed replacing
7%	Bad technical service
7%	Bad quality on all channels
5%	Cable goes in and out

Specific Channels Noted

5%	Sports channel
3%	Remote programming
2%	Channel 103 audio/picture
2%	All channels having problems
2%	On demand problems
2%	Channel 12

13b. If Yes, indicate how often you have had technical difficulties with your cable service? N=57

19%	Constantly	16%	Every few days	32%	A few times a month
23%	Rarely	11%	Don't know/Don't remember		

14. If you had a service call or installation in the past twelve months (June 2020 - May 2021), please indicate a rating of Very Satisfied, Satisfied, Dissatisfied or Very Dissatisfied for the following service issues. (**Circle #**)

Service/Installation Issues	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
The available times for installation or service N=81	24%	61%	14%	3%
The arrival time of the service technician N=81	31%	61%	7%	1%
The ability of the technician to complete your request during their first visit. N=82	30%	56%	12%	2%

15. The next few questions are about your satisfaction level with how well Comcast communicates with you. Overall, how satisfied are you with the following aspects of communication provided by Comcast? *(Circle #)*

Communication Issues	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
The ability of Comcast to explain and address billing questions/complaints N=177	11%	55%	23%	11%
The ability of Comcast to inform YOU regarding programming changes N=170	9%	47%	29%	14%
The ability of Comcast to inform YOU regarding rate changes N=189	8%	39%	27%	27%

Local Community Programming (also known as Educational and Government Access Programming)

Comcast currently sets aside a portion of its channels which are used by local government and educational organizations within Vancouver and Clark County.

16. How often do you watch local government programming that appears on Channels 21/321 and 23/323 - Clark/Vancouver Government TV (CVTV) – *When answering, consider your total viewing time of all the listed government channels.* Programming includes: live meeting coverage, hearings and forums; talk shows; local election coverage; community programming and shows like: “Real Vancouver” and “Clark County Close Up”.
N=226 Comcast cable subscriber respondents

1%	Daily
2%	Weekly
8%	Monthly
35%	Once or Twice a Year
54%	Never (N=121)

N=105 / 45% of Comcast cable subscribers watch CVTV

3%	Daily
4%	Weekly
18%	Monthly
75%	Once or Twice a Year

- 17.** How often do you watch local educational programming that appears on Channels 27, 28/328, and 29 – The Vancouver Educational Telecommunications Consortium (TV ETC) - *When answering, consider your total viewing time of all the listed educational channels.* Programming includes: School Board meetings, District and School sports, concerts, special events, and young filmmaker projects; Classic Arts Showcase; STEM in 30, “Sit-down with the Superintendent” and more.

N=226 survey respondents (96% of all subscribers responded)

1%	Daily
3%	Weekly
5%	Monthly
24%	Once or Twice a Year
67%	Never (N=152)

N=74 / 32% of Comcast cable subscribers watch TV ETC

3%	Daily
10%	Weekly
16%	Monthly
72%	Once or Twice a Year

- 18.** Consider the programming you’ve seen on the CVTV and TV ETC Channels, please rate their informational and educational value on a scale of Excellent, Good, Fair or Poor (**Circle #**):

Total survey respondents who watch CVTV and/or TV ETC (N=109)

Channels	Excellent	Good	Fair	Poor	Don’t Know
Value of Channels 21 & 23 and 321 & 323 - Clark/Vancouver Government TV (CVTV) N=98	12%	31%	24%	0%	34%
Value of Channels 27, 28, 29 and 328 – The Vancouver Educational Telecommunications Consortium (TV ETC) N=70	13%	37%	21%	0.2%	27%

19. What kind of local community programming would you like to see more of on Comcast's cable TV system? (*Mark all that apply*) All respondents who answered the question N=159 (68% of Comcast cable subscribers)

30%	Public Safety Information
23%	Higher Education Programs
31%	Local Arts Programs
11%	Local Business Programming
32%	Public/Community Events & Activities
43%	Community News
23%	K-12 School Events & Activities
16%	Government Meetings
36%	Local Sports
30%	Local Senior Citizen Programs
35%	Local Historical Programming
30%	Special Events Coverage
35%	Health/Wellness Programs
13%	Minority and Ethnic-focused Programs
7%	Foreign Language Programs
14%	Local Public Access Programming by Residents and Organizations in Vancouver and Clark County
9%	Regional/Portland Metropolitan Area Programs on the CAN Channel
7%	Other: (<i>Please explain</i>) N=11

- A la carte
- Aloha in July
- Craft
- Different programs
- Dog park
- Festivals & community events
- Less propaganda
- Local channels
- News
- PBS
- Reduce rate

What kind of local community programming would you like to see more of on Comcast's cable TV system? (*Mark all that apply*) Survey respondents who watch either one of the local access channels or both. N=89

36%	Public Safety Information	33%	Higher Education Programs
35%	Local Arts Programs	13%	Local Business Programming
34%	Public/Community Events & Activities		
47%	Community News	27%	K-12 School Events & Activities
24%	Government Meetings	43%	Local Sports
33%	Local Senior Citizen Programs	38%	Local Historical Programming
37%	Special Events Coverage	44%	Health/Wellness Programs
18%	Minority and Ethnic-focused Programs	10%	Foreign Language Programs
17%	Local Public Access Programming by Residents and Organizations in Vancouver and Clark County		
15%	Regional/Portland Metropolitan Area Programs on the CAN Channel		
3%	Other: (<i>Please explain</i>) N=3		

- Different programs
- Festivals & community events
- News

What kind of local community programming would you like to see more of on Comcast's cable TV system? (*Mark all that apply*) Survey respondents who reported "never watching" both local access channels and answered the question. N=70

23%	Public Safety Information	11%	Higher Education Programs
26%	Local Arts Programs	7%	Local Business Programming
30%	Public/Community Events & Activities	39%	Community News
19%	K-12 School Events & Activities	7%	Government Meetings
29%	Local Sports	27%	Local Senior Citizen Programs
30%	Local Historical Programming	20%	Special Events Coverage
24%	Health/Wellness Programs	7%	Minority and Ethnic-focused Programs
3%	Foreign Language Programs		
10%	Local Public Access Programming by Residents and Organizations in Vancouver and Clark County		
1%	Regional/Portland Metropolitan Area Programs on the CAN Channel		
11%	Other: (<i>Please explain</i>) N=8		

- Aloha in July
- Less propaganda
- Local channels
- Craft
- PBS
- A la carte
- Reduce rate
- Dog park

20. How valuable is it to you to have detailed descriptions of the local community programming described above (see Q.16 & Q.17) on the electronic program guide/menu on the cable system? (Circle #)

N=161 Total Comcast cable subscribers who chose to answer the question

Very Valuable	Valuable	Somewhat Valuable	Not at all Valuable	Don't Know/NA
13%	33%	34%	20%	NA

N=92 Comcast cable subscribers who watch CVTV

Very Valuable	Valuable	Somewhat Valuable	Not at all Valuable	Don't Know/NA
15%	41%	35%	9%	NA

N=66 Comcast cable subscribers who watch TV ETC

Very Valuable	Valuable	Somewhat Valuable	Not at all Valuable	Don't Know/NA
17%	44%	33%	6%	NA

N=65 Comcast cable subscribers who "never watch" either CVTV or TV ETC

Very Valuable	Valuable	Somewhat Valuable	Not at all Valuable	Don't Know/NA
8%	23%	32%	37%	NA

21. How important is it to you that a portion of your cable bill continue to support programming like you see on the local educational and government access channels? (Circle #)

N=215 Total Comcast cable subscribers who chose to answer the question

Very Important	Important	Somewhat Important	Not at all Important	Don't Know
10%	20%	29%	31%	10%

N= 104 Comcast cable subscribers who watch CVTV

Very Important	Important	Somewhat Important	Not at all Important	Don't Know
10%	33%	34%	18%	5%

N= 73 Comcast cable subscribers who watch TV ETC

Very Important	Important	Somewhat Important	Not at all Important	Don't Know
10%	36%	33%	18%	4%

N= 107 Comcast cable subscribers who "never watch" either CVTV or TV ETC

Very Important	Important	Somewhat Important	Not at all Important	Don't Know
9%	9%	23%	43%	15%

22. Regardless of how often you might watch, how important is it that these local community channels are available to all cable subscribers? **(Circle #)**

N=217 Total Comcast cable subscribers who chose to answer the question

Very Important	Important	Somewhat Important	Not at all Important	Don't Know
20%	33%	23%	17%	7%

N= 104 Comcast cable subscribers who watch CVTV

Very Important	Important	Somewhat Important	Not at all Important	Don't Know
29%	43%	20%	7%	1%

N= 73 Comcast cable subscribers who watch TV ETC

Very Important	Important	Somewhat Important	Not at all Important	Don't Know
30%	38%	23%	5%	3%

N= 109 Comcast cable subscribers who "never watch" either CVTV or TV ETC

Very Important	Important	Somewhat Important	Not at all Important	Don't Know
11%	24%	28%	26%	12%

Questions for Everyone

23. Which of the following broadband (high-speed Internet) services do you subscribe to at home? N=571

(N=27/5% nonresponse rate; N=5 Comcast TV Subscribers / N=22 Non-Subs)

61% Xfinity high-speed Internet service (N=213 Comcast TV Subscribers / N=132 Non-Subscribers)
28% Another high-speed Internet provider **(please indicate your provider)**: (N=4 Comcast TV Subscribers / N=158 Non-Subs)

N=146 chose to provide their Internet Service Provider

AT&T (2)
CenturyLink (122 / 75%)
Century link DSL (1)
CenturyTel (1)
DirecTV (1)
Dish network (3)
Fiber (1)
Hughes net (2)
Phone company (1)
Qwest (1)
Star Link (2)
TDS Telecom (7)
Viasat (2)

11% I don't have high-speed Internet **(Go to 23.a)** (N=64) (N=13 Comcast TV Subscribers / N=51 Non-Subs)

Zip codes include: 98601, 98606, 98660, 98661, 98662, 98663, 98664, 98665, 98668, 98675, 98683, 98685, 98686

23a. Please indicate below why you don't have high-speed Internet at your home. *(Mark all that apply)* N=43

30%	I use my mobile data plan for Internet	21%	No need
61%	Too expensive	28%	I do not own a computer/device
37%	Unavailable in my area (N=16 non-subscribers; all living in Unincorporated Clark County)		

Locations provided⁶:

Oak St. Yacolt, WA 98675
NE Hucla falls Rd Yacolt, WA, 98675
NE 130th Circle Brush Prairie WA, 98606
246th Ave Brush Prairie, WA 98606
NE 202nd Ave, WA 98606
NE 153rd St Brush Prairie, WA 98606
199th CT, 98606
Rawson Rd Brush Prairie, WA 98606
Summer Hills, WA 98606
NE 265th Ave Brush Prairie, WA 98606
NE CT, 98606
Zip code 98601 was also provided

5%	I don't have time	14%	Concerned about privacy
9%	Concerned about safety	28%	I don't have money for equipment/device
30%	Speed of service (service is slow)		
16%	Other: <i>(Please explain)</i> N=7		

- Century Link
- Internet
- Monopoly
- Not available
- Performance is slow
- Stream
- TDS Internet

24. How satisfied are you with the following aspects of your home Internet services?

Home Internet Service Characteristics	Excellent	Good	Fair	Poor	Don't Know
Reliability of your home Internet Services N=557	25%	40%	22%	13%	0.5%
Speed of home Internet Services N=552	24%	37%	21%	18%	0.5%
Cost of your home Internet Services N=553	10%	21%	38%	31%	0.5%

⁶ To protect personal information, any house numbers provided have been omitted from this markup.

Demographics

While **your specific responses will remain anonymous**, we would like to be able to consider your opinions with others like you. Please indicate the following:

25. Zip Code N=556 (N=42/7% nonresponse rate)

98601 (13) – Amboy, WA – Clark County
98606 (71) – Brush Prairie, WA – Clark County
98660 (41) – Felida, Vancouver, WA – Clark County
98661 (77) – Fourth Plain Village, Vancouver, WA – Clark County
98662 (16) – Vancouver, WA – Clark County
98663 (27) – Lincoln, Vancouver, WA – Clark County
98664 (64) – Vancouver Heights, Vancouver, WA – Clark County
98665 (77) – Vancouver, WA – Clark County
98668 – Vancouver, WA – Clark County
98669 (2) – Vancouver, WA – Clark County
98675 (18) – Yacolt, WA – Clark County
98683 – Fairway, Vancouver, WA – Clark County
98684 – Countryside Woods, Vancouver, WA – Clark County
98685 (112) – Vancouver, WA – Clark County
98686 (35) – Vancouver, WA – Clark County

26. Highest Grade/Degree completed N=516 (N=82/14% nonresponse rate)

High school	13%
Some college	15%
Associate degree/trade school	9%
Bachelor/college degree	35%
Some post BA/BS degree/some graduate classes	11%
Masters degree	15%
Doctoral degree	4%

27. Own or Rent your home? N=547 (N=51/9% nonresponse rate)

90%	Own	10%	Rent
-----	-----	-----	------

28. How old were you on your last birthday? N=487 (N=111/19% nonresponse rate)

Range: 19-92 years old; Average: 59.7 years old; Mode: 74 years
43% reported being 65 years and older

Comcast Subscribers N=200

Range: 26-92 years old;	Average: 62.2 years old;	Mode: 74 years
-------------------------	--------------------------	----------------

Non-Comcast Subscribers N=287

Range: 19-88 years old;	Average: 57.8 years old;	Mode: 70 years
-------------------------	--------------------------	----------------

29. Gender: N= 519 (N=79/13% nonresponse rate)
51% Male 49% Female

30. Do you have children under 18 in the home? N=549 (N=49/8% nonresponse rate)
22% Yes 78% No

31. Race/Ethnicity (N=166/28% nonresponse rate)⁷

	Total Respondents <u>N=598</u>	Total Respondents to Question <u>N=432</u> ⁸
1=Caucasian	68% ⁹	94%
2=Hispanic	1%	2%
3=Black	0.5%	1%
4=Asian	2%	2%
5=American Indian	0.5%	1%
6=Pacific Islander	0.2%	0.2%
7=Islander	0.2%	0.2%

32. Estimated Annual Household Income N=352 (N=246/41% nonresponse rate)

Range: \$1,300 - \$750,000; Average: \$109,890; Mode: \$100,000

<u>%</u>	<u>Salary Range</u>
7%	≤\$25,000
7%	\$25,001 - \$35,000
11%	\$35,001 - \$50,000
15%	\$50,001 - \$75,000
21%	\$75,001 - \$100,000
22%	\$100,001 - \$150,000
19%	>\$150,000

33. Are you currently employed? N=531 (N=67/11% nonresponse rate)

53% Yes 22% No 25% Retired

34. How long have you lived in the City/County? N=548 (N=50/8% nonresponse rate)

Range: 3 months – 88 years; Average: 26.4 years; Mode: 20 years

⁷ Research provides evidence that younger respondents, women, people of color, less educated and lower income brackets are likely not to respond to demographic questions. See the following articles for more statistical information related to response rates and demographics. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5844486/> ; <https://thedocs.worldbank.org/en/doc/708511466183857404-0050022016/original/paperreyes.pdf> ; https://nces.ed.gov/FCSM/pdf/IHSNG_asa02_DG.pdf

⁸ Twenty-eight percent (28%), or N=166 chose not to provide their race or ethnicity. This, as in other sensitive areas such as income, which also had a substantial non-response rate, resulted in the survey respondents falling differently in many of the demographic groups when compared to the 2020 Census.

⁹ It can be noted that when taking into account the total survey response number (N=598) and the non-response rate, the Caucasian only response percentage is within the margin of error for the City of Vancouver per the 2020 census at 71.5% of population.

Other Comments

35. If you have any additional comments regarding **Comcast** and its services, please include them in the space provided below: N=168 / 28%

48% Cost too much
8% More choices
7% Poor service
7% Do not like Comcast
6% More competition needed
4% Fix internet
3% Make available in our area
3% Monopoly a problem wants more than one cable
3% A la carte programming needed
2% Bad customer service
2% Stop raising prices
1% Not available in our area
1% Good internet service
1% Too much ads
1% Too many reports
1% Loyalty program to reduce cost for long term customers
1% Antenna that works for local channel
1% Let know of any new changes
1% Equipment removed
1% DVR horrible
1% Use another internet company

Thank you very much for your time completing this survey! The City/County Telecommunications Commission values your input. Please fold and return the completed Survey by mail in the enclosed, return addressed envelope by June 22, 2021. No postage is necessary.

EXHIBIT A-2

VANCOUVER/CLARK COUNTY CABLE- RELATED RESIDENTIAL SUBSCRIBER/NON- SUBSCRIBER ONLINE SURVEY MARKUP

THE CITY OF VANCOUVER/CLARK COUNTY CABLE RELATED RESIDENTIAL ONLINE SURVEY 2021

Q1. I am a resident of:

Answer Choices	Responses	
The City of Vancouver	58%	306
Unincorporated Clark County	42%	226
Answered		532

Q2. Does your household currently subscribe to Comcast cable television?

Answer Choices	Responses	
Yes, I subscribe to Comcast cable television	54%	285
No	46%	242
Answered		527

Q3. For what reasons are you not currently subscribing to Comcast cable television service? (Mark all that apply)

Answer Choices	Responses	
Cost	57%	136
Don't want cable TV	25%	59
Don't watch TV	4%	9
Had, but disconnected	28%	67
Object to programming	3%	7
Service issues	12%	29
Never subscribed	8%	19
Watch streaming services instead	52%	125
Watch over-the-air broadcast TV	25%	59
Not available (please indicate your Street, Road or Neighborhood in "Other" below)	17%	41
Other (please describe) (See end of document for details)	26%	63
Answered		239

Q4. How long have you subscribed to Comcast cable service in the City/County? (Years)

Answered 243

Range: 2 months - 42 years; Average: 12.22 yrs; Mode: 20 yrs

Q5. What level of cable service do you currently receive from Comcast?

Answer Choices	Responses	
Comcast Limited Basic TV Service	9%	23
Xfinity Digital Starter TV Service	24%	60
Xfinity Digital Preferred TV or higher tier of service	52%	130
Other (Describe) Subscribers mentioned additional services they subscribe to with Comcast.	15%	38
Answered		251

Q6. Do you subscribe to Premium Channels (HBO, Showtime, etc.)?

Answer Choices	Responses	
Yes	36%	90
No	64%	160
Answered		250

Q7. How much is your total monthly Comcast bill on average, including all services, taxes and fees?

Answered 242

Range: \$23.47 - \$365.00;

Average Bill: \$177.78;

Mode: \$200.00

Q8. Overall, how would you describe your level of satisfaction with your current Comcast cable television service?

Answer Choices	Responses	
Very Satisfied	10%	24
Satisfied	35%	87
Dissatisfied	37%	93
Very Dissatisfied	18%	46
Answered	250	

Q9. If you indicated anything less than Very Satisfied or Satisfied, is there anything Comcast could do better to make you consider an improved level of satisfaction with its cable television services?

Answered (See next page for individual responses.)

129

Q10. Customer Service- How satisfied have you been with each of the following characteristics of your cable television service during the past twelve months (from the date you are completing this survey)?

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
The picture quality	26%	59%	11%	4%
The sound level consistency within each channel	18%	51%	21%	11%
The cable programming packages available	10%	31%	38%	22%
The reliability of your cable television service	17%	55%	17%	12%
Your ability to get through to Comcast on the phone	5%	31%	26%	38%
Location of the cable company office	15%	61%	17%	8%
Hours the cable company office is open	8%	68%	16%	8%
Answered	222			

Q11. In the past twelve months, have you had occasion to call, email, or chat with Comcast?

Answer Choices	Responses	
Yes	77%	188
No	23%	56
Answered	244	

Q12. If Yes, for what reason(s) did you call, email or chat with Comcast? (Mark all that apply)

Answer Choices	Responses	
Cable outage/loss of signal	48%	89
Signal quality problems (picture, sound)	35%	64
Billing questions/complaints	42%	78
To change type of service subscribed to (change tier/package)	38%	70
Order Pay-Per-View event	1%	1
Request additional programming (channel or program)	2%	3
Request broadband service	6%	12
Problem with my broadband service	34%	63
Problem with digital set-top box	25%	47
Problem with installation	10%	19
Don't know/Don't remember	3%	5
Other (please specify)	16%	29

Answered 185

- I have Xfinity home security system and my console needed replacing because of its age (although there was nothing wrong with its functioning). It took two service trips to perform the change because of lack of knowledge of the service technicians.
- Lost connection
- App to stream
- I have to renew my Xfinity internet service package every year.
- They often advertise promos for new customers that are way lower than what we pay.
- General customer service questions
- The service is unreliable. Everyday, sometimes multiple times a day I have to disconnect & reconnect the service and disconnect & reconnect the cables. This happens for absolutely no reason. I live alone, no one "loosens the cables " it just keeps happening. My TV sits away from the wall so I can keep reconnecting.
- Phone and internet issues
- Since new installation a month ago picture freezes, lose sound and DVR recording when watching stops
- dissatisfied with the internet totally, and their maintenance to come and reinstall a modem box. and the fact that they overcharge for cable and the internet.
- Initial set-up of new type of service. Being told I could do it myself, then being told I'd be called to schedule an appointment (never was called), calling & being transferred 3 times. The service technician took over an hour to get everything set up and running correctly.
- had a "cable box" fail.
- Mobile service
- Comcast cancelled our service on 6/4/2021 and we did not request a cancellation. Took us 5 hours on the phone to get service reinstated.
- Security system
- Cable pulled out of ground.
- Problems with email (disconnections)
- Try to change my contact phone #, however my cell# is blocked by a previous account which I can't change.
- Request a service call under their prepaid service plan.
- Wireless booster.
- Replacement box
- Internet issues
- Renegotiate monthly bill
- Phone problems
- Move cable entry location into the home.
- Upgrade converter
- frequent reboots of machine

Q13. If your call, email or chat with Comcast was to report a problem or request service, how long after your contact did Comcast begin working on the problem or service request?

Answer Choices	Responses	
Same day reported	41%	70
Next business day	21%	36
Days later	24%	40
A week later	6%	11
A month later	1%	2
The problem or service request was never worked on	6%	11
Answered		170

Q14. The next few questions are about cable signal outages. During the past twelve months (from the date you are completing this survey) have you ever lost your entire cable signal (all channels) for a period of fifteen minutes or more when you still had electricity?

Answer Choices	Responses	
Yes	55%	132
No	45%	109
Answered		241

Q15. If Yes, can you estimate how many times in the past twelve months you've lost your entire cable signal for a period of fifteen minutes or more?

Answered 121

Range: 1 - 101 outages; Average: 6 outages; Mode: one outage

Q16. Did you contact the Comcast office to notify them of the outage(s)?

Answer Choices	Responses	
Yes	67%	84
No	33%	42
Answered		126

Q17. How satisfied were you with the length of time it took Comcast to restore your cable service?

Answer Choices	Responses	
Very Satisfied	4%	5
Satisfied	54%	68
Dissatisfied	32%	40
Very Dissatisfied	10%	12
Answered		125

Q18. Did you receive a refund or credit from Comcast for the period of time your cable television service was out?

Answer Choices	Responses	
Yes	9%	11
No	91%	117
Answered		128

Q19. Has your household had any other technical difficulty with your cable service (i.e., picture quality, audio problems or overall reception)?

Answer Choices	Responses	
Yes	40%	93
No	60%	141
Answered		234

Q20. If Yes, please explain and note specific channels:

Answered (See end of document for individual responses.) 81

Q21. Please indicate how often have you had technical difficulties with your cable service?

Answer Choices	Responses	
Constantly	15%	14
Every few days	11%	10
A few times a month	56%	52
Rarely	17%	16
Don't know/Don't remember	1%	1
Answered		93

Q22. Has your household had on-site service or an in-home installation in the past twelve months (from the date you are completing this survey)?

Answer Choices	Responses	
Yes	24%	55
No	76%	175
Answered		230

Q23. You indicated that you had on-site service or an in-home installation in the past twelve months (from the date you are completing this survey), please indicate a rating of Very Satisfied, Satisfied, Dissatisfied or Very Dissatisfied for the following service issues.

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
The available times for installation or service	15%	69%	13%	4%
The arrival time of the service technician	31%	60%	5%	4%
The ability of the technician to complete your request during their first visit	21%	46%	23%	9%
Answered				56

Q24. The next few questions are about your satisfaction level with how well Comcast communicates with you. Overall, how satisfied are you with the following aspects of communication provided by Comcast?

	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
The ability of Comcast to explain and address billing questions/complaints	8%	49%	23%	19%
The ability of Comcast to inform YOU regarding programming changes	7%	46%	27%	20%
The ability of Comcast to inform YOU regarding rate changes	5%	34%	34%	27%
Answered				201

Q25. Local Community Programming (also known as Educational and Government Access Programming)Comcast currently sets aside a portion of its channels which are used by local government and educational organizations within Vancouver and Clark County. How often do you watch local government programming that appears on Channels 21/321 and 23/323 - Clark/Vancouver Government TV (CVTV) - When answering, consider your total viewing time of all the listed government channels. Programming includes: live meeting coverage, hearings and forums; talk shows; local election coverage; community programming and shows like: "Real Vancouver" and "Clark County Close Up".

Answer Choices	Responses	
Daily	1%	3
Weekly	8%	18
Monthly	10%	23
Once or Twice a Year	33%	75
Never	47%	107
Answered		226

Q26. Consider the programming you've seen on the CVTV Channels, please rate the following areas on a scale of Excellent, Good, Fair or Poor.

	Excellent	Good	Fair	Poor	Don't Know
Informational Value of Channels 21/321 and 23/323 - Clark/Vancouver Government TV (CVTV)	4%	19%	16%	4%	57%
Picture Quality of Channels 21/321 and 23/323 - Clark/Vancouver Government TV (CVTV)	2%	26%	14%	3%	55%
Sound Quality of Channels 21/321 and 23/323 - Clark/Vancouver Government TV (CVTV)	3%	22%	16%	3%	56%
Answered					218

Q27. How often do you watch local educational programming that appears on Channels 27, 28/328 and 29 - The Vancouver Educational Telecommunications Consortium (TV ETC)? When answering, consider your total viewing time of all the listed educational channels. Programming includes: School Board meetings, District and School sports, concerts, special events, and young filmmaker projects; Classic Arts Showcase; STEM in 30; "Sit-down with the Superintendent" and more.

Answer Choices	Responses	
Daily	1%	3
Weekly	3%	7
Monthly	6%	14
Once or Twice a Year	20%	46
Never	69%	157
Answered		227

Q28. Consider the programming you've seen on the TV ETC Channels, please rate the following areas on a scale of Excellent, Good, Fair or Poor.

	Excellent	Good	Fair	Poor	Don't Know
Educational value of Channels 27, 28/328, and 29 - The Vancouver Educational Telecommunications Consortium (TV ETC)	3%	15%	8%	0%	74%
Picture Quality of Channels 27, 28/328, and 29 - The Vancouver Educational Telecommunications Consortium (TV ETC)	3%	15%	8%	0%	73%
Sound Quality of Channels 27, 28/328, and 29 - The Vancouver Educational Telecommunications Consortium (TV ETC)	3%	16%	7%	1%	73%
Answered					217

Q29. What kind of local community programming would you like to see more of on Comcast's cable TV system? (Mark all that apply)

Answer Choices	Responses	
Public Safety Information	41%	76
Higher Education Programs	20%	37
Local Arts Programs	29%	54
Local Business Programming	8%	15
Public/Community Events & Activities	41%	76
Community News	48%	89
K-12 School Events & Activities	23%	42
Government Meetings	27%	49
Local Sports	28%	52
Local Senior Citizens Programs	22%	41
Local Historical Programming	32%	58
Special Events Coverage	29%	54
Health/Wellness Programs	25%	46
Minority and Ethnic-focused Programs	10%	19
Foreign Language Programs	6%	11
Local Public Access Programming by Residents and Organizations in Vancouver and Clark County	14%	26
Regional/Portland Metropolitan Area Programs on the CAN Channel	9%	17
Other (Please explain) Local Election Information, Gardening, Indigenous people and local tribes, Local School Board Meetings	7%	13
Answered		184

Q30. How valuable is it to you to have detailed descriptions of the local community programming (described previously) on the electronic program guide/menu on the cable system?

Answer Choices	Responses	
Very Valuable	21%	47
Valuable	28%	63
Somewhat Valuable	19%	42
Not at all Valuable	9%	21
Don't Know/Not Applicable	23%	52
Answered	225	

Q31. How important is it to you that a portion of your cable bill continue to support programming like you see on the local educational and government access channels?

Answer Choices	Responses	
Very Important	17%	38
Important	16%	36
Somewhat Important	30%	68
Not at all Important	27%	61
Don't Know	9%	21
Answered	224	

Q32. Regardless of how often you might watch, how important is it that these local community channels are available to all cable subscribers?

Answer Choices	Responses	
Very Important	28%	63
Important	27%	60
Somewhat Important	21%	47
Not at all Important	17%	37
Don't Know	8%	17
Answered	224	

Q33. Which of the following broadband (high-speed Internet) services do you subscribe to at home?

Answer Choices	Responses	
Xfinity (Comcast) high-speed Internet service	81%	377
I don't have high-speed Internet	6%	28
Another high-speed Internet provider (please indicate your provider in the block below). Other Providers mentioned: Centurylink, Dish, DSL, Frontier, HughesNet, Lumen, Quest, TDS Telecom, T-mobile, Zipy, Cricket wireless.	13%	60
Answered	465	

Q34. Please indicate below why you don't have high-speed Internet at home. (Mark all that apply)

Answer Choices	Responses	
I use my mobile data plan for Internet	14%	4
I do not own a computer/device	7%	2
No need	3%	1
Too expensive	21%	6
Unavailable in my area	69%	20
Speed of service (service is slow)	7%	2
I don't have money for equipment/device	7%	2
Other (Please explain)	14%	4
Answered	29	

- Inadequate "best-effort" DSL service by Centurylink: 3 mbps down and 0.5 mbps up
- We can only purchase century link DSL
- The only option in Summer Hills is horrifically slow and spotty Centurylink. Please make Xfinity extend to our neighborhood
- See above - Comcast fails to uphold franchise agreement and county fails to enforce it. Comcast letter also claimed that they can simply claim "In addition, the contemplated costs associated with this build would arguably adversely affect the financial condition and potential operation of the Cable System." If this were a general purpose out then why have a franchise agreement at all? Just let them say "We don't want to serve this area" and then they don't.

Q35. How satisfied are you with the following aspects of your home Internet services?

	Excellent	Good	Fair	Poor	Don't Know
Reliability of your home Internet services	21%	38%	26%	16%	0%
Speed of home Internet services	20%	38%	28%	15%	0%
Cost of your home Internet services	5%	14%	33%	48%	1%
Answered					436

Q36. Zip Code?

Answered 444

Zip codes mentioned: 98860, 98686, 98685, 98684, 98683, 98682, 98675, 98672, 98671, 98669, 98665, 98664, 98663, 98662, 98661, 98660, 98642, 98629, 98607, 98606, 98604

Q37. What is the highest level of education you have completed?

Answer Choices	Responses	
Some high school or less	0.2%	1
High school graduate	4%	17
Some college / Trade school	19%	87
Associate Degree / 2-year degree	13%	57
College / 4-year degree	37%	165
Postgraduate or professional degree	27%	122
Other (please specify) Don't want to answer	0.4%	2
Answered		451
Skipped		81
		15%

Q38. Own or rent your home?

Answer Choices	Responses	
Own	84%	384
Rent	15%	66
Other (please specify) Don't want to answer	1%	5
Answered		455
Skipped		77
		15%

Q39. How old were you on your last birthday?

Answered 413
Skipped 119 22%

Range: 22 yrs old to 86 yrs old;
Average age: 52.5 yrs old;
Mode: 67 yrs old

Q40. What is your gender?

Answer Choices	Responses	
Female	55%	239
Male	43%	189
Other (please specify) Not important/Don't want to answer	2%	10
Answered		438
Skipped		94
		18%

Q41. Do you have children under age 18 in the home?

Answer Choices	Responses	
Yes	31%	138
No	69%	307
Answered		445
Skipped		87
		16%

Q42. What is your Race/Ethnicity?

Answer Choices	Responses	
American Indian or Alaska Native (including: Canadian Inuit, Metis or First Nations)	1%	5
Asian or Asian American (including: Chinese, Korean, Japanese, Vietnamese, Filipino)	4%	15
Black or African American (including: Caribbean)	0.2%	1
Hispanic/Latino/a (including: Mexican, Central American, South American, Indigenous Mexican)	3%	12
Native Hawaiian or other Pacific Islander (including: Samoan, Tongan, Guamanian, Chamorro, Micronesian, Austronesian)	0.2%	1
Middle Eastern or Northern African	0.5%	2
White (including: Eastern and Western Europe, Slavic, Russian)	84%	357
Biracial/Multiracial/Mixed	3%	14
Other (please specify) Don't want to answer	5%	20
Answered	427	
Skipped	105	20%

Q43. What is your estimated annual household income?

Answer Choices	Responses	
Under \$25,000	5%	22
\$25,000 to less than \$35,000	5%	20
\$35,000 to less than \$50,000	6%	27
\$50,000 to less than \$75,000	16%	68
\$75,000 to less than \$100,000	20%	84
\$100,000 to less than \$150,000	23%	99
\$150,000 or more	20%	84
Other (please specify): Homemaker, multiple part-time jobs, Work from Home	5%	20
Answered	424	
Skipped	108	20%

Q44. What best describes your current employment?

Answer Choices	Responses	
Working full-time	55%	241
Working part-time	5%	22
Working and in School	0%	1
Seeking employment/Looking for work	2%	7
Retired	25%	111
Disabled/Unable to work	3%	13
Volunteering	1%	4
Self Employed	7%	29
Other (please specify)	3%	14
Answered	442	
Skipped	90	17%

Q45. How long have you lived in the City/County? (Years)

Answered 448

Range: 3 months to 73 years; Average length: 22.1 years; Mode: 20 years

Q46. If you have any additional comments regarding Comcast and its services, please include them in the space provided below:

Answered 292

See end of document for additional comments.

Exhibit A-2 – Open Ended Question Responses.

Q3. For what reasons are you not currently subscribing to Comcast cable television service?

Other (please describe)

Locations Unavailable:

NE 241st Ct, Brush Prairie - Summer Hill Subdivision
NE 246th Ct, Brush Prairie, WA 98606
NE 246th Ct. Brush Prairie
NE 242nd Ct, Brush Prairie (Summer Hills)
NE 246th Ave Brush Prairie WA
132nd Circle Brush Prairie WA (Summer Hills)
132nd Circle, Brush Prairie, WA 98606 ("Summer Hills")
NE 306th Street, Battle Ground WA 98604
Near 212th Ave and 219th street
239th Ave NE
NE 132nd Circle, Brush Prairie
NE 124th Circle, Brush Prairie, WA 98606
NE 132nd Cir, Brush Prairie
NE 29th Ave, Ridgefield
249th Ave risto rd.
NE 45th
NE 144th Ave, La Center, WA
NE Meyers Rd, La Center
SE Washougal River Road, Washougal, WA, 98671
51st Ave. Ridgefield, 98642
Adams pl. La center
Lucia Falls Rd.
NE 238th Ct. Summer Hills
NE 241st Ct, 98606 (Summer Hills)
NE 246th Ave 98606 Summer Hills
NE 246th Ave Summerhill's
NE 339th St
Ne Moe Street
Rainbow Drive, Ridgefield
Ridgefield
SE 9th St., Camas
Shamrock Cir, 98604
Summer Hills
Summer Hills - NE 245th Court, Brush Prairie, WA 98606
Summer Hills neighborhood
Summer Hills, 246th Ct., Brush Prairie

Summer Hills, NE 242nd Court
Winsor Dr. Brush Prairie

- We have 120 homes in Summer Hills, but we have no access to adequate internet services. We only have bandwidth-lacking, slow, and outdated DSL by CenturyLink.
- Channel packages available, to get channels we want must pay for many we don't care to watch
- Comcast is horrible! Breach contract pricing, if you don't keep an eagle eye on your bill. Service goes out too frequently. Very poor customer service. We need something reliable & affordable.
- Comcast price gouges customers and increases prices annually
- Comcast refused to honor franchise agreement - we are part of about 60 families, "at least thirty (30) residences within one (1) cable mile located at least one-half (1/2) mile from Grantee's trunk or distribution cable" and can't get anyone to help us. We wrote to County Manager and City Manager with no response.
- Comcast was going to charge \$10,000
- Commercials on tv programming.
- Customer service is awful
- Customer service was awful
- Didn't like the channel selections for the cost
- Dislike FCC and Comcast Corporate policies
- Forcing customers to subscribe to content they aren't interested in because the channel they DO want to watch is only available as part of a bundle. Lots and lots of useless channels and programming.
- I have a satellite TV Service
- I have internet only
- I object to the essentially monopolistic hold Comcast has on cable television & internet services
- I think it's wrong that Comcast has control over many apartments that we can only use Comcast...so even though it's high priced I won't use a company that monopolizes people. Also, you have to pay for CenturyLink so many channels you don't even watch.
- Prefer direct tv guide format
- Satellite t.v.
- The Comcast network (Hybrid fiber coax) is unreliable, Xfinity Internet service is unsecure by definition due to 'buss' architecture, their network is optimized for broadcast/unicast, therefore more susceptible to hack/security breaches, their cable tv channel lineup offers no conservative/constitutional viewpoints (FOX NEWS doesn't count), and their content is anti-family values/community standards and violates our Judeo-Christian heritage of ethical community standards; drive by media carriers are socialist/communist content providers and what they broadcast shows disregard/hatred of what America was founded upon;
- Throttled our internet as soon as we cut cable.
- Too much money
- Use satellite TV. Clearer picture.

- We don't own a tv
- We have Century Link
- We have Direct TV

Q8. Overall, how would you describe your level of satisfaction with your current Comcast cable television service?

Q9. If you indicated anything less than Very Satisfied or Satisfied, is there anything Comcast could do better to make you consider an improved level of satisfaction with its cable television services?

- "Don't watch television so I can't comment on that. However, for Internet services there is a distinct lack of choice for upload speeds. Upload vs Download speeds are too unbalanced at a 0.025 ratio (10/400Mbps). As a telecommuter I regularly hit my upload limits but rarely come close to my max download speed. We really need more choice in ISPs."
- When installing our service, the installer cut the cable from our antennae. Have asked to have it restored so we can use our other TV upstairs but no reply from Xfinity. We grant Comcast a franchise to service this area so they are free to charge whatever the market will bear and no need for customer service, so why can't we open this to competition like what is available, although limited, for internet access?
- Pricing is horrendous, its robbery what they charge for simple services.
- "At least twice per week we lose service for more than 15 minutes. Never have we been reimbursed for this loss and we should get credit. Often in the evenings and sometimes during the day, service slows down so much that our broadcast stops and the show begins ""buffering."" Other times a message comes up that the channel is inaccessible at that time. In addition, our cable and internet go down completely and we cannot sent/receive messages, go on the web, or watch TV. We have never been compensated for these loses, yet are expected to pay as if receiving full service."
- I hate that I have no other option than Comcast. Having a monopoly on service is terrible. They are slow to respond to needs and their prices keep going up.
- More reliable access and better coverage
- Terrible customer service, extremely long wait times, extremely overpriced for the service provided. Service (both TV and internet connections) are consistently cutting out or picture is scrambled. No other quality provider options available in city/county.
- Better uninterrupted service. 40% of recorded shows have interrupted service, missing parts of the show caused by interruptions during recording and not recording correct program because they change the programming after a recording is set. Highest priced cable service around and they know they can because there is no other competition that compares. They give you deals but only for so long and only if you continue to agree to a contract. Either a 1 yr or 2 yr contract. And you have to call in to go over all the options (up sale) to get the discounts. If Verizon FiOS was available in our area, I would give them a try.
- Too expensive for what you get, and the internet service cap seems overly excessive

- The cost is too expensive for the limited amount of watchable channels. They charge a \$5 box rental for the box we have had for years. Get rid of the box rental charge. I am pretty sure it cost them less than \$10.
- Lower cost. Internet and cable prices are too expensive for what you get. Constant overage charges on internet
- "Eliminate Comcast's 'near-monopoly' on Cable TV services, provide competitive and a la cart pricing - and mandate reasonable pricing controls.

The ""Bottom- Line"" is - We Must have reasonable competition - that is the only way to keep Comcast honest and avoid their drastic price increases.

Every 2 years Comcast ALWAYS raises their price. Unfortunately, I switched from Digital Starter to a premium package that included HBO & Showtime - which was around \$150 per month - now it is over \$200 per month (my former Digital Starter was around \$120 / per month.)

Comcast may have deceived me when they told me the price would not increase this drastically. Unfortunately, I can NOT switch back to Digital Starter without paying a huge premium. Comcast raises the price on their Digital Starter package to make it prohibitive to switch back.

We Must have reasonable competition - that is the only way to keep Comcast honest and avoid their drastic price increases.

- My internet goes down all the time. On 10/6 it went down for 32 min. I work from home and this is normal.
- "1. Lower their prices for TV!
- 2. Customer service reps are very hard to understand due to language barriers. "
- Their pricing structure is not fair to long term customers. It is not a good value. They also advertise "free" equipment that later shows up on the bill. They signed me up for "free" cell service if I kept their internet service then forced me into a paid plan by eliminating the "free" level. Friends have also had customer service insist that a cost for a "free" item on the bill was legitimate only to have another agent admit the item should be free.
- Broadcasting does not always match Guide, recording sometimes misses the items I wanted to watch. Quality of recording playback on Comcast equipment is poor. Price is too high. Internet drops multiple times per day.
- Stop playing games with pricing. They always leave room for negotiation. Set an actual price and stop messing with people
- improve its customer service
- Comcast seems to own a monopoly on their services which allows them to charge whatever they want. I only subscribe to high-speed internet services and should not have to pay what I do for a limited connection with a data cap. Customer service is also generally unhelpful and I receive pushy sales calls asking me to "upgrade" my services.
- I have to have all services (security, landline etc.) to get the best package price. ALL I really want is fast internet.

- The cost is too high. I just need reliable internet, but it has been as high as \$122 a month for only internet.
- Overall cost is high, difficult to review options available to you on line as your current plan may not be listed i.e., no longer available
- Every month the bill goes up for some reason or another. The quality has been glitchy and slow at best. Takes FOREVER to load channels. For some reason they take channels away that were in package and you have to purchase them separately.
- Again, our cable bill just keeps going up every month and taking away good channels.
- outages, less than optimal (paid for) internet speed, abysmal customer service.
- Adjust prices to fair levels instead of monopolistic
- Less expensive, more reliable internet service and speeds at an affordable price.
- "1: Improve customer service (now known as ""customer DIS-service"")
- 2: Offer ""Music Choice"" without bundling TV"
- Resolve problems more quickly and reduce cost to us
- Quit raising prices while canceling channels I am very close to canceling the TV service
- Make it easier to talk to a live person on phone. Hook up TVs so that retirement community in-house channel is available on BOTH TVs. Get trained techs to hook up new moves. I had to reach a supervisor to get a senior tech to come fix (partially) the mess made by original installer
- Give long time subscribers lower rated
- Terrible customer service. Service interruptions they cause and then we have to jump through hoops and waste time trying to get it fixed. They should pay us for our wasted time. Very frustrating.
- Remove the extra charge for regional sports channel
- Long costumer service wait times. Home security service customer support is horrible - VERY long wait times, agents not knowledgeable, "chat" option not helpful.
- Their customer service is poor and the quality of their cable has gone down over the last five years. We have issues with our cable boxes going in and out and freezing and haven't received a resolution.
- The internet is spotty. Prices on packages are too high.
- Choice. There are too many worthless channels and bundles that are too costly. Break it up. Allow customers to choose as many or few as they want; get rid to big \$ bundles which are just price gouging. Allow customers to add or modify channels or discontinue at will; and eliminate minimum subscription periods for services. Think SERIOUSLY about more than one provider. The monopoly model does only one thing - assure the cable CEO gets his gazillion dollar bonus. In addition, enforce the FCC rule against raising the volume during commercials - it's the law and Comcast weasel words their way out of compliance by saying the sound level is embedded in the broadcast signal. Simply deny them the right to market until they have provided counter technology or bludgeoned the networks into stopping this customer abuse.
- Improve the speed so that voices are in sync with CC.
- Lower their fees and stop raising them way over the Inflation rates every year
- They slow WIFI feed, poor signal strength
- The service is extremely overpriced.

- Too much money for what you get. Too expensive
- Prices keep rising for basic services. Because they lock you into a 1 yr contract each year your required to beg them for the least expensive package which keeps going up. Why doesn't Clark County establish their own ISP utility for those that just want basic coverage & connection e.g., schools, students, retirees, low-income residents? Please consider this as a utility to distinguish Vancouver as great affordable place to live.
- I don't pay for cable since I can't afford it.
- Better WIFI and cheaper prices. Every time a new show comes out, it's on another new pay channel. It's robbery.
- Pictures often freeze, sound stops, changing channels often takes very long. COST IS WAY TOO HIGH!!!!
- I would like an a la carte system where I can choose the 5-10 channels I want and just pay for those channels.
- They really need to improve their customer service. When you call with an issue it takes talking to multiple people and usually multiple calls to get the issue resolved
- Always have trouble. Need to call for restart at least 4 times a month
- give a senior discount rate, also since I don't watch the sports channel take those off of my package deal with them and they are offline more than they are online and they don't give you credit on your account when they stop broadcasting or there is a problem with the internet, they always say it's your problem not there's when you call them. And for a senior like myself it way too expensive to pay what I pay per month which is \$159 per month.
- To get the few services I needed, I have to pay for thing I don't need to get the best "deal". I have things I don't use (such as a phone plan). Also, I've been told I have to come in a re-negotiate a "deal" every year, or else, my bill will automatically increase every year. Customer service is horrible. Trying to get someone to physically come and set-up or fix something take multiple calls. Calls go to places all over the world that may not have English fluent speakers. Being told to go online, when your internet service is down is just ridiculous.
- Stop switching packages without people knowing, cost is very high, glitchy at times,
- Bill is too high. Basic channels. Internet speed not that much (400 Mbps), but don't want to go for higher cost. Kids doing online schooling, myself working from home. Just ridiculous costs.
- Faster internet that can handle multiple devices. Cable constantly can't keep up with the speed of scenes like action movies. The menu sometimes will be super slow. I should get more channels for the price I'm paying. In demand should have their selection updated more often.
- Offer senior discounts, let users cherry pick what channels are important to them, quit doing updates during prime viewing hours, provide better access to customer service, provide better customer service when visiting their offices (don't get me wrong, most representatives are kind and try to help but a lot of times they are restricted from doing the right thing by corporate), and when a manager says he's going to take care of a problem they need to follow through and do what they said they were going to do.
- "Cost is far too high. Interface sucks and continues to get worse.
- Vancouver city government should provide internet as public service."

- Quit charging me \$19.45 monthly for local broadcast channels when I have my own roof antenna which gives me those channels for free. Quit charging me a regional sports fee when I don't watch sports and if I did, I could still use my roof antenna to get it FREE! Stop charging me for the franchise fee they have to pay the city of Vancouver. High-definition TV comes free over the air on my antenna for free yet Comcast charges \$9.95 for the same HDTV. I'd like to see this stopped.
- Terrible cable boxes. Goes out every couple of years. That is very wasteful. For the amount we pay for a bundle of tv and high-speed internet is not worth the price they charge. There needs to be comparable competition in the area. My husband works in IT, working from home most days of the week, and needs high speed internet to do his job properly. The prices they charge I feel is a bit gouged because they know they own the market for those that need the high-speed internet. Customer service is not great as well.
- Their customer service is horrible. When I try to get help, I am connected with someone who I can't understand. I've spent hours online with them trying to get to speak to anyone who can speak clear English but gave up when I was on hold and someone else picked up with broken English. If there were a better option I would have changed by now. I can't get through to them in order to change our service package.
- Honoring pricing agreement. They do not. Refused to negotiate new agreement with us. Dropped favorite channel from our package without notice. Wanted more money to reinstate it.
- It's pretty expensive.
- "Pricing practices are horrible. Your price goes up so you call or go in and grovel for a lower price package, then it expires and your bill jumps dramatically until you grovel for a new lowered contract.
- We recently had to have a new cable run from the street to our house. Comcast contract someone to bury the new cable however when this was done, they made no effort to remove the old cable, it was left buried and sticking out of the ground at our house foundation. "
- The overall cost does not match the level of quality received. There are a lot of time when our service slows, is not available to use due to network issues or there is just an error that customer service is unable to explain.
- Their prices are high and their service is truly terrible. It's been this way for a long time. Why we don't have any competition in Vancouver is beyond me.
- "Be more transparent with charges, fees and plan prices. Have better options, better service and internet speed that is true to its advertising, I pay for 1gig speed and I don't get more than 600mb "
- Better quality of service. The internet is terrible, and overpriced. Would use someone else if had the choice!!!!
- Lower prices, less outages
- "No more rental fees on equipment needed to use their service.
- Less snowball picture, less issues loading anything through comcast. Perhaps if there was more reliability, but last month there was almost a week we could not access the comcast functions. "

- customer service is horrible. wait on telephone for HOURS trying to get billing issues resolved. rates continue to go up on a regular basis. internet services go in and out especially this last month.
- Get rid of data caps!! Prices are already ridiculous then you went and added data caps. With families working from home, you forced families to pay more.
- Customer service is terrible. Excessive wait times in store and on the phone. They seemingly are never really able to help with service issues or lowering monthly cost concerns. With virtual school for my children teaching all from home, we've experienced a multitude of issues. I'd cancel if I could but need the internet and sadly, it's cheaper to bundle. Would be great if they offered reasonably priced, a la cart internet service!
- Give the services and internet speed promised. My services are changed even though I was under contract
- Provide competitive rate and better service
- The upload speeds are appalling, you have to pay \$80+/month to get more than 10 mbps up. This is way less than other services, less than other parts of the country, and less than is needed for adequate video/teams/zoom calls. Comcast has the corner on the service and therefore provides bad service because they can
- After our one year "contract" expires, we are Forced to renegotiate our rate yearly seems really unfair considering they are the main option living in Clark County. They charge far too much for essential services (such as WiFi) during a pandemic. Why isn't internet access a public utility like electricity and water?
- Fix non-working of demand service, restore previously available channels that have been removed simply to force you to purchase higher tiers of service.
- Our signal is horrible we definitely don't get what we pay for.
- Lower its prices and offer the same deals to existing customers as its new ones. They have a monopoly on this market and they know it. Customer service is horrible as well. Please get rid of them or allow other major companies to operate here as well.
- The speeds are lower than we pay for and it cuts out often. They have come to fix it several times but it's never better. They raise your rates all the time but you get less and less. I wish they would either upgrade their infrastructure or at least provide good customer service.
- Lower prices
- Be more reliable. I've had to replace my router 3 times in 3 years. Their customer service is terrible. Long hold times, unskilled staff. Takes forever to get real help. I lose internet regularly while working remotely from home. No real resolution provided.
- It's crazy to have to pay \$60 a month just for internet. TV is too expensive so we don't pay for that.
- Lower prices on cable. We are looking into cheaper streaming services.
- Fix problems causing us to get kicked out of shows multiple times a night. Happens constantly with Netflix and prime video connections as well as playing back recorded shows. Frustrating.
- We only have internet service so cannot comment on cable television
- We watch about 15+ channels from all of the lineup. However, they seem to know just how to spread the availability of the channels so you need to purchase the high-cost tiers.

In the last 5 years my bill has gone from \$135 to \$210 with no additional services purchased. I am paying for all the upgrades that do not interest me. I no longer feel service has value. I am very close to having just internet service and stream programming that interests me.... or dropping this all together.

- Stop the ridiculous price increases for literally nothing in return
- Internet service way overpriced
- "There is an extra 10 fee for sports channels that we neither watch nor want. They tell us that it's part of our "package" and can't be removed. But if it's part of the "package", why isn't its cost part of the package price?
- They add extra costs all the time!"
- Better service, less interruptions
- more channel options for less money without having to stream, purchase outside packages, etc.
- With more streaming services Comcast just doesn't offer a lot of value for the money.
- The price is too high, they have a monopoly. We only use their service because it's less expensive to have it with internet than to only have internet.
- They could quit forcing me to support Fox News with its cable packages. This, and the exorbitant cost, is why I'm cutting the cord next month.
- Make the cost more affordable, and have decent channels available on the cheaper packages. Most families are on low income and can't have dish or satellite TV so we have to go with Comcast. Streaming is unreliable at best and by the time you subscribe you're paying the same as you would of cable. It's not realistic to pay almost \$200 a month for the level just above basic cable and internet especially when service is poor.
- Far too many outages and drops. Packet loss has increased in the last 6 months.
- Better connection. Always freezes
- A cheaper broadband options
- My connection drops frequently which makes using internet, watching TV or any other internet requires task more difficult.
- The internet bogs down all the time. The service has rapid small outages that cause video/streaming to freeze a few times a day.
- Way too high. I pay 500 a month between Comcast and Verizon! How in the world is the middle class supposed to survive???
- More affordable services. More reliable internet. Better phone customer service.
- Cost is ridiculous. Customer service sucks. Constantly drops our internet
- Horrible customer service, but the network has been much better this past 2-3 years. We use to have internet outages quite frequently.
- The fees for my service make up over \$40 on my bill, that's why I am dissatisfied and if I cut services down to limit some of these fees, I am penalized with speed reductions on my Internet or higher charges for Internet.
- Improve quality and consistency of internet connection / signal
- Lower your prices. Also, quit raising them every few months. My bill was supposed to be 162.00, with everything. Every month or 2 it goes up, for the same service.

- I would like changing plans and seeing available options to be more transparent and user friendly. I have been trying to update my service to a lesser plan for some time now and the website for existing users to edit their plan is always down whenever I try.
- "Stop giving ""free"" channels that I don't want/didn't ask for/are redundant (i.e., shopping, sports, kids, etc.) and stop raising the fees with nothing given in return...no choices offered, just increase after increase. "
- Forced to pay for many many channels we do not watch or have internet in viewing. Yet we have to pay for them. only watch about six or seven channels on regular basis.
- Lower the price or provide better selection
- The cost is way too much.
- "Reduce the price of service, it is crazy expensive. Offer ala cart channels, we currently pay for a bunch of channels we never watch."
- They get you into a rate and when those 2 years are up the rate goes up in a huge amount. Then they offer extra services and the rate will go lower, but then that expires and now the bill is even higher due to the extra services. If you try to drop off unneeded or unused services, they tell you that the ending bill is basically the same because you had a discounted rate on the other service(s) that you still want. So, your bill gets larger and out of control, but not really any way to drop to a reasonable number. Also, as far as TV goes the "basic" starter digital has tons of channels that nobody watches. They carefully see what people watch and move those to the more expensive plans to increase your bill.
- Price for what I get is way too much and the internet even though I pay for 250 mb I rarely get that and always have bad reception
- Quit price gouging! I quit one service and get a slightly reduced fee, only to be jacked up again in two to three months due to their ridiculous price hikes. I pay 195.00 for cable and internet. I rarely watch tv.
- Lower cost, Ala Carte channels so we do not pay for sports which we don't watch, that is robbery.
- "Lower the cost. Every few months they raise your bill. Service times out every single day. Very poor service, I person or on the phone. "
- "Lower price
- Quicker response times with more accurate appointment times currently 4-hour window
- Better quality internet. Connection sucks in the middle of the city. "
- Very expensive and no other option for tv and internet. You can split it up but it will cost more.
- Allow customers to select the desired channels instead of packaged selections 2) Allow customers to select foreign language channels (Russian? Filipino?) without having to subscribe to other packages... maybe that's all the customer wants! 3) STOP THE COMCAST CREEP where the price inches up all too frequently without any improvements... it's just comcast being greedy!
- It's too much money for the service, but what is our choice? They're the best out of a bunch of lousy choices
- "They have a monopoly in this area, at least in my area. While their TV service is passable, the internet service, reliability and speed are deplorable. Techs have been out at least 3 times a year for the 4 years we've suffered with their sub-par service. They've done various things, none of which have made any significant change. On one occasion

we were ""Connected without Internet"" for 4 days. WIFI worked fine, but no signal outside the modem. Many hours on the phone solved nothing. Magically on day 4 the phone tree started greeting me with: ""recent network improvement in your area has solved the issue you have previously called about.

The service is poor enough and weak enough that we're forced to utilize our 4g LTE wireless network to access the internet. I know that my neighbors, friends and acquaintances around Vancouver have similar experiences and complaints.

The charter for Comcast must include specific, engineering-based solutions to their sub-par internet offerings before approval."

- They never ever answer the phone, they are super expensive. If box has a problem, they said they would replace and never ever did results in issues with needing to re-boot tv box all the time. Worst company I have EVER had the dis-pleasure of working with. they are a monopoly and need more competition.
- Wish they would broadcast Seattle station 24/7 and full HD instead of just news along with Portland channels. I have seen this in area like the Washington coast. Need option so we do not get the sports channel if we don't want or better yet a Family package that would remove sports and other channels. Customer Service is generally very good it is just the options for TV.
- Improve reliability, SIGNIFICANTLY improve customer service by actually resolving issues with billing, equipment configuration issues, taking care to actually solve issues instead of giving the customer the run around until I just give up out of frustration. Treat my business as if it is valued instead of 'we're the only game in town, so too bad for you if you don't like the level of service we provide' They should also honor what they promise.
- Broadband is priced too high for the up/down speed tiers.
- If you have more than one account with comcast, you can't manage your accounts from one identity. It's a project to actually get a jardine on the phone if online help has failed. There's no periodic update of packages. I really feel their system is designed to discourage customer contact and to hope that inertia encourages customers to just stick with whatever they have

Q19. Has your household had any other technical difficulty with your cable service (i.e., picture quality, audio problems or overall reception)?

Q20. If yes, please explain and note specific channels:

- A couple of specific channels always have pixelated screens. Comcast said this is because of the way lines were installed in my apartment complex. That makes no sense to me - why would the picture be fine for some stations but not others???
- Across the board streaming quality
- "After 6 hours troubleshooting on the phone with the service group, they determined that my cable box stopped working. I didn't want to pay for a service person or wait so I went to the Comcast office down by Van Mall and got a new one. I followed the directions and that box too turned out to be bad. Unfortunately, by this time they were closed and I had to wait until the next day. The person I spoke to in the office said that the person online had messed up my account and they issued me a new box.

Besides that, I have to reboot the router a couple of times per week and the cable box every couple of weeks or they lock up and stop working. When I have asked, they say that its normal and you should reboot them regularly."

- Again... Internet only... the modem regularly quits passing traffic and has to be rebooted. Comcast has replaced the modem but have the same problem with the new modem.
- All channels
- "All channels are often grainy and pixelated
- Especially after 6 pm"
- All channels were stuttering.
- all channels, problems with audio being out of sync with the picture
- All channels, was required for lines to replace in home when that didn't work, they had to have the line to the house replaced which took a while
- All channels. on all boxes were pixelated. Audio was hard to understand
- All local channels freeze and skip. Might as well have an antenna
- Any channel can cubiclize or have a pixelization issue with figures turning into squares on more than one TV. Same holds true with volume shifts.
- As described in earlier question. Cut out during program, scrambling the screen during programs (recorded or live), there is intermittent sound during programs.
- Audio issues and freezing. I don't remember what channels.
- Audio. Often seems like I'm only getting 1 channel (right or left), particularly true on Fox and occasionally ESPN sports broadcasts. (Very occasionally, HBO)
- Bad legacy cable, they replaced the underground
- Blackouts
- Brief loss of connection, especially late night.
- Cable
- Cable box freezes and channels are not accessible or can't be changed. Picture and sound can also be laggy.

- Cable box we just received is very slow. Will be following up shortly with Comcast as it has not resolved itself.
- Can't remember
- Flashing picture. May have been the tv and not cable.
- Freezing a few times, a week.
- Frequently, the sound is not synchronized with the video.
- FX, AMC, ABC
- garbled signal
- Hallmark, Fox
- I had to restore reset the cable box which takes about 20 - 30 minutes
- Internet
- Lately the picture has been breaking up and getting pixilation.
- Loses connection to recording playback, Netflix and prime video.
- Lost picture and audio various channels
- Lost signal
- loss of internet and phone
- Modem had to be reset.
- Most recently pixilated picture and/or frozen picture; typically, on local channels.
- Often times there are issues trying to get sound equipment other than just the tv to work when comcast is acting up. Sometimes there is a bit of a rubber band effect happening with picture. Sometimes there is the lag in sound to picture so it seems like things are almost dubbed.
- Out of the blue we end up with Spanish dialogue on some channels. It's not an easy fix.
- Over all channels
- PBS is what I primarily watch, plus NBC. Picture quality pixilates a lot when playing back recorded programs.
- Picture distortion sometimes.
- Picture quality, scrambled picture, sound is inconsistent between channels, commercials are loud, completely lose sound and picture freezes.
- Picture quality, sound equity
- Picture will occasionally freeze or staggered on multiple channels. Sound on some channels is much higher/lower than others (not sure, but want to say CBS).
- Pixilated picture
- Reception is sporadic. Technician has reviewed. Problem persists. There is no value in having someone come out. It works when they are here, so they say there is nothing to do. I have purchased other co-ax cables as well to see if they hold the connections longer. That did help, but problem persists.
- Recorded programs didn't record entire program and frequently audio feed is disrupted
- Refers to all channels. Pixilation or breakup of the signal, happen all the time, and have several programs we want to watch when they are broadcast so we save them to be played when available, except sometimes they, sometimes not.
- Regular loss of signal for 3-5 minutes. Restores on its own. Happens very regularly, almost every day, sometimes several times a day. Everything has been troubleshot on our end, it's connectivity on their end or lack of bandwidth.

- Retirement community pkg has in-house channel and Comcast can only hook it up in one room
- Scrambled channels
- Selected channel outages intermittently;
- Service is spotty all the time, we need more options
- short service outages.
- Since they upgraded our service area a couple of months ago, our reception seems to be delayed, we have momentary pauses in shows, slow response to remote.
- Some channels flicker in and out...usually basic channels
- Some channels were pixelated or went out
- Sometimes picture goes away due lost signal
- Sometimes the picture distorts.
- Sound lost on one channel.
- Sports channels, cable channels
- Spotty at times or flicker of the cable going in and out for 5 -10 minutes several times over the last year
- Streaming service is bad
- Streaming, using on demand, pixely, sound etc. We just don't even bother anymore because it is never their service. It must be our lines etc.
- Stuttering / pixilation, low quality / barely counts as high definition. No channels in particular.
- Terrible Wi-Fi band even though I am using their router
- The credit received did NOT consider our time spent. \$12.06 for over an hour and a half??? I don't know other than all channels.
- The picture breaks up on some channels like the BBC and it takes minutes for some channels to load
- The picture on my TV freezes now and then and I have to back out of Comcast and come back in, sometimes several times to fix it
- The pictures scrambles across the screen
- The sound does not match the movement of the mouth
- Tiling issues Dvr recording issues
- Very slow transmission at times. See above.
- "Video frequently pixilates
- DVR will not respond for several minutes"
- Video stopped or stuttered: Tennis Channel most but occasionally all channels.
- Voices don't match to people's faces.
- Volume increases during commercials!
- What time is the sound doesn't come on when TV is turned on, or sometimes with streaming, no sound and I have to turn off the TV to start over again
- When I use my DVR, the recordings cut out the sound. When I use an app such as Hulu the sound cuts in and out and sometimes the picture is fuzzy and I have to exit and reload the app.

Q46. If you have any additional comments regarding Comcast and its services, please include them in the space provided below:

- "Almost everyone I talk to about comcast, they hate them. the field techs have a "" I'm better then you "" attitude. having worked for them in the past, the management sucked, they lie a lot about issues.
- Columbia Cable was 10 times better than the current one."
- "Virtual monopoly for Internet services in my area. The only possible competitor is Century Link but they do not offer adequate speeds.

Comcast does not offer symmetrical upload/download speeds. Good upload speeds are necessary for work-from-home/telecommuters. I have to purchase excessive download speeds in order to get viable upload speeds - on my current plan the ratio of upload to download is 0.025 (10/400Mbps)."

- I think you have enough information now.
- I don't like having to talk with the virtual assistant or texting when I have technical difficulties. Almost impossible to speak to a human being and you have to jump through so many hoops and then they hang up on you.
- Access to regular, fast broadband at a reasonable cost should be available to every household in the county -- in the 21st century access to the internet is a necessity, not a privilege.
- The Comcast approach to helping add to their service area and incorporating new customers is broken. Their cost sharing model is unbalanced and intentionally cost prohibitive for private parties. I believe the franchise agreement should include forcibly adding mainline fiber to rural areas bringing much needed services to the rest of the county. This aspect doesn't meet their payback model but should be mandated as part of their franchise agreement to extend services further at their cost. This would mean bringing mainline plant up and down main roads and working with private customers on methods of extending down private roads, easements, and creating opportunity for new customers weighted more on the company than the private party. Comcast has LONG profited from subscribers in dense population areas but is stingy in its desire to serve the rest of the county.
- They can be great. But the prices and how they fluctuate so often is awful. Lots of hidden fees. We don't notice any difference in the internet speed no matter what plan we are on and how much we pay.
- It's fine but we need more competition and shouldn't be forced to resubmit to a contract to have a significant discount. A service that is 45 dollars a month goes up to 80 if you forget and don't sign up for another term contract.
- Do not recommend this service. Please do not renew this contract!
- It would be nice to have options. Home internet is better than business and the business is more expensive.
- I wish we had other options besides Comcast that are reliable (century link is not) that is more affordable than Comcast. They have a monopoly on the market and the prices reflect it.

- Terrible internet/broadband reception in the house. Extreme difficulty when working from home or even just trying to access a Zoom meeting. Really wish there were better options in our area.
- had almost 2 years of extremely slow & intermittent connection where I was given the runaround with customer service, & repair calls. It finally came to light the local node I was on was overloaded. I was blatantly lied to, ignored, & met with an overall lack of a concern. The phone wait times and competence of customer service personnel are the worst I've ever experienced. During this period, I had 3 scheduled service calls not show up, & several others where nothing was accomplished, & the node problem was not revealed to me.
- We desperately miss Comcast. We felt it was fast, reliable, inclusive, and affordable cable, internet, and phone service with responsive customer support. I work from home, and the services available in our area make my job extremely difficult. While we love our home in rural Battle Ground, we feel disconnected, unheard, and forgotten. Please consider helping to expand cable/fiber services to rural areas such as those north of Battle Ground.
- Internet cost with the data cap is too high
- I have no interest in Comcast and its services. The last time I had Comcast (years and years ago), their prices were outrageous and their customer service was severely lacking.
- HD service should be standard for all plans. Stop charging \$10.
- Comcast enjoys a monopoly and their service reflects this.
- The cost is really high
- Only charge for channels used. Stop overage fees on internet. Stop requirement to use set top box
- Would be nice if cable was affordable
- Comcast automatically increases prices annually without informing customers.
- We're not convinced that Comcast values its customers. One indication of this is that instead of increasing its service budget, Comcast spent a fortune advertising its "great service."
- We Must have reasonable competition - that is the only way to keep Comcast honest and avoid their drastic price increases.
- The lack of ala carte choices of cable channels makes the cost of cable far too expensive. I have to pay for sports channels that I have no interest in, for example.
- Way overpriced. When calling, there's too many prompts. Wait time to reach a service rep is way too long. Most of the times I've called I couldn't understand the person on the other end.
- We would strongly support the city's effort to replace Comcast.
- When I complain about internet dropping, the tech on the phone is always eager to "solve" the problem, but nothing ever changes. Service drops and reconnects itself within a minute or so multiple times per day. Have replaced modem, but no joy.
- They're the worst. Municipal broadband is the future. Comcast deserves to wither away into irrelevance.
- I've worked from home since March 2020 and my internet has been consistently unreliable and slow the whole time. I would expect a lower cost to match the low quality.

I've tried calling but being on hold for a half hour isn't realistic with my work and life schedule and I've always given up!

- I love and appreciate their discount broadband "Internet Essentials" service for us that are low income or have kids in school. Would not be able to afford it otherwise...
- Loss of service daily and cost is \$118 a month.
- We previously for multiple years had several outages periodically (sometimes weekly, daily or monthly). It has seemed to have improved the last year or so. Additionally, the cost is more than I'd like to pay and I'm often not notified if the rate raises (usually around \$5 increase)
- Very unhappy with customer service and ability to contact Comcast. Terrible compensation on lost service,
- Need telephone technicians who speak English.
- I think the cost of service is way too expensive; there are so many channels, too many. I would like to see Comcast offer a "à la cart service" so that the user can pick which channels they want to subscribe to Pay the fees they want to for those programs.
- Washington state ended restrictions on municipal broadband in 2021. Comcast effectively has a monopoly and Vancouver should invest in municipal fiber to drive options and competition for consumers.
- I LOVE Comcast! Please retain it here in our area!!! While it is a bit expensive, it's hard to argue that it's not the very best service out there. It's completely reliable and I love the channel lineup and Internet speeds/reliability and equipment offered. Only thing Comcast needs to do now is add more HD channels (e.g., desperately want BYUtv HD — have been asking for years).
- I would like to have more options. I only need fast internet. Not "package" deals. And I don't need so many stations, most I cannot watch anyway.
- I wish there were more choices
- Would love to have another reliable option besides Comcast to choose from.
- Comcast internet service is overpriced - it is expensive but not reliable. The only reason I use Xfinity is that there seems to be no better alternative. I am looking forward to having Zply or other internet providers in my neighborhood.
- If you want cable tv, you are pretty much stuck with Comcast. (Monopoly) Where is all the competition? Their prices continue to go up, even when you have a "contract." The sports fee really angers me, I don't watch sports AT ALL, yet I have to pay \$9 a month for it. Along with the "broadcast tv fee" which goes up about \$5 every year! It's \$30 just in fees and then you have all the taxes and 'other fees.' We need more competition!!
Thank you.
- If you are going to raise prices at least add more channels not take channels away. I get tired of calling and asking if you have a better price or any specials for LOYAL customers and being told NO. We only specials for new customers.
- Overpriced internet for what you get.
- Comcast needs competition. They are virtually the only show in town and have a captive audience. Customer service is worse than terrible. Cost versus value leaves one to wonder why we pay for the abuse. I work between my home and office and require broadband, and both locations are sub-par. Dropped calls, disrupted calls, slow service, high cost.....it's terrible.

- Wish there was more option for broadband service
- Competition. If you want a better product, get another real competitor in here. Prices will drop and they will offer more options.
- The option to create our own Channel package is needed. We only watch 25% of the Channels in our package.
- I don't even have option for Comcast at my address. The only reason why I use Century Link is because there are literally no other options. I tried contacting every single internet provider and they have all shared they cannot service my home. I live within city limits and cannot am not in the country by any means. There should be more options for me.
- We dropped Comcast cable because they incorrectly billed us four or five months, despite hours on the phone multiple times correcting the bill. They kept turning off autopayment of the monthly bill then charging us a late fee, despite years of automatic payment. After four or five months of this, we gave up and cancelled. We still had to sign up for Xfinity internet and they initially overcharged us for that too.
- Why don't these services offer discounted prices to seniors?
- The rates they charge are outrageous!!!
- Poor customer service. Public internet would be so much better!
- "The price is constantly changing have to call to argue, beg and settle on less service or more money and on a contract.
- Just another major corporation that raises our cost of living without improving our quality of life."
- My employer has Comcast for phone service, cable, and internet. During the last 9 months, we have had many issues with our internet service. There have been many instances where the internet has gone down. The duration of not having internet service has been as short as a few seconds to many hours; sometimes the internet has gone back and forth from on and off. Some Comcast employees are knowledgeable and helpful while others are clueless and waste everyone's time. More than once, a Comcast employee has passed blame onto someone else besides Comcast.
- "Poor tech support. Difficult to reach person vs automated responses. Overseas reps are difficult to understand or work from a script.
- Regular, large fee increases with very little advance notice."
- "They are too expensive. They raise their rates every year with no extra benefit to me.
- They need competition."
- Why doesn't Comcast offer a senior discount on tv and internet?
- Again, Comcast is awful. They're crooked with lousy service.
- Lower prices
- "I would like to see transparency in pricing. When I inquire about prices, I am not told what the fees are.
- A few years ago, Comcast dropped off some equipment at my house and didn't tell me what it was for. I left it in the box, but later discovered they were charging for the use of it."
- Wi-Fi should be considered essential services. Our Internet services and costs through Comcast have risen and are not affordable. We had to cancel cable TV for that very reason.

- Difficulty in reaching a live person to handle problems is biggest issue
- We would like better internet service. We are at the end of a dead-end road and feel our internet suffers because of that.
- Cable & internet bill is very expensive
- I feel like we are stuck between a rock and a hard place. There aren't many good options for reliable internet services. Not only is internet so essential especially as we had so many in our community transition to working from home and online schooling, but it is also the primary form of entertainment now too. More and more people are using internet rather than television- Our household is one of those. The speed we have is not enough and we're paying for the top package. We're not even getting the speeds we pay for but are told too bad because it's not a guarantee. This is standard amongst providers so I don't know what can be done but it is beyond frustrating to be paying for something, not able to achieve the speeds etc.
- Satellite and cable TV services are both overpriced. High speed internet is also overpriced. Please find low-cost alternatives.
- I hope this helps.
- Last I checked, there was a fee to come out and inspect the wiring... Which is over 19 years old. I think this should be covered.
- I subscribe to Comcast's Xfinity internet service as it meets all of my media needs and its customer service and internet reliability are the best in my area. Also, they provide discounts for veterans. However, I do feel that having to renegotiate my agreement every year is a bit cumbersome. I am not willing to subscribe to their television packages because they don't offer customers to select their individual channels. Instead, they group all mainstream media channels together in one package and I cannot support some of those channels. I do support funding public and educational television needs however. Thank you.
- "Comcast continues to use less than transparent marketing tactics.
- Low price offers for NEW customers only forcing customers to call in to 'negotiate' prices, as the current package is no longer available but new introductory pricing doesn't apply to current customers.
- I would like more choices in broadband service providers. Comcast seems to be the only choice in the city. "
- I really think Comcast prices should be lower for EVERYONE. I don't know how young working people can afford it. And they need to realize Clark County is NOT a suburb of Portland, OR. We need news from the state of Washington as well as local. It's like we live in a blackout zone.
- Vancouver/ Clark Co needs more competition. Satellite tv and internet is not enough. We need some high-speed fiber optic choices.
- There needs to be a senior citizens discounts/programs to qualify for or choose from. Services are used differently. A lot of Customers may now be on fixed incomes.
- Expensive
- Satisfied with Comcast because have no other choice. Cost is too high.
- Cable prices just aren't worth it anymore. And internet should be available to everyone at \$0 or low cost.
- We need more competitive high speed internet options in Clark County.

- Two words for Comcast- NET NEUTRALITY!
- For basic computer connection, over \$80. Monthly. I think that's pretty steep. How can families with lower income with children who need schooling connection afford these rates. This does not include any cable tv services.
- Comcrap doesn't care about their customers. I get server unavailable multiple times a day, page cannot be reached, or timed out. They refuse to fix their issue with their internet to connect to "certain" routers, so I get to reset mine on a daily basis, along with the modem. Dump them and start your own internet, like Chattanooga, TN did. Make it truly high speed and cheaper than Comcrap
- If you don't change anything it works great. Customer Service is really bad.
- We did not choose Comcast when moving to Vancouver because we were not satisfied with their service in our prior home.
- Live in new Coen & Columbia building. Xfinity internet hasn't been down since I arrived in June.
- When there's a problem, our experience has been getting the run around by their call center representatives and when there's a billing or equipment problem, we have to wait in long lines at their offices to get someone to address it. Some of the worst customer service we've ever seen and there are no other high speed, reliable internet/tv providers as options. Comcast's prices continue to climb with no improvement in speed or customer service.
- As typical, front-line employees are polite, willing to serve and effective. It is upper management and the programming strategy (moving all the good stuff to premium channels) that inflict the abuse and devalue the entire medium. As it stands, Comcast is a good advertising for reading a good book.
- Comcast is great. Very reliable. High speed internet is great. Tech support is very tough when you're talking to someone in India. Cost seems a bit high and always going up. That's tough too. But they are very reliable and offer a great product. We've done DISH. Would never go back.
- We need more competition!
- Should allow competition, such as Charter
- The service is grossly overpriced. In addition, every 6 months or so, I must inquire about any new promotions in order to get a minor reduction in my monthly bill for the following 6 months.
- "Please give us another cable (non Dish) option.
- Comcast has a monopoly on cable services available here which allows them to take advantage of our community. "
- They have the only game in town and they know it so every year the cost goes up and up while they offer new customers what it really worth. As a customer i feel trapped
- Wish I had more options other than Comcast
- The price is too high for no competitor in area.
- Everyone I know would change companies if we had a reasonable competitor. They have a monopoly and take full advantage. Loathsome company.
- I really want fiber internet
- COST IS WAY TOO HIGH

- Comcast kept raising rates, and forcing me to order packages I didn't want in order to get a channel I did want. Internet went out consistently, and the drop from the pole into the house fell down every time the wind blew. Have had very few problems with Quest. I have much higher speed both upload, and download, and the cost is way less expensive than Comcast. For TV, I currently watch via rabbit ears, and Prime Fire Stick. Comcast has no competition, so they charge whatever they want. If I could get it here, I would go back to Verizon Fios. Had their service in Tualatin and Wilsonville, and they were the best of all, great value for the money!
- I think it would be great to have a couple of providers to choose from. It seems that would lower costs and improve customer service.
- Make them lower their prices for senior citizens or just plain make them lower their prices
- Comcast has a monopoly. I see its service trucks up and down my street every week. The service is shared among several homes, is erratic, and the company has little to no interest in serving its customers' needs. CenturyLink's fiber optics cable is far superior and is less expensive.
- Comcast finds ways to regularly raise prices during contract term. That is particularly objectionable. They are an effective monopoly and as such are not much subject to the discipline of the marketplace.
- Customer service is the biggest problem. It is extremely difficult to call and get a "real" person. It is nearly impossible to get a service technician scheduled. If you are not technologically savvy, you are not treated well by Comcast staff.
- "Service ends 1/2 mile away. Have requested service since we arrived in 2014. Offered Comcast to subsidize install installation cost. Offer was refused. Unable to use satellite internet due to number of trees. Home schooling had been a nightmare, with frequent dropped calls and outages.
- Please give some other company a chance to compete.
- Why not a county-owned and operated high speed internet as a utility instead of for-profit?
- I'd like to see fiber connectivity finished and bypass cable entirely.
- We disconnected from Comcast cable television due to the ever-increasing cost, and the lack of ability to remove stations that we don't want to pay for. Xfinity broadband functions well, but the price is painful.
- They need to revise their channel lineup & let people pick what they watch instead of paying for tons of channels that they never watch.
- Please ban use and installation of 5G wireless technology.
- It would be nice to have more options for high-speed internet. Comcast is the only one that's available in this area. The other options are DSL, which remains ridiculously slow or fiber options which aren't available in my older neighborhood. Comcast has always provided great service and reliable internet, but their pricing policies are outlandish. I'm constantly having to renegotiate my package, even after being with them nearly 20 years now. It's the one thing that I absolutely hate about Comcast and their policies. It's like a shell game. You never know what you're going to have to pay and your rate is completely different than your neighbors.

- I resent having to pay for sports channels included in "packages" ... for example, ESPN is especially expensive and I never watch any sports programming on any channel, but there's no way to avoid sports programming and still have access to channels I do watch.
- Their internet fees are high and It is difficult to get information about their budget services. I think internet service should be offered in a way to customize it to levels appropriate to the number of users in a household and their BUDGET When I told them I wanted to DOWNGRADE from paying \$72.95 for internet they offered a discount but it EXPIRED in 12 months.
- Comcast has refused to provide service to our neighborhood - even though it is available at the closest cross street and would take only a few hundred yards of cable - unless we residents pay them \$50,000.
- "Comcast has made the process to make even simple changes to service a pain the rear. Something as simple as changing to using your own cable modem requires 2 or 3 trips to a physical building, when in reality, it should have been able to do it yourself.

They make you wait on hold forever, are always trying to upsell everything, and push their bundles like crazy. They meter support out to keep you strung along, but are always trying to do the least to support customers, while also constantly charging more. In the 6 years I had their service, it went from roughly \$70 per month to \$100 per month, despite no increase in service, capacity, or improvement in service.

- Their rates are way too high in comparison to neighboring places, like Portland, where the same service is usually 20 to 30% lower. "
- Please improve speed/reliability. I would like to have more selection of services. I used to live in the County and the internet was worse.
- We need reliability/stronger connection/speed. We should have better selection of service providers.
- Get at&t internet in this area of the country please. Comcast is a monopoly and they are horrible!
- Please provide Comcast services to our area...
- I wish there were other provider options. Customers are at the mercy of a sole provider.
- When we started with Comcast services back in October of 2008, we paid around \$70/month, we now pay around \$170/month for basically the same service. This company only cares about their shareholders and will squeeze whatever they can out of their consumers.
- Cost is too much but no other reliable options we have WIFI only at the cost of \$97 a month includes fees etc.
- As usual u pays a lot to get certain channels, with a lot of channels I do not watch.
- Don't leave us with CenturyLink
- Comcasts bills are opaque, their prices are outrageous, their connectivity is spotty, their customer support is offshored and impossible to understand due to their limited English, and for some reason they have a monopoly. Please provide other options, preferably government provided internet. The internet should be seen as a necessary utility not a revenue stream for corporations.

- I am always frustrated that new customers get low rates, but loyal customers rates keep climbing.
- Comcast is overpriced and you have to constantly negotiate with them if you expect different. I don't get the speed I pay for internet. They pretty much have a monopoly on the services and channels I desire. I've done many comparisons with satellite providers. We also subscribe through providers like Amazon Prime, Apple TV and Hulu. Comcast has started a new routine where premium channels we were paying for comcast drops and then we end up having to pay addition fees for those channels like an ala carte menu. And it just infuriates me that Comcast charges for local broadcast channels when I have my own equipment for viewing those channels for free. The same holds true for sports broadcast fees. Comcast's cable boxes are finicky and I've exchanged a number of them over the years. The idea of having to pull the plug on electronic equipment to make it functional shouldn't be a regular routine. If the box hasn't frozen Comcast provides instructions on how to restart the box "IF" you can access the menu.
- "Whatever they tell you, they lie most of the time, I used to work for them. I just went along with the lies.
- Comcast has TERRIBLE customer service - the worst of any company I've needed customer service from! Firstly, it is VERY difficult to reach a real person. Secondly, they often do not know how to fix the problem. To get it fixed usually requires talking with several "customer service" (really no real service) and telephone transfers have frequently been dropped necessitating starting all over to reach someone that can help! The solution can take several days to weeks (if they can fix it at all). I've had phone issues that took over a year to resolve and an email issue that took months to fix. When there is a viable alternative, I will switch from Comcast. They have worked very hard to earn my ire.
- Service is spotty and unreliable. The county needs better and faster internet.
- Fiber to the home should be an option that is offered to residents of Vancouver, but there is no option for most residents.
- Comcast has been frustrating because of the consistent and large rate hikes after a yearly contract is finished. This practice forces us to call and negotiate at least once a year, just to get affordable high-speed internet.
- they are too expensive for the quality of service.
- Slow speeds and expensive service. Always below promised bandwidth. There are no alternatives to Comcast where I live in Vancouver. We need more competition and options for high-speed internet.
- expensive but reliable, should have gig service for this price
- We had Comcast internet until recently, however found that much faster service was available through CenturyLink at the same price that Comcast was charging. Also, the most discounted internet service they offered at a reasonable speed required you "bundle" with cable tv, which we never even hooked up. Would prefer to create our own menu of channels and not have to buy packages of channels we don't want.
- The fact that fiber to the home is not available to most residents. Upload speeds that have not changed and no additional options that are okay. A 21st century homes should have fiber to the home so not to be left behind over time.

- It's kind of bs that they're the only option for high-speed internet other than century link. The internet needs to be treated like a utility because it is so necessary to our lives now. It needs to be accessible to everyone and affordable.
- They are expensive for family's that need internet for kids that do school work at home. No programs or incentives for long term customers.
- No
- Expensive but are only option for fast internet
- I am currently working from home and would really like high speed internet in our area. In addition, my husband is retired, so it would be nice to be able to stream Netflix movies etc. on our brand new 4K OLED TV. Right now, we can only get 10 MG internet speed through CenturyLink. Too slow in this day and age.
- I would like to have more options than Comcast (not great) and CenturyLink (worse).
- Reliability and cost seem to be biggest issues. Internet isn't always reliable; cost seems to grow every year!
- The cost has become excessive. There should be more choice in program lineup. I have a premium account but don't watch 90% of the channels. More basic packages omit 3 or 4 of the channels I do watch. The extra fees and taxes add up to 80 or 90 bucks. It has gotten out of hand.
- Comcast is way too expensive and their internet was spotty at best. It seems like it just got slower and slower as the day went by. When working from home I would constantly have connectivity issues. I was tired of paying the amount of money for the services we received.
- "Comcast support is increasingly hard to get a person on the phone. The automated system does not recognize some issues when you call in."
- The way Comcast prices its services is both excessive and demoralizing. "
- The cost is too high. After the initial 2-year period the price hiked up without notification of how much the increase would be.
- With the need for daily internet for everyone in a family from kids doing school work, adults working from home and most entertainment activities now requiring high speed internet it should be available in all of the wide spread cities. It is unavailable in our neighborhood and is a huge inconvenience.
- Would like the opportunity to have High Speed Internet.
- CenturyLink is terrible and there is no competition to make it an incentive to improve service. I would suggest you require cable companies to invest in areas of poor service to allow them to do business here. Comcast is at the bottom of our hill next to century link but won't service our area. Please do something as we have third world service that prohibits working or learning from home
- overpriced. monopolistic service. results in poor service and a take it or leave it attitude by comcast.
- Please allow competition, thank you.
- If Comcast were a more reasonable price, I would consider switching. They are outrageously expensive. It's stupid really.
- Na

- "Prices for service goes up every year. They offer specials for new people but nothing for loyal customers.
- They nickel and dime their customers charging for every little thing including charging extra just to pay the bill.
- Customer service is AWFUL!!!!
- If you don't get lost in the phone tree or stuck on penalty hold the representatives are powerless to do anything to help any situation. It took 7 tech visits to fix an intermittent problem. It should be done right the first time. If the bill is late or coming close to the next billing date, they do slow down the service even though I believe it's illegal to do that. The customer service reps lie like a rug to get the sale. Then you find out later once the bill comes out. I think they hope people don't look at the bill and just pay the extra money. If there was a different internet provider I would switch in a heartbeat."
- We are a neighborhood of 123 homes and have repeatedly petitioned Comcast to bring the fiber 2 miles from the node and install the lines in our neighborhood. Our current Century Link service is 10mb down and 1mb up service which is hard, and sometimes impossible to use for online school, zoom meeting, work from home, security systems, home streaming services, etc.
- "Techs are great from Comcast. The customer service can be spotty.
- I hate having to haggle with customer service every other year for services and pricing."
- The Summer Hills neighborhood did meet with Comcast to discuss providing service to our development. They are willing but want us to pay for the cost of installation which is not fixed price and would likely exceed \$1M based on their proposal. As mentioned previously, CenturyLink DSL is aged, very slow and unreliable. CenturyLink is unwilling to upgrade their service to our neighborhood.
- Please try to have internet service providers to get fiber (speed) out to those residing in eastern Vancouver!!!
- Where we live you only have a choice between them and CenturyLink. Prices keep going up in addition to data caps they have set. We had an issue with the line that runs to our house and it took almost two months to get someone to come to the house and look at it because their customer service did not want to take us seriously.
- It is IMPOSSIBLE to contact a person by phone. If you want to speak with a living human being, you have to go to one of their offices. IMPOSSIBLE!
- The monopoly they hold is not good for us.
- Their internet price is outrageous! I hate that they're the only internet that I can get without a phone jack. (The phone company doesn't have any wires underground coming to my house so Comcast is the only cable internet provider
- Seems to cut out a lot
- We have very poor internet services, no high-speed options. This has become a huge burden with covid causing a shift to virtual learning, remote work. 3 people cannot be doing work/school with our current internet. With continued pandemic we are still more reliant than ever before on home office/school and ability to use the internet. Please make Comcast ensure all areas are offered the option, not just ones that are easier or cheaper for Comcast to trench/install. Thank you
- We are happy with our service
- Get rid of data caps!!!!

- Every time I call them for help, I am held prisoner on the phone for HOURS on end. Very unsatisfying.
- "Comcast is a bullshit rip off.
- I pay less than the lowest cost Comcast plan for gigabit fiberoptic internet"
- Comcast sucks, it always has and if there was any other option, I would use it.
- Our neighborhood has nothing but horrible things to say about century link. We pay exorbitant fees for extremely unreliable and slow Internet, despite paying some of the highest property taxes in the county. Many of us work from home and/or have kids at home. Since Covid, it's even more. We have old DSL lines that are very degraded. Our phone lines perpetually have static because of it. On top of that, we have terrible cell service. Imagine a bunch of executives trying to run businesses from home while competing for bandwidth with their household over dsl in which they pay for 10mps but instead only get 1mps. When we call Comcast, they say if we pay half a million dollars, they will lay new line up here. Century link is telling us to pound sand. The neighborhood over, Autumn Hills, has fiber because one of the executives from their provider was building their home when the development was built. That's fair...not. Meanwhile, the rural properties below us are out of luck too. How do you get equality in education when you don't get the same resources? You don't. Vancouver desperately needs to negotiate an upgrade just to maintain our property values.
- Faster internet would be great, price is high
- CenturyLink DSL at my house is 3Mbps down and 0.7Mbps up. Comcast refuses to install in our neighborhood of over 120 homes. We desperately need something better than what's available today.
- Overpriced, horrible customer service, horrible reception
- tv packages include channels I would never watch, but I have to pay for. 140 channels and I probable use 20
- For the first year, the internet was great. However, since the spring time it has been going out regularly. My wife relies on the internet for work and it hasn't been very reliable. We called to get the issue assessed and we're told everything looked normal through diagnostics they ran.
- Need a reliable internet service
- I would like to have more options for services
- Lower prices... Don't raise rates every six months for no apparent reason, and without notifying us. Quit taking advantage of a small market like Vancouver and quit gouging customers simply because you can. You suck.
- My neighborhood of Summer Hills in Brush Prairie consists of over 100 homes. We desperately need high speed internet service to accommodate those who work or do online classes from home.
- I would like the ability to have another provider. I've had CenturyLink in the past but their top speed is too slow. I would also like the option of fiber.
- Internet service should be provided as a public utility.
- I wish comcast had more competition to make them price more competitively but their service has been good.
- "Make internet more affordable

- "
- Cable is not available in our neighborhood! We have worked with Comcast to try to run it here but the costs are very high, and probably prohibitive.
- "Way too expensive!
- Paying \$312 a month for good quality cable/internet/phone is just way too much to pay.
- Trying to find out how to lower the cost is a total pain. Comcast likes to upsell and makes that easy..... but makes it quite difficult to decrease the packages or costs. "
- We need to force Comcast to remove the data caps. Other states are putting in rules that limit Comcast from putting in those measures. The arbitrary line of 1.2TB negatively affects families who are staying home and staying safe during the COVID 19 pandemic
- Unreliable service
- Comcast needs to be regulated like a utility because internet access IS A UTILITY.
- They have a monopoly and get away with charging high prices. I would like more choices in cable.
- Internet is cost prohibitive given speed and reliability of services offered
- Internet service is consistently spotty. We have interruptions at least 5 times a day. Our street doesn't have access to CenturyLink or other comparable internet providers, so we are forced to keep Comcast. Would love fiber service through PUD.
- It would be nice if they had some viable competition for internet services. CenturyLink internet service quality varies greatly by location, so they aren't really comparable in areas where they don't offer higher internet speeds. Expansion of fiber optic service would help.
- I feel the price I'm paying is really high overall.
- Comcast gives access up to the entry of Summer Hills, but both they and CenturyLink have refused to install true high-speed Internet in our neighborhood without a cost share of \$500,000-1,000,000. We urge you to please require Comcast to expand service to rural areas of the county, especially dense neighborhoods in rural settings like Summer Hills where their access point literally ends at our community's driveway.
- They have been beyond reluctant to entertain opportunities to support and provide high speed services to our neighborhood. We realize that the project is not easy, but would have tremendous return once complete!
- I just moved here and because there is no competition, I pay doubled what I paid in Nashville TN for the same speed. Allowing competitors keeps the price lower for your voters.
- Comcast provides adequate service for industry-standard prices. If Vancouver wishes to excel in this area, I know we can do better.
- Need to improve reliability.
- Would appreciate more options in our neighborhood.
- Slow and unreliable.
- Comcast Internet is super-fast and super stable. Their customer service is very good. And of course, we all wish their prices were lower! ;-)
- Would like more competition for high-speed internet? Google fiber for example
- We currently have only the option of very slow DSL service through CenturyLink or the same speed service through HughesNet. I have no confidence that "star link" will ever

serve our area. In a community that prides itself on its growing technology businesses, it's insane that we can't find a way to uniformly provide faster internet service to all. It should be thought of as a public utility, the same way that electricity and phone service were, with a goal of universal service. Thanks for your work on these topics and your interest in our opinions.

- I do not care for their predatory service practices and anti-competitive business stance. I pay for their most expensive internet package and use quality personal equipment to ensure consistent service, I am constantly being slowed down and lack access to my internet entirely. The data caps they impose also serve no purpose other than predatory billing practice. Please help shake up this sector, and allow broadband internet access as a public utility.
- Not sure if Summer Hills in Brush Prairie is considered part of Vancouver in the eyes of Comcast, however I know we have ALL been anxious to get reliable, high-speed Internet in the Summer Hills neighborhood for several years. Please help!!!
- rates should be reduced either directly by comcast, or indirectly by allowing a non-monopoly system
- For us Xfinity should not be blanket described as high-speed internet. High speed is delivered by fiber to the curb or fiber to the house (or for medium speed through legacy cable). Xfinity delivers legacy slow internet via old telephone lines and broadband modems.
- Comcast extends to the bottom of the road leading to Summer Hills. The residents NEED good fast internet service especially as we've seen the need to be able to work remotely, if necessary, over this past 18 months. It is a core utility in this day and age and not having access to fast service is akin to having no electrical power 100 years ago. As the county supports Comcast's position in the community, Comcast needs to serve ALL of the community, including those who require a little more work to get to - we are a community of hundreds of homes, we need quality fast internet access.
- There's a large contingent of citizens that are desperate for high-speed internet. Comcast would be a great start, but having a choice would be infinitely better. It never should have gotten to the point of having no choice. The current provider to our neighborhood is unwilling to invest in upgrades to its DSL system, rendering us without a choice of terrestrial ISPs.
- As a retired telecommunications professional (44 years) and System Engineer of fiber optic network architectures, my comments reflect the network knowledge comparisons made above for this survey. Fiber to the home (FTTx) is the solution for the future.....(Verizon's FiOS).....Comcast cannot and does not provide that.
- I rent Comcast equipment such as modem and TV boxes. I am often surprised when I inquire that there are upgrades to those boxes that provide better service and, in some cases, expanded service. There is an obvious answer to this question... "Why am I not advised when these upgrades are available?" And even sometimes when you return the rent item for an upgrade the COMCAST store says there is not upgrade. Normally I always ask the support group about upgrades and have them schedule my exchange so there are no problems at the store.
- Frequent billing issues that require repeated calls to Comcast to correct.

- Intro deals are reasonable, but prices increase dramatically after 1 year. Please maintain a consistent price for your services. And, I hope you do come up with something great. Good luck!
- don't like their monopoly for providing cable or internet service
- I would love to have fiber
- Comcast cheats its customers
- Can Comcast offer fiber internet?
- Please give us the option of competition in the area, I can only get Comcast I'd rather have Verizon
- I'd like to see us invest in faster speeds, with a reduction to cost. Everything is online these days and we have many families that are struggling to keep a roof over their head and good on their plate. The free internet offer to low-income households in our county is not enough to support the needs of multiple users, let alone multiple kids learning from home.
- We have used Comcast periodically during our time here. We found them unreliable and expensive and are frustrated that no one is offering fiber to our neighborhood. We have heard of many cities offering fiber internet as a public utility and think that would be a great option.
- Please PLEASE allow/encourage providers other than Comcast to offer service here. Their monopoly is costing people exorbitant amounts of money.
- Had nothing but bad services with them. Switch to CenturyLink and Direct TV and only twice in 6 yrs. have we lost service, 8 yrs. with Comcast we lost phone, internet and TV 2 to 3 times a month. Horrible customer service too.
- Lack of gigabit Internet constricts my ability to effectively work from home. I need to transfer large files and it takes forever to finish, even at the highest speed available in our area - 120 MBps.
- Would love if Clark County public utilities offered an internet option
- I feel like they're always trying to get more money from me. I can go online and see service packages for \$20 - \$30 - \$40 less than what I'm currently paying for the exact same package; but when I inquire about it, I'm told those are only for new customers. So, as a customer of over 20 years (due to a lack of reliable alternatives), my reward is to pay more? The very model of offering a package for that much less suggests that the plan is to continually increase costs for longer term customers. And the customer service? In store it's not so bad, but when calling in, typically the person "helping" me has no idea what they're doing.
- Comcast is overly expensive and has such horrible customer service. Our neighbors and us had connectivity issues that lasted for over a year. It took hours and hours on the phone to get it fixed. Turned out it was a faulty connection at the pole, but by the time they finally fixed it, our neighbors and us left for CenturyLink.
- It would be nice to have more than one internet provider option in unincorporated Clark County
- biggest frustration with Comcast is their (lack of) effective customer services. Outages and occasional poor-quality issues I can chalk up to technology challenges. Poor people skills and lack of customer care is a lack of training reflective of placing no value on the customer because they know we have few choices. Also, the cost to update equipment is

high. If they upgrade their technology then routers and boxes should be updated at no cost.

- Please, please give us PUD!!
- Overpriced
- There need to be more options that are affordable. Comcast just was too expensive for internet and tv. We would love to have internet but Comcast is just way too expensive. Wish we more broadband options
- Overpriced and slow "high speed" internet.
- The cable is ok. The Internet is horrible my community and the two others in the area constantly complain about Comcast service. When I get closer to the end date of the service contract I will be looking to switch.
- Comcast is a little spendy.
- They need to be reined in on cost. Also, why can't we pick channels? I don't want my money going to fox News!
- I wish we had more options for good high-speed internet and cable
- They have a monopoly on internet service here.
- The monopoly that Comcast and CenturyLink have in our area robbing us blind. They stifle innovation and meaningful expansion of services because they don't have to. I pay almost \$100 a month for a low-quality connection while I have friends in other areas like Leavenworth who pay far less for a far better PUD connection. Should they be renewed, sure, but I believe that we as a community should be exploring alternative services to invest in to keep money and innovation local and develop a high-tech infrastructure to build future growth on.
- "Competition is a consumers best friend.
- I hate outsourced call centers in other countries. It makes communication difficult for an already frustrated customer. "
- Had Comcast twice in Seattle. We're forced to switch after cutting cable for streaming when they throttled our internet speed and bandwidth which we use for both work and entertainment. Would not risk work disruptions again when we moved here and Clink has stayed reliable.
- Comcast did NOT inform us that a subcontractor was sent to our home for installation. Sub cause considerable damage to our home that Comcast did NOT address or take care of. It was a nightmare that last for about a year. I feel Comcast is a necessary evil.
- Sometimes my internet pauses...probably sharing time with everyone else in the neighborhood?
- Comcast operates in a monopoly system. There are two main internet providers, and Comcast is the lesser of two evils. Their service, internet, cost, is all bad, because they know that they can be. There is nowhere else to get internet.
- Too expensive
- The County should have its own internet utility company that spreads the cost across all citizens, not a for-profit company. Internet is not a luxury any more, like electric, gas, water/sewer - it is a necessity for modern society to function.
- Our rural setting does not have the bandwidth to adequately provide for home schooling or an internet-based work. Please require Comcast to provide service in my area.

- Broadband internet should be a public utility.
- Basically, a monopoly. Only other option has higher cost/slower speeds. Really should have multiple options to promote competition and advances in tech.
- Comcast is a rip off
- Trying to get through to an actual customer service person is terrible. They are very expensive and overpriced especially for people on fixed income.
- I am seriously changing to Spectrum but have hesitated just because (what if their customer service is as bad.)
- The cost is way too high for the service provided. We utilized comcast for one year (internet TV) thinking it would be the most reliable option. We switched to CenturyLink and Hulu Live, saved 100+ per month and had the same level of reliability of connection as we had with comcast. I won't likely ever switch back to comcast unless the lower prices substantially.
- Comcast service was inconsistent and often inferior. Multiple hidden charges and unexpected cost increases. Internet service was unreliable.
- I hate Comcast/Xfinity
- Comcast is good, but there needs to be more options
- The government fees and taxes related to cable television and internet services are excessive.
- The ability to talk to a person would be helpful on the phone. It takes forever to get thru to an agent.
- The price of internet should be considerably lower especially when it seems like after a few months it gets a lot slower and the WIFI which used to work wonderfully is bad to the point we need to use our cellular data just to load things which shouldn't be the case if you're spending 70 dollars a month on internet on top of rent and electricity.
- Comcast may be the best around, lots of people like to bitch about the cost, but it takes money to stay on top. What people should be asking is why CenturyLink sucks so much, people act like Comcast is there only option, not true, CenturyLink is also an internet and TV option, they just suck so bad that no one actually considers them an option for broadband, restrictions should be removed so that Comcast can expand into other areas and provide a better level of service then current available from competitors.
- Each time I call to discuss an increase in our price for services, they offer me a "bundled promotion." It knocks our price down about \$15 -\$20. But then a couple of months later we get notified of a rate increase and we just got locked into a two-year contract. Comcast prices keep going up, yet I don't feel we're getting anything more for the outrageous price we're paying each month. "
- I need internet but xfinity is a monopoly here in Clark County
- "Too much charged for sports packages. Let us choose the package we want instead of forcing us to pay 40 bucks a month extra
- Comcast is a joke when it comes to maintaining and offering the best deals to long-time customers.
- Lower cost, senior citizens options. Al carte choices
- None
- "Extremely descriptively price and very poor service

- I find Comcast Xfinity to be incredibly predatory. You are only allowed bundling with things you don't need, then when that time period ends, your bill doubles and you can't get them to change your plan. Business accounts aren't even allowed access to changing features in the plan without a call to their customer service who will badger you into keeping things you don't need or forcing more features on you. It took multiple calls and a lot of yelling to get them to remove cable TV from our place of business account.... a manufacturing facility without a tv but it's part of a bundle so you HAVE to have it. Oh, and every change requires a 2 yr. extension to your "contract". They have a monopoly so can really treat people however they want.
- I would like to see more options for internet providers
- We repeatedly had service outages and regular price increases without any increase of service. When we moved in county our service changed had we were forced to rent a cable box for broadcast basic we had not previously needed. The internet was out frequently and we had to reset the rented router a few times weekly. Customer service was extremely poor unless we wanted to spend more money. I do not know if there are better cable providers but not sure there could be much worse either.
- I feel the cost of service is getting out of control with not a lot of options. You could cut the cord, go to satellite but you still need the high-speed internet.
- "Cost too much.
- Customer service is unreliable, tell you one thing- if that did not happen and call back you get a different answer."
- STOP THE COMCAST CREEP. They are overpriced to begin with, and offer a shitty selection of channels for the inflated prices they charge. I truly know it can't be free... but look at the cost of basic tv w/internet... ouch! Want a movie channel? Want a foreign language? WHEW!
- I just wish it wasn't so expensive.
- The customer service is the worst I've ever experienced
- I had Comcast but their Internet was unreliable and they were not willing to figure out what the issue was so I switched to century link and have not had any issues. I tried to keep cable but it was way too expensive without one of their "bundles" every time I called there was never record of me calling the time before. Terrible customer service
- It sure would be nice to have more than one company providing services. There is no incentive for the company to give people a lower cost because there is no competition.
- please do something about this monopoly.
- Wish we had a better way to ask for channels to be added or some sort of tools. Would love more retro channels that are family friendly such as Heroes & Icons and others.
- I like Comcast customer service and technical support. I usually get an American who speaks my language like a native. That is a rare benefit with other companies who outsource their employment opportunities overseas. I like that Comcast hires its own technicians, installers, etc. I've used other companies that that hire 3rd parties for so many things. Then, when you have a problem, no one takes responsibility and you are given the run around. Your problem is always someone else's responsibility and you can't be helped with whomever or whatever is on the other end of the phone when you call for help. I stick with Comcast. They have the best service.

- High-speed broadband cost has continued to spiral ever upward. Currently \$102.95/month.
- Overall, their service has been stable and fairly strong. I wish there were other viable options, however - I feel that Comcast essentially has a monopoly in our area and would like to be able to choose an alternative.
- We love watching programs about our local schools on the TV ETC channels! We don't love that we have to renegotiate our contract with Comcast every couple year to maintain a reasonable price. Every time our contract expires, they raise our rates, and then we have to call and either downgrade our package or hope that they have a "special" that we can lock in for the duration of the next contract. From a customer point of view, this is very frustrating and not very transparent.
- The City of Vancouver's Telecommunication Commission is not responsive, and seems to exist only to keep Comcast happy. In any reasonable world, the TC would exist to enforce the Franchise agreement, not to simply roll over when Comcast would rather not serve an area that they are obviously obligated to serve (in this case, on 29th Ave in Ridgefield). The most aggravating thing to me as a homeowner is that Comcast recently ran a fiber past our property to serve a cell tower, but can't be bothered to serve the families along our stretch of road. They have 72-odd single mode fibers for a cell company but nothing for the residents of the County. We have no advocates. My next step is working with my State Senator and Representative.
- I would very much LOVE having Vancouver switch to a cable and internet company that emphasizes good customer service and reliability, one that appreciates customers instead of treats them with indifference!
- I love being able to watch KIRO news. We need more Washington-state based programming.
- Service is fine when it works, but has been plagued by endless interruptions and flakiness typically lasting around 8-10 minutes each and happening multiple times per day. This has been a constant problem throughout my SE Evergreen Hwy neighborhood. I also have CenturyLink here because we need to have a backup. It's more reliable but much slower using bonded twisted-pair instead of fiber.
- I appreciate CVTV bringing the KIRO-TV news and some KIRO-TV specials to us here in Vancouver because we can get more Washington State news. I would like it if Comcast would bring us the other Seattle stations too.
- Please - pretty please with sugar on top - please - allow a single agent to take care of all comcast issues, for business and personal accounts. Please. Pretty please! one point of contact. Also - if I'm calling it means I've already exhausted online options. Please stop wasting my time with pre-canned announcements. Please!!

EXHIBIT C

VANCOUVER/CLARK COUNTY EG ACCESS EQUIPMENT AND FACILITY UPGRADE AND REPLACEMENT SPREADSHEETS

Vancouver/Clark County Government and Educational Access Equipment and Facility Upgrade and Replacement Projections Overview

The following spreadsheets provide equipment and facility replacement and upgrade projections over a ten-year period for various categories of equipment needed by the Government and Educational facilities reviewed. These projections were created from a review of facility inventories as well as physical walkthroughs.

Additional information was obtained through interviews with staff and focused discussions with pertinent stakeholders. The upgrade and replacement schedules and facility development projections were constructed to meet the needs and interests identified, taking into account the typical useful life of the equipment specified and the type of facility needed.

It should be noted that technology tends to change quickly and programmatic initiatives shift over time, so actual usage and replacement costs may vary from year to year. This upgrade and replacement schedule is meant as a guide for budgetary and PEG Access funding development purposes and will need to be periodically updated so that the Access facilities can stay current with technology.

All projections included in these spreadsheets are based on 2021 equipment prices.

Battleground Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
Field Acquisition					
Flypack	Includes 4 HD/4K traditional cameras, portable switcher capable of switching live camera feeds, and slow motion replay, computer inputs and includes a CG, 32" multiviewer monitor, fiber encoder, bonded cellular encoder/decoder and tapeless recorder.	1	\$175,000	\$175,000	Used mainly for sports production.
Flypack	Includes portable switcher capable of switching live camera feeds, 3 robotic PTZ cameras and controllers, computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder. Housed in a flight case.	1	\$50,000	\$50,000	Used mainly for concerts and theater production.
Total Field Acquisition				\$225,000	

Infrastructure Requirements					
Optical Transmitters/Receivers	Transmitter/Receiver pair, capable of 1 channel. Used for receiving and transmitting encoded signals over fiber optic connection.	1	\$1,500	\$1,500	
Cabling	Price range is per foot and for regular shielding or plenum (fire-retardant) shielding. Cabling should be able to accept HD/4K-SDI signals. Actual costs are dependent on lengths needed, and should be quoted from an integrator. Cost includes cabling and installation.	1,000	\$5.00	\$5,000	
Routing	Routing and cabling need to have bandwidth capable of HD/4K. Costs vary widely depending on number of inputs and outputs needed. This baseline should provide a 16X16 HD router and would be capable of routing both SDI and fiber (needing fiber inputs).	1	\$1,500	\$1,500	
Patching	Costs are per patch bay and final costs could vary widely depending on number of patch bays needed. Standard configuration is usually 8 inputs per bay and should be wired in at the same time as the router install.	1	\$400	\$400	
Signal Converters	For up-converting any legacy equipment that is analog or down-converting any newer equipment such as HD/4K to SD. We recommend signal converters that work as "Swiss Army knives", i.e. have the ability to up-convert and down-convert any signal from HD to analog to VGA and even HDMI.	1	\$2,500	\$2,500	
Total Infrastructure				\$10,900	

Battleground Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
General Production Requirements					
Archival Storage	Budgets should account for increased storage costs for HD/4K. Costs on storage can vary widely depending on the number of users, the amount of storage needed, speed, etc. Price per terabyte decreases with the number of terabytes purchased. This price reflects roughly 75 terabytes of storage. Assuming \$500/terabyte to be distributed through the life of the franchise. Should also have redundant power supplies and be RAID protected.	75	\$500	\$37,500	
Total General Production				\$37,500	

Studio / Control Room					
Studio					
Cameras	Traditional studio camera, should be capable of HD/4K production. Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens (Traditional camera).	3	\$15,000	\$45,000	
Monitoring	Capable of HD/4K signal. Prices are per monitor. To be used for confidence and on-set.	2	\$500	\$1,000	
Lighting System	Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology.	1	\$10,000	\$10,000	
Virtual Set Technology	Includes digital sets, backdrops for chromakey/green screen; HD/4K versions, with greater depth and camera motion compensation. Could also include a full cyc wall capable of full body shots. If included in the Switcher, this category is not necessary.	1	\$10,000	\$10,000	
Sub-Total Studio				\$66,000	

Battleground Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
Studio Control					
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, file storage, virtual set technology and multi-viewer output. Also capable of chromakey production. 10 input.	1	\$50,000	\$50,000	
Character Generator	Prices vary greatly depending on features, I/O, and single/multi-channel systems. System could include built-in stillstore, 3D graphics, and motion clip playback. If included in the Switcher, this category is not necessary.	1	\$5,000	\$5,000	
Audio Mixing	Price for adding stereo digital audio mixing. This cost reflects the price of a digital mixing console of 16 inputs.	1	\$1,500	\$1,500	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	2	\$700	\$1,400	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/4K.	1	\$1,000	\$1,000	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$3,500	\$3,500	
Sub-Total Studio Control				\$62,400	
Sub-Total Studio/Studio Control				\$128,400	

Battleground Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
Ancillary Equipment **					
Ancillary Equipment	Ancillary/ Support Equipment such as cabling, microphones, stands, tripods, portable production accessories, racks, batteries, cards, office equipment, etc. will be an average aggregated total in the summary spreadsheet.	1	\$10,000	\$10,000	
Total				\$10,000	

Sub-Total One Time Implementation & Upgrade Cost		\$401,800
Sales Tax		8.8%
Sub-Total		\$437,158
30% Inst/Train/Warranty		\$120,540
Plus Ancillary Cost		\$10,000
Total One Time Implementation & Upgrade Cost		\$567,698
* Description of type of equipment needed for each major item in a functional area, and brief purpose. HD/4K costs are based on 1080/3840p format.		
** This is included as a unit cost in the one-time transition cost calculation to ensure that it is reflected. In actuality, the one time cost for ancillary equipment will likely be higher until it reflects the next replacement of each item. The maximum extended costs would be the 10 year total of \$100,000.		

Battleground Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Field Acquisition														
Flypack	1	\$175,000	\$175,000		\$175,000							\$175,000		\$350,000
Flypack	1	\$50,000	\$50,000		\$50,000							\$50,000		\$100,000
Total			\$225,000	\$0	\$225,000	\$0	\$0	\$0	\$0	\$0	\$0	\$225,000	\$0	\$450,000
Infrastructure Requirements														
Optical Transmitters/ Receivers	1	\$1,500	\$1,500	\$1,500							\$1,500			\$3,000
Cabling	1,000	\$5.00	\$5,000	\$5,000							\$5,000			\$10,000
Routing	1	\$1,500	\$1,500	\$1,500							\$1,500			\$3,000
Patching	1	\$400	\$400	\$400							\$400			\$800
Signal Converters	1	\$2,500	\$2,500	\$2,500							\$2,500			\$5,000
Total			\$10,900	\$10,900	\$0	\$0	\$0	\$0	\$0	\$0	\$10,900	\$0	\$0	\$21,800

Battleground Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
General Production Requirements														
Archival Storage	75	\$500	\$37,500	\$12,500				\$12,500				\$12,500		\$37,500
Total			\$37,500	\$12,500	\$0	\$0	\$0	\$12,500	\$0	\$0	\$0	\$12,500	\$0	\$37,500
Studio/Studio Control														
Studio														
Cameras	3	\$15,000	\$45,000	\$45,000										\$45,000
Monitoring	2	\$500	\$1,000	\$1,000										\$1,000
Lighting System	1	\$10,000	\$10,000	\$10,000										\$10,000
Virtual Set Technology	1	\$10,000	\$10,000	\$10,000										\$10,000
Sub-Total Studio			\$66,000	\$66,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$66,000
Studio Control														
Switcher	1	\$50,000	\$50,000	\$50,000										\$50,000
Character Generator	1	\$5,000	\$5,000	\$5,000										\$5,000
Audio Mixing	1	\$1,500	\$1,500	\$1,500										\$1,500
Multi-View Monitor	2	\$700	\$1,400	\$1,400										\$1,400
Engineering Monitor	1	\$1,000	\$1,000	\$1,000										\$1,000
Solid State Recorder	1	\$3,500	\$3,500	\$3,500										\$3,500
Sub-Total Studio Control			\$62,400	\$62,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$62,400
Total Studio/Studio Control			\$128,400	\$128,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$128,400

Battleground Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Ancillary Equipment														
Ancillary Equipment	1	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Total Ancillary			\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Yearly Equipment Totals				\$151,800	\$225,000	\$0	\$0	\$12,500	\$0	\$0	\$10,900	\$237,500	\$0	\$637,700
Sales Tax (8.8%)				\$13,358	\$19,800	\$0	\$0	\$1,100	\$0	\$0	\$959	\$20,900	\$0	\$56,118
Sub-Total				\$165,158	\$244,800	\$0	\$0	\$13,600	\$0	\$0	\$11,859	\$258,400	\$0	\$693,818
30% Inst/Train/Warranty				\$45,540	\$67,500	\$0	\$0	\$3,750	\$0	\$0	\$3,270	\$71,250	\$0	\$191,310
Plus Ancillary Cost				\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
TOTAL				\$220,698	\$322,300	\$10,000	\$10,000	\$27,350	\$10,000	\$10,000	\$25,129	\$339,650	\$10,000	\$985,128
Sub-Total One Time Implementation & Upgrade Cost			\$401,800											
Sales Tax			8.8%											
Sub-Total			\$437,158											
30% Inst/Train/Warranty			\$120,540											
Plus Ancillary Cost			\$10,000											
Total One Time Implementation & Upgrade Cost			\$567,698											

Evergreen Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
Field Acquisition					
Camera Field Packages	One prosumer (entry level) grade HD camera, one channel wired audio and accessories, one tripod, small lighting package. A 10 year replacement schedule indicates replacement of this equipment be a 5-year replacement as opposed to a 7-year because of anticipated wear and tear.	20	\$5,000	\$100,000	
Camera Field Packages	One advanced portable professional HD/4K camera, one tripod, 2 channels wireless audio, light kit and accessories. A 10 year replacement schedule indicates replacement of this equipment be a 5-year replacement as opposed to a 7-year because of anticipated wear and tear.	4	\$12,000	\$48,000	
Stadium Cameras	Traditional camera used in the stadium, should be capable of HD/4K production. Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens (Traditional camera).	5	\$15,000	\$75,000	
Camera Field Packages	Professional DSLR-type camera. Capable of interchangeable lenses. Package includes single channel wireless audio system, light-weight tripod, interchangeable lens package, portable light kit, 32GB memory card and carrying case.	10	\$3,500	\$35,000	
Flypack (School District)	Includes 6 traditional HD/4K cameras, portable switcher capable of switching live camera feeds, and slow motion replay, computer inputs and includes a CG, 32" multiviewer monitor, fiber encoder, bonded cellular encoder/decoder and tapeless recorder.	1	\$175,000	\$175,000	
Flypack (General Production)	Includes portable switcher capable of switching live camera feeds, 3 robotic PTZ cameras and controllers, computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder. Housed in a flight case.	1	\$50,000	\$50,000	
Flypack (High Schools)	Includes portable switcher capable of switching live camera feeds, computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder. Housed in a flight case and be integrated with camera field packages and located in each high school.	5	\$30,000	\$150,000	
Total Field Acquisition				\$633,000	

Evergreen Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
Post Production					
Ingestion	The editing ingestion process needs to match the Field Acquisition technology. The price reflects the cost for ingestion needed for editing.	2	\$1,000	\$2,000	
Audio Mixing	Price for adding stereo digital audio mixing. Digital audio conversion is not necessary immediately, but should be considered for migration during the life of the franchise. This cost reflects the price of a digital mixing console of 6-8 inputs.	2	\$500	\$1,000	
Engineering Monitoring	Capable of at least SDI/HD, or SDI/HDMI inputs. Includes multi-standard, multi-format digital waveform monitor. Prices are per monitor.	2	\$500	\$1,000	
Edit Systems	Price is for a turnkey (including both hardware and software) "state of the art" computer with I/O card with dual monitors. Turnkey systems can vary in cost depending on storage, graphics cards, I/O cards and system RAM needed. Should also include network capability.	2	\$5,000	\$10,000	
Solid State Recorder	Capable of multi-format type recording and consistent with entire facility workflow.	2	\$3,500	\$7,000	
Total Post Production				\$21,000	

Evergreen Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
Infrastructure Requirements					
Optical Transmitters/ Receivers	Transmitter/Receiver pair, capable of 1 channel. Used for receiving and transmitting encoded signals over fiber optic connection.	1	\$1,500	\$1,500	
Video Over Ethernet Encoder/ Decoder Pair	Capable of transmitting HD-SDI/ 4K video and audio over IP networks.	4	\$5,000	\$20,000	
Bonded Cellular Technology	This technology incorporates the use of multiple cell phone carriers carrying HD/ 4K video and high quality audio from any remote location where cellular signals are present. Bonded cellular indicates the use of multiple cellular carriers working together to ensure no video or audio loss in transition.	1	\$30,000	\$30,000	
Cabling	Price range is per foot and for regular shielding or plenum (fire-retardant) shielding. Cabling should be able to accept HD-SDI/ 4K signals. Actual costs are dependent on lengths needed, and should be quoted from an integrator. Cost includes cabling and installation.	1,000	\$5.00	\$5,000	
Routing	Routing and cabling need to have bandwidth capable of HD. Costs vary widely depending on number of inputs and outputs needed. This baseline should provide a 64x64 HD/ 4K router and would be capable of routing both SDI and fiber (needing fiber inputs).	1	\$50,000	\$50,000	
Patching	Costs are per patch bay and final costs could vary widely depending on number of patch bays needed. Standard configuration is usually 8 inputs per bay and should be wired in at the same time as the router install.	6	\$400	\$2,400	
Signal Converters	For up-converting any legacy equipment that is analog or down-converting any newer equipment such as HD/ 4K to SD. We recommend signal converters that work as "Swiss Army knives", i.e. have the ability to up-convert and down-convert any signal from HD to analog to VGA and even HDMI.	1	\$2,500	\$2,500	
Total Infrastructure				\$111,400	

Evergreen Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
General Production Requirements					
Archival Storage	Budgets should account for increased storage costs for HD/4K. Costs on storage can vary widely depending on the number of users, the amount of storage needed, speed, etc. Price per terabyte decreases with the number of terabytes purchased. This price reflects roughly 200 terabytes of storage. Assuming \$500/terabyte to be distributed through the life of the franchise. Should also have redundant power supplies and be RAID protected.	200	\$500	\$100,000	
Total General Production				\$100,000	

District Studio/District Studio Control Room					
District Studio					
Cameras	Traditional studio camera, should be capable of HD/4K production. Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens (Traditional camera).	3	\$15,000	\$45,000	
Monitoring	Capable of HD/ 4K signal. Prices are per monitor. To be used for confidence and on-set.	2	\$500	\$1,000	
Sub-Total District Studio				\$46,000	

Evergreen Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
District Studio Room Control					
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, file storage, virtual set technology and multi-viewer output. Also capable of chromakey production. 10 input.	1	\$50,000	\$50,000	
Character Generator	Prices vary greatly depending on features, I/O, and single/multi-channel systems. System could include built-in stillstore, 3D graphics, and motion clip playback. If included in the Switcher, this category is not necessary.	1	\$5,000	\$5,000	
Audio Mixing	Price for adding stereo digital audio mixing. This cost reflects the price of a digital mixing console of 16 inputs.	1	\$1,500	\$1,500	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	2	\$700	\$1,400	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/ 4K.	1	\$1,000	\$1,000	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$3,500	\$3,500	
Sub-Total School Board Room & District Studio Control Room				\$62,400	
Total School Board Room & District Studio/Combined Control				\$108,400	

Evergreen Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
High School Studios (Five Total)					
High School Studios					
Cameras	Should be capable of HD/ 4K production. Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens (Traditional camera).	12	\$15,000	\$180,000	
Monitoring	Capable of HD/4K signal. Prices are per monitor. To be used for confidence and on-set.	4	\$500	\$2,000	
Lighting System	Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology.	4	\$10,000	\$40,000	
Sub-Total High School Studios				\$222,000	
High School Studio Control Rooms					
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, multi-viewer output, 4 input.	3	\$2,500	\$7,500	
Character Generator	Prices vary greatly depending on features-single channel system. If included in the Switcher, this category is not necessary.	5	\$1,500	\$7,500	
Audio Mixing	Price for adding stereo digital audio mixing. This cost reflects the price of a digital mixing console of 8 inputs.	5	\$500	\$2,500	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	6	\$700	\$4,200	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/ 4K.	5	\$1,000	\$5,000	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	5	\$3,500	\$17,500	
Sub-Total High School Studio Control Rooms				\$44,200	
Total High School Studios/Studio Control Rooms				\$266,200	

Evergreen Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
District Stadium Control Room					
District Stadium Control Room					
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, file storage, virtual set technology and multi-viewer output. Also capable of chromakey production. 10 input.	1	\$50,000	\$50,000	
Character Generator	Prices vary greatly depending on features, I/O, and single/multi-channel systems. System could include built-in stillstore, 3D graphics, and motion clip playback. If included in the Switcher, this category is not necessary.	1	\$5,000	\$5,000	
Audio Mixing	Price for adding stereo digital audio mixing. This cost reflects the price of a digital mixing console of 16 inputs.	1	\$1,500	\$1,500	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	2	\$700	\$1,400	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/4K.	1	\$1,000	\$1,000	
Intercom System	Multi-channel system complete with base station, 10 belt-pack receivers with dual-ear headsets.	1	\$12,000	\$12,000	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$3,500	\$3,500	
Total District Stadium Control				\$74,400	

High School Auditoriums (Five Total)					
Auditoriums					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Up to 1080p and capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	5	\$10,000	\$50,000	
Total Auditoriums				\$50,000	

Evergreen Public Schools					
Equipment Title	Description *	Quantity	Unit Price	Total	Comments
Ancillary Equipment**					
Ancillary Equipment	Ancillary/ Support Equipment such as cabling, microphones, stands, tripods, portable production accessories, racks, batteries, cards, office equipment, etc. will be an aggregated total in the summary spreadsheet.	1	\$10,000	\$10,000	
Total Ancillary				\$10,000	

Sub-Total One Time Implementation & Upgrade Cost		\$1,364,400
Sales Tax		8.8%
Sub-Total		\$1,484,467
30% Inst/Train/Warranty		\$409,320
Plus Ancillary Cost		\$10,000
Total One Time Implementation & Upgrade Cost		\$1,903,787
* Description of type of equipment needed for each major item in a functional area, and brief purpose. HD/4K costs are based on 1080/3840p format.		
** This is included as a unit cost in the one-time transition cost calculation to ensure that it is reflected. In actuality, the one time cost for ancillary equipment will likely be higher until it reflects the next replacement of each item. The maximum extended costs would be the 10 year total of \$100,000.		

Evergreen Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Field Acquisition														
Camera Field Packages	20	\$5,000	\$100,000			\$100,000								\$100,000
Camera Field Packages	4	\$12,000	\$48,000		\$48,000					\$48,000				\$96,000
Stadium Cameras	5	\$15,000	\$75,000			\$75,000					\$75,000			\$150,000
Camera Field Packages	10	\$3,500	\$35,000		\$35,000					\$35,000				\$70,000
Flypack	1	\$175,000	\$175,000					\$175,000						\$175,000
Flypack	1	\$50,000	\$50,000					\$50,000						\$50,000
Flypack	5	\$30,000	\$150,000					\$150,000						\$150,000
Total Field Acquisition			\$633,000	\$0	\$83,000	\$175,000	\$0	\$375,000	\$0	\$83,000	\$75,000	\$0	\$0	\$791,000

Post Production														
Ingestion	2	\$1,000	\$2,000		\$2,000							\$2,000		\$4,000
Audio Mixing	2	\$500	\$1,000		\$1,000							\$1,000		\$2,000
Engineering Monitoring	2	\$500	\$1,000		\$1,000							\$1,000		\$2,000
Edit Systems	2	\$5,000	\$10,000		\$10,000							\$10,000		\$20,000
Solid State Recorder	2	\$3,500	\$7,000		\$7,000							\$7,000		\$14,000
Total Post Production			\$21,000	\$0	\$21,000	\$0	\$0	\$0	\$0	\$0	\$0	\$21,000	\$0	\$42,000

Evergreen Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Infrastructure Requirements														
Optical Transmitters/ Receivers	1	\$1,500	\$1,500	\$1,500							\$1,500			\$3,000
Video Over Ethernet Encoder/Decoder Pair	4	\$5,000	\$20,000	\$20,000							\$20,000			\$40,000
Bonded Cellular Technology	1	\$30,000	\$30,000	\$30,000							\$30,000			\$60,000
Cabling	1,000	\$5.00	\$5,000	\$5,000							\$5,000			\$10,000
Routing	1	\$50,000	\$50,000	\$50,000							\$50,000			\$100,000
Patching	6	\$400	\$2,400	\$2,400							\$2,400			\$4,800
Signal Converters	1	\$2,500	\$2,500	\$2,500							\$2,500			\$5,000
Total Infrastructure			\$111,400	\$111,400	\$0	\$0	\$0	\$0	\$0	\$0	\$111,400	\$0	\$0	\$222,800
General Production Requirements														
Archival Storage	200	\$500	\$100,000	\$20,000		\$20,000		\$20,000		\$20,000		\$20,000		\$100,000
Total General Production			\$100,000	\$20,000	\$0	\$20,000	\$0	\$20,000	\$0	\$20,000	\$0	\$20,000	\$0	\$100,000

Evergreen Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
District Studio/Studio Control Room														
District Studio														
Cameras	3	\$15,000	\$45,000		\$45,000							\$45,000		\$90,000
Monitoring	2	\$500	\$1,000		\$1,000							\$1,000		\$2,000
Sub-Total District Studio			\$46,000	\$0	\$46,000	\$0	\$0	\$0	\$0	\$0	\$0	\$46,000	\$0	\$92,000
District Studio Control Room														
Switcher	1	\$50,000	\$50,000							\$50,000				\$50,000
Character Generator	1	\$5,000	\$5,000							\$5,000				\$5,000
Audio Mixing	1	\$1,500	\$1,500							\$1,500				\$1,500
Multi-View Monitor	2	\$700	\$1,400							\$1,400				\$1,400
Engineering Monitor	1	\$1,000	\$1,000							\$1,000				\$1,000
Solid State Recorder	1	\$3,500	\$3,500							\$3,500				\$3,500
Sub-Total District Studio Control Room			\$62,400	\$0	\$0	\$0	\$0	\$0	\$0	\$62,400	\$0	\$0	\$0	\$62,400
Total School Board Room, District Studio/ Combined Control Room			\$108,400	\$0	\$46,000	\$0	\$0	\$0	\$0	\$62,400	\$0	\$46,000	\$0	\$154,400

Evergreen Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
High School Studios (Five Total)/High School Studio Control Rooms														
High School Studios														
Cameras	12	\$15,000	\$180,000		\$180,000									\$180,000
Monitoring	4	\$500	\$2,000		\$2,000									\$2,000
Lighting System	4	\$10,000	\$40,000		\$40,000									\$40,000
Sub-Total High School Studios			\$222,000	\$0	\$222,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$222,000
High School Studio Control Room														
Switcher	3	\$2,500	\$7,500					\$7,500						\$7,500
Character Generator	5	\$1,500	\$7,500					\$7,500						\$7,500
Audio Mixing	5	\$500	\$2,500					\$2,500						\$2,500
Multi-View Monitor	6	\$700	\$4,200					\$4,200						\$4,200
Engineering Monitor	5	\$1,000	\$5,000					\$5,000						\$5,000
Solid State Recorder	5	\$3,500	\$17,500					\$17,500						\$17,500
Sub-Total High School Studio Control Room			\$44,200	\$0	\$0	\$0	\$0	\$44,200	\$0	\$0	\$0	\$0	\$0	\$44,200
Total High School Studios/Studio Control Room			\$266,200	\$0	\$222,000	\$0	\$0	\$44,200	\$0	\$0	\$0	\$0	\$0	\$266,200

District Stadium Control														
District Stadium Control Room														
Switcher	1	\$50,000	\$50,000	\$50,000										\$50,000
Character Generator	1	\$5,000	\$5,000	\$5,000										\$5,000
Audio Mixing	1	\$1,500	\$1,500	\$1,500										\$1,500
Multi-View Monitor	2	\$700	\$1,400	\$1,400										\$1,400
Engineering Monitor	1	\$1,000	\$1,000	\$1,000										\$1,000
Intercom System	1	\$12,000	\$12,000	\$12,000										\$12,000
Solid State Recorder	1	\$3,500	\$3,500	\$3,500										\$3,500
Total District Stadium Control Room			\$74,400	\$74,400	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$74,400

Evergreen Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
High School Auditoriums (Five Total)														
Auditoriums														
Cameras	5	\$10,000	\$50,000	\$50,000										\$50,000
Total Auditoriums			\$50,000	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$50,000
Ancillary Equipment														
Ancillary Equipment	1	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Total Ancillary			\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Yearly Equipment Totals				\$255,800	\$372,000	\$195,000	\$0	\$439,200	\$0	\$165,400	\$186,400	\$87,000	\$0	\$1,700,800
Sales Tax (8.8%)				\$22,510	\$32,736	\$17,160	\$0	\$38,650	\$0	\$14,555	\$16,403	\$7,656	\$0	\$149,670
Sub-Total				\$278,310	\$404,736	\$212,160	\$0	\$477,850	\$0	\$179,955	\$202,803	\$94,656	\$0	\$1,850,470
30% Inst/Train/Warranty				\$76,740	\$111,600	\$58,500	\$0	\$131,760	\$0	\$49,620	\$55,920	\$26,100	\$0	\$510,240
Plus Ancillary Cost				\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
TOTAL				\$365,050	\$526,336	\$280,660	\$10,000	\$619,610	\$10,000	\$239,575	\$268,723	\$130,756	\$10,000	\$2,460,710
Sub-Total One Time Implementation & Upgrade Cost			\$1,364,400											
Sales Tax			8.8%											
Sub-Total			\$1,484,467											
30% Inst/Train/Warranty			\$409,320											
Plus Ancillary Cost			\$10,000											
Total One Time Implementation & Upgrade Cost			\$1,903,787											

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Field Acquisition					
Camera Field Packages	One prosumer (entry level) grade HD camera, one channel wired audio and accessories, one tripod, small lighting package. A 10 year replacement schedule indicates replacement of this equipment be a 5-year replacement as opposed to a 7-year because of anticipated wear and tear.	40	\$5,000	\$200,000	
Camera Field Packages	One advanced portable professional HD/ 4K camera, one tripod, 2 channels wireless audio, light kit and accessories. A 10 year replacement schedule indicates replacement of this equipment be a 5-year replacement as opposed to a 7-year because of anticipated wear and tear.	3	\$12,000	\$36,000	
Stadium Cameras	Traditional camera used in the stadium, should be capable of HD/ 4K production. Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens. (Traditional camera)	5	\$15,000	\$75,000	
Camera Field Packages	Professional DSLR-type camera. Capable of interchangeable lenses. Package includes single channel wireless audio system, light-weight tripod, interchangeable lens package, portable light kit, 32GB memory card and carrying case.	10	\$3,500	\$35,000	
Flypack (School District)	Includes 3 traditional HD/4K cameras, 3 robotic PTZ cameras and controllers portable switcher capable of switching live camera feeds, and slow motion replay, computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder.	1	\$150,000	\$150,000	
Flypack (High Schools)	Includes portable switcher capable of switching live camera feeds, computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder. Housed in a flight case and be integrated with camera field packages.	5	\$30,000	\$150,000	
Total Field Acquisition				\$646,000	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Post Production					
Ingestion	The editing ingestion process needs to match the Field Acquisition technology. The price reflects the cost for ingestion needed for editing.	1	\$1,000	\$1,000	
Engineering Monitoring	Capable of at least SDI/HD/4K, or SDI/HDMI inputs. Includes multi-standard, multi-format digital waveform monitor. Prices are per monitor.	1	\$500	\$500	
Edit Systems	Price is for a turnkey (including both hardware and software) "state of the art" computer with I/O card with dual monitors. Turnkey systems can vary in cost depending on storage, graphics cards, I/O cards and system RAM needed. Should also include network capability.	1	\$7,000	\$7,000	
Solid State Recorder	Capable of multi-format type recording and consistent with entire facility workflow.	1	\$3,500	\$3,500	
Total Post Production				\$12,000	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Infrastructure Requirements					
Optical Transmitters/ Receivers	Transmitter/Receiver pair, capable of 1 channel. Used for receiving and transmitting encoded signals over fiber optic connection.	1	\$1,500	\$1,500	
Video Over Ethernet Encoder/ Decoder Pair	Capable of transmitting HD-SDI/ 4K video and audio over IP networks. Three for the high schools and one for school district.	4	\$5,000	\$20,000	
Cabling	Price range is per foot and for regular shielding or plenum (fire-retardant) shielding. Cabling should be able to accept HD-SDI/ 4K signals. Actual costs are dependent on lengths needed, and should be quoted from an integrator. Cost includes cabling and installation.	1,000	\$5.00	\$5,000	
Routing	Routing and cabling need to have bandwidth capable of HD/4K. Costs vary widely depending on number of inputs and outputs needed. This baseline should provide a economy 64x64 HD/ 4K router.	1	\$3,500	\$3,500	
Patching	Costs are per patch bay and final costs could vary widely depending on number of patch bays needed. Standard configuration is usually 8 inputs per bay and should be wired in at the same time as the router install.	6	\$400	\$2,400	
Signal Converters	For up-converting any legacy equipment that is analog or down-converting any newer equipment such as HD/ 4K to SD. We recommend signal converters that work as "Swiss Army knives", i.e. have the ability to up-convert and down-convert any signal from HD to analog to VGA and even HDMI.	2	\$2,500	\$5,000	
Total Infrastructure				\$37,400	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
General Production Requirements					
Archival Storage	Budgets should account for increased storage costs for HD/4K. Costs on storage can vary widely depending on the number of users, the amount of storage needed, speed, etc. Price per terabyte decreases with the number of terabytes purchased. This price reflects roughly 160 terabytes of storage. Assuming \$500/terabyte to be distributed through the life of the franchise. Should also have redundant power supplies and be RAID protected.	160	\$500	\$80,000	
Total General Production				\$80,000	

Podcast Studio					
Podcast Studio					
Condenser Microphones	Optimized for podcasting and broadcasting with internal pop filter and tailored for speech.	4	\$100	\$400	
Audio Mixing	Price for adding stereo digital audio mixing. This cost reflects the price of a digital mixing console of 6-8 inputs.	1	\$700	\$700	
Headphones	Sound isolating headphones (Closed back studio headphones).	4	\$75	\$300	
Telephone Audio Interface	Capable of simultaneous send/receive audio through standard telephone lines.	1	\$140	\$140	
Headphone Amplifier	Capable of 4 channel headphone output and high output levels. Separate volume controls for each channel.	1	\$100	\$100	
Telescoping Tabletop Microphone Stand	Complete with weighted base. Capable of telescoping for flexibility and positioning.	4	\$65	\$260	
Total Podcast Studio				\$1,900	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Sports Studio/School Board Room/Combined Control Room					
Sports Studio					
Cameras	Traditional studio camera, should be capable of HD/4K production. Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens. (Traditional camera)	3	\$15,000	\$45,000	
Monitoring	Capable of HD/ 4K signal. Prices are per monitor. To be used for confidence and on-set.	2	\$500	\$1,000	
Lighting System	Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology.	1	\$10,000	\$10,000	
Sub-Total Sports Studio				\$56,000	
School Board Room					
School Board Room					
Cameras	These cameras are HD/4K robotic cameras capable of panning and zooming. Should include camera, lens and robotic head.	3	\$10,000	\$30,000	
Audio Microphones (Wired)	Wired microphones with Mute functions and lectern microphones.	12	\$175	\$2,100	
Audio Microphones (Wireless)	Complete wireless microphone system with Hand-held and lavalier with transmitter and receiver.	2	\$1,200	\$2,400	
TV Monitors	65 inch.	3	\$500	\$1,500	
TV Monitors	80 inch.	1	\$900	\$900	
Assisted Listening Device	System designed to aid the hearing impaired listen to meetings. Wireless assistive listening system designed to accommodate up to 5 users. Includes wireless transmitters and 5 belt-pack receivers with headphones.	1	\$1,000	\$1,000	
Scan Converter	Capable of converting computer output to SDI video. Should be capable of HD/ 4K output.	1	\$1,200	\$1,200	
Sub-Total School Board Room				\$39,100	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Combined Control Room					
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, file storage, virtual set technology and multi-viewer output. Also capable of chromakey production. 10 input.	1	\$50,000	\$50,000	
Robotic Camera Control	Controller should be capable of controlling multiple cameras with the ability of stored presets and camera setup capability.	1	\$2,500	\$2,500	
Multi-Channel Sports Slow-Motion Replay System	Capable of HD/4K and integrated with the video switcher.	1	\$25,000	\$25,000	
Character Generator	Prices vary greatly depending on features, I/O, and single/multi-channel systems. System could include built-in stillstore, 3D graphics, and motion clip playback. If included in the Switcher, this category is not necessary.	1	\$5,000	\$5,000	
Audio Mixing	Price for adding stereo digital audio mixing. This cost reflects the price of a digital mixing console of 16 inputs.	1	\$1,500	\$1,500	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	2	\$700	\$1,400	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/4K.	1	\$1,000	\$1,000	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$3,500	\$3,500	
Sub-Total Combined Control Room				\$89,900	
Total Sport Studio/School Board Room/Combined Control Room				\$185,000	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
School Studios (Fort Vancouver High School, Columbia River High School, Hudson's Bay High School)					
School Studios					
Cameras	Should be capable of HD/ 4K production. Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens. (Traditional camera)	12	\$15,000	\$180,000	
Monitoring	Capable of HD/4K signal. Prices are per monitor. To be used for confidence and on-set.	6	\$500	\$3,000	
Lighting System	Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology.	3	\$10,000	\$30,000	
Sub-Total School Studios				\$213,000	
School Studio Control Rooms (3 Total)					
Switcher	Capable of HD/4K production. Economical system Includes one M/E capable of upstream and downstream keying. 4 channel input.	3	\$3,000	\$9,000	
Audio Mixing	Price for adding stereo digital audio mixing. This cost reflects the price of a digital mixing console of 16 inputs.	3	\$1,500	\$4,500	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	8	\$700	\$5,600	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/4K.	3	\$1,000	\$3,000	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	3	\$3,500	\$10,500	
Sub-Total School Studios Control Rooms				\$32,600	
Total School Studios/ Control Rooms				\$245,600	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Other Meeting Rooms					
Auditorium- Fort Vancouver High					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	5	\$10,000	\$50,000	Currently use "Studio in a Box" but requesting wired into the Studio Control Room
Lighting System	Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology.	1	\$10,000	\$10,000	
Total Fort Vancouver High Auditorium				\$60,000	
Auditorium - Skyview High School					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	3	\$10,000	\$30,000	
Cameras	Should be capable of HD/4K production. Costs listed are per camera and include CCU, camera head, studio viewfinder, tripod adapter, and lens (Traditional camera).	2	\$15,000	\$30,000	
Lighting System	Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology.	1	\$10,000	\$10,000	
Sub-Total Skyview Auditorium				\$70,000	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Skyview Auditorium Control					
Switcher	Capable of HD/4K production. Economical system Includes one M/E capable of upstream and downstream keying. 4 channel input.	1	\$3,000	\$3,000	
Robotic Camera Control	Controller should be capable of controlling multiple cameras with the ability of stored presets and camera setup capability	1	\$2,500	\$2,500	
Audio Mixing	Price for adding stereo digital audio mixing. This cost reflects the price of a digital mixing console of 16 inputs.	1	\$1,500	\$1,500	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	1	\$700	\$700	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/ 4K.	1	\$700	\$700	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$3,500	\$3,500	
Misc D/A's and cabling	This is for miscellaneous distribution of signals from the HD/4K equipment.	1	\$2,000	\$2,000	
Sub-Total Skyview Auditorium Control				\$13,900	
Total Skyview High Auditorium				\$83,900	

Vancouver Public Schools					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments

Ancillary Equipment**					
Ancillary Equipment	Ancillary/ Support Equipment such as cabling, microphones, stands, tripods, portable production accessories, racks, batteries, cards, office equipment, etc. will be an aggregated total in the summary spreadsheet.	1	\$10,000	\$10,000	
Total				\$10,000	

Sub-Total One Time Implementation & Upgrade Cost		\$1,351,800
Sales Tax		8.8%
Sub-Total		\$1,470,758
30% Inst/Train/Warranty		\$405,540
Plus Ancillary Cost		\$10,000
Total One Time Implementation & Upgrade Cost		\$1,886,298

* Description of type of equipment needed for each major item in a functional area, and brief purpose. HD/4K costs are based on 1080/3840p format.

** This is included as a unit cost in the one-time transition cost calculation to ensure that it is reflected. In actuality, the one time cost for ancillary equipment will likely be higher until it reflects the next replacement of each item. The maximum extended costs would be the 10 year total of \$100,000.

Vancouver Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Field Acquisition														
Camera Field Packages	40	\$5,000	\$200,000					\$200,000						\$200,000
Camera Field Packages	3	\$12,000	\$36,000		\$36,000					\$36,000				\$72,000
Stadium Cameras	5	\$15,000	\$75,000					\$75,000					\$75,000	\$150,000
Camera Field Packages	10	\$3,500	\$35,000		\$35,000					\$35,000				\$70,000
Flypack	1	\$150,000	\$150,000		\$150,000							\$150,000		\$300,000
Flypack	5	\$30,000	\$150,000				\$150,000							\$150,000
Total Field Acquisition			\$646,000	\$0	\$221,000	\$0	\$150,000	\$275,000	\$0	\$71,000	\$0	\$150,000	\$75,000	\$942,000

Post Production														
Ingestion	1	\$1,000	\$1,000					\$1,000						\$1,000
Engineering Monitoring	1	\$500	\$500					\$500						\$500
Edit Systems	1	\$7,000	\$7,000					\$7,000						\$7,000
Solid State Recorder	1	\$3,500	\$3,500					\$3,500						\$3,500
Total Post Production			\$12,000	\$0	\$0	\$0	\$0	\$12,000	\$0	\$0	\$0	\$0	\$0	\$12,000

Infrastructure Requirements														
Optical Transmitters/ Receivers	1	\$1,500	\$1,500	\$1,500							\$1,500			\$3,000
Video Over Ethernet Encoder/Decoder Pair	4	\$5,000	\$20,000	\$20,000							\$20,000			\$40,000
Cabling	1,000	\$5.00	\$5,000	\$5,000					\$5,000					\$10,000
Routing	1	\$3,500	\$3,500	\$3,500							\$3,500			\$7,000
Patching	6	\$400	\$2,400	\$2,400							\$2,400			\$4,800
Signal Converters	2	\$2,500	\$5,000	\$5,000							\$5,000			\$10,000
Total Infrastructure			\$37,400	\$37,400	\$0	\$0	\$0	\$0	\$5,000	\$0	\$32,400	\$0	\$0	\$74,800

Vancouver Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
General Production Requirements														
Archival Storage	160	\$500	\$80,000	\$16,000		\$16,000		\$16,000		\$16,000		\$16,000		\$80,000
Total General Production			\$80,000	\$16,000	\$0	\$16,000	\$0	\$16,000	\$0	\$16,000	\$0	\$16,000	\$0	\$80,000

Podcast Studio														
Podcast Studio														
Condenser Microphones	4	\$100	\$400	\$400						\$400				\$800
Audio Mixing	1	\$700	\$700	\$700						\$700				\$1,400
Headphones	4	\$75	\$300	\$300						\$300				\$600
Telephone Audio Interface	1	\$140	\$140	\$140						\$140				\$280
Headphones Amplifier	1	\$100	\$100	\$100						\$100				\$200
Telescoping Tabletop Microphone Stand	4	\$65	\$260	\$260						\$260				\$520
Total Podcast Studio			\$1,900	\$1,900	\$0	\$0	\$0	\$0	\$0	\$1,900	\$0	\$0	\$0	\$3,800

Sports Studio/School Studios/School Board Room/Combined Control														
Sports Studio														
Cameras	3	\$15,000	\$45,000		\$45,000									\$45,000
Monitoring	2	\$500	\$1,000		\$1,000									\$1,000
Lighting System	1	\$10,000	\$10,000							\$10,000				\$10,000
Sub-Total Sports Studio			\$56,000	\$0	\$46,000	\$0	\$0	\$0	\$0	\$10,000	\$0	\$0	\$0	\$56,000

Vancouver Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
School Board Room														
School Board Room														
Cameras	3	\$10,000	\$30,000							\$30,000				\$30,000
Audio Microphones Wired	12	\$175	\$2,100							\$2,100				\$2,100
Audio Microphones Wireless	2	\$1,200	\$2,400							\$2,400				\$2,400
TV Monitoring	3	\$500	\$1,500							\$1,500				\$1,500
TV Monitoring	1	\$900	\$900							\$900				\$900
Assisted Listening Device	1	\$1,000	\$1,000							\$1,000				\$1,000
Scan Converter	1	\$1,200	\$1,200							\$1,200				\$1,200
Sub-Total School Board Room			\$39,100	\$0	\$0	\$0	\$0	\$0	\$0	\$39,100	\$0	\$0	\$0	\$39,100
Combined Control Room														
Switcher	1	\$50,000	\$50,000		\$50,000									\$50,000
Robotic Camera Control	1	\$2,500	\$2,500		\$2,500									\$2,500
Sports Slow-Motion Replay System	1	\$25,000	\$25,000		\$25,000									\$25,000
Character Generator	1	\$5,000	\$5,000		\$5,000									\$5,000
Audio Mixing	1	\$1,500	\$1,500		\$1,500									\$1,500
Multi-View Monitor	2	\$700	\$1,400		\$1,400									\$1,400
Engineering Monitor	1	\$1,000	\$1,000		\$1,000									\$1,000
Solid State Recorder	1	\$3,500	\$3,500		\$3,500									\$3,500
Sub-Total Combined Control Room			\$89,900	\$0	\$89,900	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$89,900
Total Sports Studio/School Board Room/Combined Control Room			\$185,000	\$0	\$135,900	\$0	\$0	\$0	\$0	\$49,100	\$0	\$0	\$0	\$185,000

Vancouver Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
School Studios (Fort Vancouver High School, Columbia River High School, Hudson's Bay High School)/School Studios Control Room														
School Studios														
Cameras	12	\$15,000	\$180,000				\$180,000							\$180,000
Monitoring	6	\$500	\$3,000				\$3,000							\$3,000
Lighting System	3	\$10,000	\$30,000				\$3,000							\$3,000
Sub-Total School Studios			\$213,000	\$0	\$0	\$0	\$186,000	\$0	\$0	\$0	\$0	\$0	\$0	\$186,000
School Studios Control Room														
Switcher	3	\$3,000	\$9,000				\$9,000							\$9,000
Audio Mixing	3	\$1,500	\$4,500				\$4,500							\$4,500
Multi-View Monitor	8	\$700	\$5,600				\$5,600							\$5,600
Engineering Monitor	3	\$1,000	\$3,000				\$3,000							\$3,000
Solid State Recorder	3	\$3,500	\$10,500				\$10,500							\$10,500
Sub-Total Combined Control			\$32,600	\$0	\$0	\$0	\$32,600	\$0	\$0	\$0	\$0	\$0	\$0	\$32,600
Total Studios/School Studios Control Room			\$245,600	\$0	\$0	\$0	\$218,600	\$0	\$0	\$0	\$0	\$0	\$0	\$218,600

Vancouver Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Other Meeting Rooms														
Auditorium - Fort Vancouver High School														
Cameras	5	\$10,000	\$50,000					\$50,000						\$50,000
Lighting System	1	\$10,000	\$10,000					\$10,000						\$10,000
Total Fort Vancouver High Auditorium			\$60,000	\$0	\$0	\$0	\$0	\$60,000	\$0	\$0	\$0	\$0	\$0	\$60,000
Auditorium - Skyview High School														
Cameras	3	\$10,000	\$30,000		\$30,000									\$30,000
Cameras	2	\$15,000	\$30,000		\$30,000									\$30,000
Lighting System	1	\$10,000	\$10,000		\$10,000									\$10,000
Total Fort Skyview High Auditorium			\$70,000	\$0	\$70,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$70,000
Control Room - Auditorium-Skyview High School														
Switcher	1	\$3,000	\$3,000		\$3,000									\$3,000
Robotic Camera Control	1	\$2,500	\$2,500		\$2,500									\$2,500
Audio Mixing	1	\$1,500	\$1,500		\$1,500									\$1,500
Multi-View Monitor	1	\$700	\$700		\$700									\$700
Engineering Monitor	1	\$700	\$700		\$700									\$700
Solid State Recorder	1	\$3,500	\$3,500		\$3,500									\$3,500
Misc D/A's and cabling	1	\$2,000	\$2,000		\$2,000									\$2,000
Sub-Total Skyview Control Room			\$13,900	\$0	\$13,900	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,900
Total Skyview Auditorium/Skyview Room Control			\$83,900	\$0	\$83,900	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$83,900

Vancouver Public Schools														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Ancillary Equipment														
Ancillary Equipment	1	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Total Ancillary			\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Yearly Equipment Totals				\$55,300	\$440,800	\$16,000	\$368,600	\$363,000	\$5,000	\$138,000	\$32,400	\$166,000	\$75,000	\$1,660,100
Sales Tax (8.8%)				\$4,866	\$38,790	\$1,408	\$32,437	\$31,944	\$440	\$12,144	\$2,851	\$14,608	\$6,600	\$146,089
Sub-Total				\$60,166	\$479,590	\$17,408	\$401,037	\$394,944	\$5,440	\$150,144	\$35,251	\$180,608	\$81,600	\$1,806,189
30% Inst/Train/Warranty				\$16,590	\$132,240	\$4,800	\$110,580	\$108,900	\$1,500	\$41,400	\$9,720	\$49,800	\$22,500	\$498,030
Plus Ancillary Cost				\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
TOTAL				\$86,756	\$621,830	\$32,208	\$521,617	\$513,844	\$16,940	\$201,544	\$54,971	\$240,408	\$114,100	\$2,404,219
Sub-Total One Time Implementation & Upgrade Cost			\$1,351,800											
Sales Tax			8.8%											
Sub-Total			\$1,470,758											
30% Inst/Train/Warranty			\$405,540											
Plus Ancillary Cost			\$10,000											
Total One Time Implementation & Upgrade Cost			\$1,886,298											

TV-ETC Educational Access					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Field Acquisition					
Camera Field Packages	One advanced professional HD/4K camera, one tripod, 2 channels wireless audio, light kit and accessories. A 10 year replacement schedule indicates replacement of this equipment be a 5-year replacement as opposed to a 7-year because of anticipated wear and tear.	2	\$12,000	\$24,000	
Camera Field Packages	Professional DSLR-type camera. Capable of interchangeable lenses. Package includes single channel wireless audio system, light weight tripod, interchangeable lens package, portable light kit, 32 GB memory card and carrying case.	2	\$3,500	\$7,000	
Aerial Video Drone	Capable of capturing HD and 4K video. Should include a 3-axis gimbal stabilization, GPS and vision positioning as well as extra batteries for extended flight time. FAA certified pilot required to fly.	1	\$1,000	\$1,000	
Audio Field Packages	6-8 channel audio mixer, 8 boundary tabletop microphones, audio snake.	1	\$1,800	\$1,800	
Mobile Production Vehicle	Customized Sprinter-type van used for housing Flypack (Studio in a Box).	1	\$50,000	\$50,000	
Total Field Acquisition				\$83,800	

TV-ETC Educational Access					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Post Production					
Ingestion	The editing ingestion process needs to match the Field Acquisition technology. The price reflects the cost for ingestion needed for editing.	1	\$1,000	\$1,000	
Audio Mixing	Price for adding stereo digital audio mixing. Digital audio conversion is not necessary immediately, but should be considered for migration during the life of the franchise. This cost reflects the price of a digital mixing console of 6-8 inputs.	1	\$500	\$500	
Engineering Monitoring	Capable of at least SDI/HD/4K, or SDI/HDMI/4K inputs. Includes multi-standard, multi-format digital waveform monitor. Prices are per monitor.	1	\$1,000	\$1,000	
Edit Systems	Price is for a turnkey (including both hardware and software) "state of the art" computer with I/O card with dual monitors. Turnkey systems can vary in cost depending on storage, graphics cards, I/O cards and system RAM needed. Should also include network capability.	1	\$5,000	\$5,000	
Portable Edit Systems	Portable laptop computer system with card reader configured for non-linear editing.	1	\$3,500	\$3,500	
Solid State Recorder	Capable of multi-format type recording and consistent with entire facility workflow.	1	\$1,500	\$1,500	
Duplication System	Capable of transferring various analog video formats into digital formats and transcoding other file formats as needed. Line item is for various equipment that might be needed to accomplish analog to digital ingestion. Expectation is that staff would continue to use legacy equipment to capture the programming and a new computer would be used to create digital programming files for playback.	1	\$3,000	\$3,000	
Total Post Production				\$15,500	

TV-ETC Educational Access					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Infrastructure Requirements					
Optical Transmitters/Receivers	Transmitter/Receiver pair, capable of 1 channel. Used for receiving and transmitting encoded signals over fiber optic connection.	4	\$1,500	\$6,000	
Video Over Ethernet Encoder/Decoder Pair	Capable of transmitting HD/4K-SDI video and audio over IP networks.	5	\$5,000	\$25,000	
Cabling	Price range is per foot and for regular shielding or plenum (fire-retardant) shielding. Cabling should be able to accept HD/4K-SDI signals. Actual costs are dependent on lengths needed, and should be quoted from an integrator. Cost includes cabling and installation.	500	\$5.00	\$2,500	
Routing	Routing and cabling need to have bandwidth capable of HD/4K. Costs vary widely depending on number of inputs and outputs needed. This baseline should provide a 64X64 HD router and would be capable of routing both SDI and fiber (needing fiber inputs). Capable of multi-view configurable output.	1	\$15,000	\$15,000	
Patching	Costs are per patch bay and final costs could vary widely depending on number of patch bays needed. Standard configuration is usually 8 inputs per bay and should be wired in at the same time as the router install.	4	\$400	\$1,600	
Signal Converters	For up-converting any legacy equipment that is analog or down-converting any newer equipment such as HD/4K to SD. We recommend signal converters that work as "Swiss Army knives", i.e. have the ability to up-convert and down-convert any signal from HD to analog to VGA and even HDMI.	1	\$4,000	\$4,000	
Total Infrastructure				\$54,100	

TV-ETC Educational Access					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
General Production Requirements					
Archival Storage	Budgets should account for increased storage costs for HD/4K. Costs on storage can vary widely depending on the number of users, the amount of storage needed, speed, etc. Price per terabyte decreases with the number of terabytes purchased. This price reflects roughly 30 terabytes of storage. Assuming \$500/terabyte to be distributed through the life of the franchise. Should also have redundant power supplies and be RAID protected.	30	\$500	\$15,000	
Server-Based Playback System	Headend/playback equipment should be HD/4K or HD/4K compatible. Minimum bit rates should be 20 Mb/sec for HD. Capable of replaying 2 channel.	2	\$35,000	\$70,000	
Character Generator for Bulletin Board System	Prices vary greatly depending on features, I/O, and single/multi-channel systems. System could include built-in stillstore, 3D graphics, and motion clip playback. May not be needed if part of the playback system.	3	\$5,000	\$15,000	
On Demand/ Streaming Encoders	Need one encoder per channel for streaming live 24/7 content. Price varies depending on format and performance. Price represents a professional turnkey single-channel encoder system, which includes hardware and software capable of running 24/7.	3	\$1,000	\$3,000	
Total General Production				\$103,000	

TV-ETC Educational Access					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Columbia/Pacific Room					
Columbia/ Pacific Room					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	3	\$10,000	\$30,000	
Monitoring	Capable of HD/4K signal. Prices are per monitor. To be used for confidence and on-set.	2	\$500	\$1,000	
Sub-Total Columbia/ Pacific Room				\$31,000	
Columbia/ Pacific Room Control					
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, file storage, virtual set technology and multi-viewer output. Also capable of chromakey production. 10 input.	1	\$20,000	\$20,000	
Robotic Camera Control	Controller should be capable of controlling multiple cameras with the ability of stored presets and camera setup capability.	1	\$2,500	\$2,500	
Audio Mixing	Price for adding stereo digital audio mixing. Digital audio conversion is not necessary immediately, but should be considered for migration during the life of the franchise. This cost reflects the price of a digital mixing console of 32 inputs.	1	\$2,000	\$2,000	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	2	\$700	\$1,400	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$1,500	\$1,500	
Misc D/A's and cabling	This is for miscellaneous distribution of signals from the HD/4K equipment.	1	\$2,000	\$2,000	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/4K.	1	\$1,000	\$1,000	
Control Room Remodel	Remodel needed to enclose the control room, add HVAC system and add raised computer flooring.	387	\$200	\$77,400	
Sub-Total Room Control				\$107,800	
Total Columbia/ Pacific Room				\$138,800	

TV-ETC Educational Access					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Ancillary Equipment**					
Ancillary Equipment	Ancillary/ Support Equipment such as cabling, microphones, stands, tripods, portable production accessories, racks, batteries, cards, office equipment, etc. will be an aggregated total in the summary spreadsheet.	1	\$10,000	\$10,000	
Total				\$10,000	

Sub-Total One Time Implementation & Upgrade Cost		\$395,200
Sales Tax		8.8%
Sub-Total		\$429,978
30% Inst/Train/Warranty		\$118,560
Plus Ancillary Cost**		\$10,000
Total One Time Implementation & Upgrade Cost		\$558,538
* Description of type of equipment needed for each major item in a functional area, and brief purpose. HD/4K costs are based on 1080/3840p format.		
** This is included as a unit cost in the one-time transition cost calculation to ensure that it is reflected. In actuality, the one time cost for ancillary equipment will likely be higher until it reflects the next replacement of each item. The maximum extended costs would be the 10 year total of \$100,000.		

TV-ETC Educational Access														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Field Acquisition														
Camera Field Packages	2	\$12,000	\$24,000	\$24,000						\$12,000				\$36,000
Camera Field Packages	2	\$3,500	\$7,000	\$7,000						\$3,500				\$10,500
Aerial Drone	1	\$1,000	\$1,000					\$1,000					\$1,000	\$2,000
Audio Field Packages	1	\$1,800	\$1,800	\$1,800						\$1,800				\$3,600
Mobile Production Vehicle	1	\$50,000	\$50,000		\$50,000									\$50,000
Total			\$83,800	\$32,800	\$50,000	\$0	\$0	\$1,000	\$0	\$17,300	\$0	\$0	\$1,000	\$102,100

Post Production														
Ingestion	1	\$1,000	\$1,000			\$1,000							\$1,000	\$2,000
Audio Mixing	1	\$500	\$500			\$500							\$500	\$1,000
Engineering Monitoring	1	\$1,000	\$1,000			\$1,000							\$1,000	\$2,000
Edit Systems	1	\$5,000	\$5,000			\$5,000							\$5,000	\$10,000
Portable Edit Systems	1	\$3,500	\$3,500					\$3,500						\$3,500
Solid State Recorder	1	\$1,500	\$1,500			\$1,500							\$1,500	\$3,000
Duplication System	1	\$3,000	\$3,000			\$3,000							\$3,000	\$6,000
Total			\$15,500	\$0	\$0	\$12,000	\$0	\$3,500	\$0	\$0	\$0	\$0	\$12,000	\$27,500

TV-ETC Educational Access														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Infrastructure Requirements														
Optical Transmitters/Receivers	4	\$1,500	\$6,000	\$6,000						\$6,000				\$12,000
Video Over Ethernet Encoder/Decoder Pair	5	\$5,000	\$25,000	\$25,000						\$25,000				\$50,000
Cabling	500	\$5.00	\$2,500	\$2,500						\$2,500				\$5,000
Routing	1	\$15,000	\$15,000	\$15,000						\$15,000				\$30,000
Patching	4	\$400	\$1,600	\$1,600						\$1,600				\$3,200
Signal Converters	1	\$4,000	\$4,000	\$4,000						\$4,000				\$8,000
Total			\$54,100	\$54,100	\$0	\$0	\$0	\$0	\$0	\$54,100	\$0	\$0	\$0	\$108,200

General Production Requirements														
Archival Storage	30	\$500	\$15,000	\$7,500						\$7,500				\$15,000
Server-Based Playback System	2	\$35,000	\$70,000	\$70,000						\$70,000				\$140,000
Character Generator for Bulletin Board System	3	\$5,000	\$15,000	\$15,000						\$15,000				\$30,000
On Demand Streaming Encoders	3	\$1,000	\$3,000	\$3,000						\$3,000				\$6,000
Total			\$103,000	\$95,500	\$0	\$0	\$0	\$0	\$0	\$95,500	\$0	\$0	\$0	\$191,000

TV-ETC Educational Access														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Columbia/Pacific Rooms														
Columbia/Pacific Rooms														
Cameras	3	\$10,000	\$30,000		\$30,000						\$30,000			\$60,000
Monitoring	2	\$500	\$1,000		\$1,000						\$1,000			\$2,000
Sub-Total Columbia/Pacific Rooms			\$31,000	\$0	\$31,000	\$0	\$0	\$0	\$0	\$0	\$31,000	\$0	\$0	\$62,000
Columbia/Pacific Control Room														
Switcher	1	\$20,000	\$20,000		\$20,000						\$20,000			\$40,000
Robotic Camera Control	1	\$2,500	\$2,500		\$2,500						\$2,500			\$5,000
Audio Mixing	1	\$2,000	\$2,000		\$2,000						\$2,000			\$4,000
Multi-View Monitor	2	\$700	\$1,400		\$1,400						\$1,400			\$2,800
Solid State Recorder	1	\$1,500	\$1,500		\$1,500						\$1,500			\$3,000
Misc. D/A's and cabling	1	\$2,000	\$2,000		\$2,000						\$2,000			\$4,000
Engineering Monitor	1	\$1,000	\$1,000		\$1,000						\$1,000			\$2,000
Control Room Remodel	387	\$200	\$77,400	\$77,400										\$77,400
Sub-Total Columbia/Pacific Control Room			\$107,800	\$77,400	\$30,400	\$0	\$0	\$0	\$0	\$0	\$30,400	\$0	\$0	\$138,200
Total Columbia/Pacific Rooms and Control Room			\$138,800	\$77,400	\$61,400	\$0	\$0	\$0	\$0	\$0	\$61,400	\$0	\$0	\$200,200

TV-ETC Educational Access														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Ancillary Equipment														
Ancillary Equipment	1	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Total Ancillary			\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Yearly Equipment Totals				\$259,800	\$111,400	\$12,000	\$0	\$4,500	\$0	\$166,900	\$61,400	\$0	\$13,000	\$629,000
Sales Tax (8.8%)				\$22,862	\$9,803	\$1,056	\$0	\$396	\$0	\$14,687	\$5,403	\$0	\$1,144	\$55,352
Sub-Total				\$282,662	\$121,203	\$13,056	\$0	\$4,896	\$0	\$181,587	\$66,803	\$0	\$14,144	\$684,352
30% Inst/Train/Warranty				\$77,940	\$33,420	\$3,600	\$0	\$1,350	\$0	\$50,070	\$18,420	\$0	\$3,900	\$188,700
Plus Ancillary Cost				\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
TOTAL				\$370,602	\$164,623	\$26,656	\$10,000	\$16,246	\$10,000	\$241,657	\$95,223	\$10,000	\$28,044	\$973,052
Sub-Total One Time Implementation & Upgrade Cost			\$395,200											
Sales Tax			8.8%											
Sub-Total			\$429,978											
30% Inst/Train/Warranty			\$118,560											
Plus Ancillary Cost			\$10,000											
Total One Time Implementation & Upgrade Cost			\$558,538											

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Field Acquisition					
Camera Field Packages	One advanced professional HD/4K camera, one tripod, 2 channels wireless audio, light kit and accessories. A 10 year replacement schedule indicates replacement of this equipment be a 5-year replacement as opposed to a 7-year replacement because of anticipated wear and tear.	3	\$12,000	\$36,000	
Camera Field Packages	Professional DSLR-type camera. Capable of interchangeable lenses. Package includes single channel wireless audio system, light weight tripod, interchangeable lens package, portable light kit, 32 GB memory card and carrying case.	2	\$3,500	\$7,000	
Audio Field Packages	16 channel audio mixer, 12 boundary tabletop microphones, audio snake.	1	\$2,500	\$2,500	
Flypack	Includes 5 HD/ 4K cameras, 3 PTZ tilt, zoom (PTZ) remote cameras and 2 traditional cameras, control, portable switcher capable of switching live camera feeds, computer inputs and includes a CG, 32" multiviewer monitor, bonded cellular encoder/decoder and tapeless recorder.	1	\$175,000	\$175,000	
Flypack (Studio in a Box)	Includes portable switcher capable of switching live camera feeds, computer inputs and includes a CG, 32" multiviewer monitor and tapeless recorder. Housed in a flight case and be integrated with camera field packages. Intended use with studio cameras.	1	\$50,000	\$50,000	
Mobile Production Vehicle	Customized Sprinter-type van used for housing Flypack (Studio in a Box).	3	\$50,000	\$150,000	2 vans, 1 SUV
Total Field Acquisition				\$420,500	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Post Production					
Ingestion	The editing ingestion process needs to match the Field Acquisition technology. The price reflects the cost for ingestion needed for editing.	1	\$1,000	\$1,000	
Audio Mixing	Price for adding stereo digital audio mixing. Digital audio conversion is not necessary immediately, but should be considered for migration during the life of the franchise. This cost reflects the price of a digital mixing console of 6-8 inputs.	1	\$500	\$500	
Engineering Monitoring	Capable of at least SDI/HD/4K, or SDI/HDMI/4K inputs. Includes multi-standard, multi-format digital waveform monitor. Prices are per monitor.	1	\$1,000	\$1,000	
Edit Systems	Price is for a turnkey (including both hardware and software) "state of the art" computer with I/O card capable of HD/4K with dual monitors. Turnkey systems can vary in cost depending on storage, graphics cards, I/O cards and system RAM needed. Should also include network capability.	1	\$5,000	\$5,000	
Portable Edit Systems	Portable laptop computer system with card reader configured for non-linear editing. HD/4K.	6	\$3,500	\$21,000	
Editing Software	Editing software such as Adobe software editing suite which edits all forms of video and audio production.	7	\$400	\$2,800	
Solid State Recorder	Capable of multi-format type recording and consistent with entire facility workflow.	1	\$3,500	\$3,500	
Total Post Production				\$34,800	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Infrastructure Requirements					
Optical Transmitters/Receivers	Transmitter/Receiver pair, capable of 1 channel. Used for receiving and transmitting encoded signals over fiber optic connection.	12	\$1,500	\$18,000	
Video Over Ethernet Encoder/Decoder Pair	Capable of transmitting HD-SDI / 4K video and audio over IP networks.	1	\$5,000	\$5,000	C-Tran Location
Bonded Cellular Technology	This technology incorporates the use of multiple cell phone carriers carrying HD/4K video and high quality audio from any remote location where cellular signals are present. Bonded cellular indicates the use of multiple cellular carriers working together to ensure no video or audio loss in transition.	1	\$30,000	\$30,000	
Closed Captioning Encoder	Capable of live closed captioning and embedding into HD/4K video stream. Should be able to utilize cloud automatic voice to text captioning or traditional live transcription.	2	\$10,000	\$20,000	
Cabling	Price range is per foot and for regular shielding or plenum (fire-retardant) shielding. Cabling should be able to accept both HD/4K-SDI signals. Actual costs are dependent on lengths needed, and should be quoted from an integrator. Cost includes cabling and installation.	1000	\$5.00	\$5,000	
Routing	Routing and cabling need to have bandwidth capable of HD/4K. Costs vary widely depending on number of inputs and outputs needed. This baseline should provide a 16X16 HD router and would be capable of routing both SDI and fiber (needing fiber inputs).	1	\$5,000	\$5,000	
Patching	Costs are per patch bay and final costs could vary widely depending on number of patch bays needed. Standard configuration is usually 8 inputs per bay and should be wired in at the same time as the router install.	2	\$600	\$1,200	
Signal Converters	For up-converting any legacy equipment that is analog or down-converting any newer equipment such as HD/4K to SD. We recommend signal converters that work as "Swiss Army knives", i.e. have the ability to up-convert and down-convert any signal from HD to analog to VGA and even HDMI and 4K.	2	\$4,000	\$8,000	
Total Infrastructure				\$92,200	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
General Production Requirements					
Archival Storage	Budgets should account for increased storage costs for HD/4K. Costs on storage can vary widely depending on the number of users, the amount of storage needed, speed, etc. Price per terabyte decreases with the number of terabytes purchased. This price reflects roughly 160 terabytes of storage. Assuming \$500/terabyte to be distributed through the life of the franchise. Should also have redundant power supplies and be RAID protected.	160	\$500	\$80,000	
LTO Storage	Data transfer rate up to 160mb/s. LTO-6 tape drive system capable of read/write to LTO-6 and LTO-5. Capable with Windows and Mac operating systems. This price reflects roughly 576 terabytes of storage at \$10/terabyte to be distributed through the life of the franchise.	576	\$10	\$5,760	
Server-Based Playback System	Headend/playback equipment should be HD or HD/4K compatible. Minimum bit rates should be 20 Mb/sec for HD. Capable of replaying 2 channel.	2	\$50,000	\$100,000	Cable Cast
On Demand/ Streaming Encoders	Need one encoder per channel for streaming live 24/7 content. Price varies depending on format and performance. Price represents a professional turnkey single-channel encoder system, which includes hardware and software capable of running 24/7.	2	\$1,000	\$2,000	Cable Cast
Total General Production				\$187,760	

Studio, Council Chambers, Aspen Room					
Studio					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Capable of power over ethernet. Costs listed are per camera and should include tripod and tripod adapter.	3	\$10,000	\$30,000	
Teleprompter System	Teleprompter complete with 19" reversing monitor and 60/40 beam splitting glass. Capable of 20' reading range.	1	\$1,800	\$1,800	
Monitoring	Capable of HD/4K signal. Prices are per monitor. To be used for confidence and on-set.	2	\$500	\$1,000	
Lighting System	Includes multiple LED fixtures capable of multi-colored lighting, and dimmer control and capable of upgradable emitter technology.	1	\$20,000	\$20,000	
Virtual Set Technology	Includes digital sets, backdrops for chromakey/green screen; HD/4K versions, with greater depth and camera motion compensation. Could also include a full cyc wall capable of full body shots. If included in the Switcher, this category is not necessary.	1	\$10,000	\$10,000	
Sub Total Studio				\$62,800	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Council Chambers					
Council Chambers					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Up to 1080p and capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	4	\$10,000	\$40,000	
Audio Microphones (Wired)	Wired microphones with Mute functions and lectern microphones (Gooseneck).	12	\$175	\$2,100	
Audio Microphones (Wireless)	Complete wireless microphone system with transmitter and receiver.	2	\$600	\$1,200	
TV Monitors	65 inch.	4	\$700	\$2,800	
Assisted Listening Devices	System designed to aid the hearing impaired listen to meetings. Wireless assistive listening system designed to accommodate up to 5 users. Includes wireless transmitters and 5 belt-pack receivers with headphones.	3	\$1,000	\$3,000	County, C-Tran and City Hall
Digital DSP Audio Mixing System	System includes all DSP audio functions. Complete with gating limiting and automatic audio mixing of all microphone inputs.	1	\$10,000	\$10,000	
Sub Total Council Chamber				\$59,100	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Aspen Room					
Aspen Room					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	4	\$10,000	\$40,000	
Audio System Microphones (Wireless)	Gooseneck wireless microphone system to include 12 microphones and rechargeable batteries/docking station.	1	\$10,000	\$10,000	
Video Projection System	LCS Laser Projector capable of at minimum 4500 lumens of brightness. Also capable of HIM and DH Batse-T connections.	1	\$2,500	\$2,500	
Sub Total Aspen Room				\$52,500	
Control Room	Studio/Council Chambers/Aspen Room				
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, file storage, virtual set technology and multi-viewer output. Also capable of chromakey production. 22 input.	1	\$50,000	\$50,000	
Robotic Camera Control	Controller should be capable of controlling multiple cameras with the ability of stored presets and camera setup capability.	1	\$2,500	\$2,500	
Character Generator	Prices vary greatly depending on features, I/O, and single/multi-channel systems. System could include built-in stillstore, 3D graphics, and motion clip playback. If included in the Switcher, this category is not necessary.	1	\$5,000	\$5,000	
Audio Mixing	Price for adding stereo digital audio mixing. Digital audio conversion is not necessary immediately, but should be considered for migration during the life of the franchise. This cost reflects the price of a digital mixing console of 32 inputs.	1	\$2,000	\$2,000	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	2	\$700	\$1,400	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/4K.	1	\$1,000	\$1,000	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$1,500	\$1,500	
Cooling Systems	Capable of cooling 20 BTU's for every square foot of space needed with a low sound to noise level and a high energy efficiency ratio.	1	\$15,000	\$15,000	
Misc D/A's and cabling	This is for miscellaneous distribution of signals from the HD/4K equipment.	1	\$2,000	\$2,000	
Sub-Total Control				\$80,400	
Total Control				\$254,800	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
City Library					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	4	\$10,000	\$40,000	
Sub-Total Library				\$40,000	
Library Control Room					
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, file storage, virtual set technology and multi-viewer output. Also capable of chromakey production. 10 input.	1	\$50,000	\$50,000	
Robotic Camera Control	Controller should be capable of controlling multiple cameras with the ability of stored presets and camera setup capability.	1	\$2,500	\$2,500	
Character Generator	Prices vary greatly depending on features, I/O, and single/multi-channel systems. System could include built-in stillstore, 3D graphics, and motion clip playback. If included in the Switcher, this category is not necessary.	1	\$5,000	\$5,000	
Audio Mixing	Price for adding stereo digital audio mixing. Digital audio conversion is not necessary immediately, but should be considered for migration during the life of the franchise. This cost reflects the price of a digital mixing console of 32 inputs.	1	\$2,000	\$2,000	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	2	\$700	\$1,400	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$3,500	\$3,500	
Misc D/A's and cabling	This is for miscellaneous distribution of signals from the HD/4K equipment.	1	\$2,000	\$2,000	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/4K.	1	\$1,000	\$1,000	
Sub-Total Library Control Room				\$67,400	
Total Library/Library Control				\$107,400	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
County Rooms					
Hearing Room					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	4	\$10,000	\$40,000	
Audio Microphones (Wired)	Wired microphones with Mute functions and lectern microphones (Gooseneck).	12	\$175	\$2,100	
Audio Microphones (Wireless)	Dynamic cardioid microphones. Handheld.	2	\$150	\$300	
Sub-Total Hearing Room				\$42,400	
Training Room					
Cameras	These cameras are robotic, PTZ. Capable of SDI or HDMI/4K output. Capable of power over ethernet. Costs listed are per camera and could include tripod or wall mounted adapter.	3	\$10,000	\$30,000	
Audio Microphones (Wireless)	Gooseneck wireless microphone system to include 8 microphones and rechargeable batteries/docking station.	1	\$4,000	\$4,000	
Sub-Total Training Room				\$34,000	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Hearing/ Training Room Control					
Switcher	Capable of HD/4K production. Includes one M/E capable of upstream and downstream keying, file storage, virtual set technology and multi-viewer output. Also capable of chromakey production. 10 input.	1	\$50,000	\$50,000	
Robotic Camera Control	Controller should be capable of controlling multiple cameras with the ability of stored presets and camera setup capability.	1	\$2,500	\$2,500	
Character Generator	Prices vary greatly depending on features, I/O, and single/multi-channel systems. System could include built-in stillstore, 3D graphics, and motion clip playback. If included in the Switcher, this category is not necessary.	1	\$5,000	\$5,000	
Audio Mixing	Price for adding stereo digital audio mixing. Digital audio conversion is not necessary immediately, but should be considered for migration during the life of the franchise. This cost reflects the price of a digital mixing console of 16 inputs.	1	\$1,500	\$1,500	
Multi-View Monitor	Monitors to be used to display multiviewer images. Assuming 2- 48" monitors.	2	\$700	\$1,400	
Engineering Monitor	Used for monitoring video output signal. Should incorporate built-in waveform/vector scope. Capable of analyzing digital signals including HD/4K.	1	\$1,000	\$1,000	
Solid State Recorder	Recorder should be capable of multiple SD, compact flash cards, or solid state and should integrate with entire facility workflow.	1	\$3,500	\$3,500	
Misc D/A's and cabling	This is for miscellaneous distribution of signals from the HD equipment.	1	\$2,000	\$2,000	
Sub-Total Control Room				\$66,900	
Total County Rooms/Control Rooms				\$143,300	

City of Vancouver/Clark County (CVTV)					
Equipment Title	Description*	Quantity	Unit Price	Total	Comments
Ancillary Equipment**					
Ancillary Equipment	Ancillary/ Support Equipment such as cabling, microphones, stands, tripods, portable production accessories, racks, batteries, cards, office equipment, etc. will be an average aggregated total in the summary spreadsheet.	1	\$10,000	\$10,000	
Total Ancillary				\$10,000	

Sub-Total One Time Implementation & Upgrade Cost		\$1,240,760
Sales Tax		8.8%
Sub-Total		\$1,349,947
30% Inst/Train/Warranty		\$372,228
Plus Ancillary Cost		\$10,000
Total One Time Implementation & Upgrade Cost		\$1,732,175
* Description of type of equipment needed for each major item in a functional area, and brief purpose. HD/4K costs are based on 1080/3840p format.		
** This is included as a unit cost in the one-time transition cost calculation to ensure that it is reflected. In actuality, the one time cost for ancillary equipment will likely be higher until it reflects the next replacement of each item. The maximum extended costs would be the 10 year total of \$100,000.		

City of Vancouver/Clark County (CVTV)														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Field Acquisition														
Camera Field Packages	3	\$12,000	\$36,000			\$36,000					\$36,000			\$72,000
Camera Field Packages (DSLR)	2	\$3,500	\$7,000				\$7,000					\$7,000		\$14,000
Audio Field Packages	1	\$2,500	\$2,500		\$2,500							\$2,500		\$5,000
Flypack	1	\$175,000	\$175,000	\$175,000							\$175,000			\$350,000
Flypack	1	\$50,000	\$50,000		\$50,000							\$50,000		\$100,000
Mobile Production Vehicle	3	\$50,000	\$150,000				\$50,000	\$50,000	\$50,000					\$150,000
Total Field Acquisition			\$420,500	\$175,000	\$52,500	\$36,000	\$57,000	\$50,000	\$50,000	\$0	\$211,000	\$59,500	\$0	\$691,000

Post Production														
Ingestion	1	\$1,000	\$1,000		\$1,000						\$1,000			\$2,000
Audio Mixing	1	\$500	\$500		\$500						\$500			\$1,000
Engineer Monitoring	1	\$1,000	\$1,000		\$1,000						\$1,000			\$2,000
Edit Systems	1	\$5,000	\$5,000		\$5,000						\$5,000			\$10,000
Portable Edit Systems	6	\$3,500	\$21,000		\$21,000						\$21,000			\$42,000
Editing Software	7	\$400	\$2,800		\$2,800						\$2,800			\$5,600
Solid State Recorder	1	\$3,500	\$3,500		\$3,500						\$3,500			\$7,000
Total Post Production			\$34,800	\$0	\$34,800	\$0	\$0	\$0	\$0	\$0	\$34,800	\$0	\$0	\$69,600

City of Vancouver/Clark County (CVTV)														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Infrastructure Requirements														
Optical Transmitters/ Receivers	12	\$1,500	\$18,000	\$18,000							\$18,000			\$36,000
Video Over Ethernet Encoder/Decoder Pair	1	\$5,000	\$5,000	\$5,000							\$5,000			\$10,000
Bonded Cellular Technology	1	\$30,000	\$30,000	\$30,000							\$30,000			\$60,000
Closed Caption Encoder	2	\$10,000	\$20,000	\$20,000							\$20,000			\$40,000
Cabling	1000	\$5.00	\$5,000	\$5,000							\$5,000			\$10,000
Routing	1	\$5,000	\$5,000	\$5,000							\$5,000			\$10,000
Patching	2	\$600	\$1,200	\$1,200							\$1,200			\$2,400
Signal Converters	2	\$4,000	\$8,000	\$8,000							\$8,000			\$16,000
Total Infrastructure			\$92,200	\$92,200	\$0	\$0	\$0	\$0	\$0	\$0	\$92,200	\$0	\$0	\$184,400

General Production Requirements														
Archival Storage	160	\$500	\$80,000	\$20,000			\$20,000			\$20,000			\$20,000	\$80,000
LTO Storage	576	\$10	\$5,760	\$5,760							\$5,760			\$11,520
Server-Based Playback System	2	\$50,000	\$100,000			\$100,000							\$100,000	\$200,000
On Demand Streaming Encoders	2	\$1,000	\$2,000			\$2,000							\$2,000	\$4,000
Total General Production			\$187,760	\$25,760	\$0	\$102,000	\$20,000	\$0	\$0	\$20,000	\$5,760	\$0	\$122,000	\$295,520

City of Vancouver/Clark County (CVTV)														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Studio														
Studio														
Cameras	3	\$10,000	\$30,000	\$30,000							\$30,000			\$60,000
Teleprompter System	1	\$1,800	\$1,800	\$1,800							\$1,800			\$3,600
Monitoring	2	\$500	\$1,000	\$1,000							\$1,000			\$2,000
Lighting System	1	\$20,000	\$20,000	\$20,000							\$20,000			\$40,000
Virtual Set Technology	1	\$10,000	\$10,000	\$10,000							\$10,000			\$20,000
Sub-Total Studio			\$62,800	\$62,800	\$0	\$0	\$0	\$0	\$0	\$0	\$62,800	\$0	\$0	\$125,600
Council Chambers														
Council Chambers														
Cameras	4	\$10,000	\$40,000	\$40,000							\$40,000			\$80,000
Audio Microphones (Wired)	12	\$175	\$2,100	\$2,100							\$2,100			\$4,200
Audio Microphones (Wireless)	2	\$600	\$1,200	\$1,200							\$1,200			\$2,400
TV Monitors	4	\$700	\$2,800	\$2,800							\$2,800			\$5,600
Assisted Listening Devices	3	\$1,000	\$3,000	\$3,000							\$3,000			\$6,000
Digital DSP Audio Mixing System	1	\$10,000	\$10,000	\$10,000							\$10,000			\$20,000
Sub-Total Council Chambers			\$59,100	\$59,100	\$0	\$0	\$0	\$0	\$0	\$0	\$59,100	\$0	\$0	\$118,200

City of Vancouver/Clark County (CVTV)														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Aspen Room														
Aspen Room														
Cameras	4	\$10,000	\$40,000	\$40,000							\$40,000			\$80,000
Audio Microphones (Wireless)	1	\$10,000	\$10,000	\$10,000							\$10,000			\$20,000
Video Projection System	1	\$2,500	\$2,500	\$2,500							\$2,500			\$5,000
Sub-Total Main Room			\$52,500	\$52,500	\$0	\$0	\$0	\$0	\$0	\$0	\$52,500	\$0	\$0	\$105,000
Control Room (Studio, Council Chambers, Aspen Room)														
Switcher	1	\$50,000	\$50,000	\$50,000							\$50,000			\$100,000
Robotic Camera Control	1	\$2,500	\$2,500	\$2,500							\$2,500			\$5,000
Character Generator	1	\$5,000	\$5,000	\$5,000							\$5,000			\$10,000
Audio Mixing	1	\$2,000	\$2,000	\$2,000							\$2,000			\$4,000
Multi-View Monitor	2	\$700	\$1,400	\$1,400							\$1,400			\$2,800
Engineering Monitor	1	\$1,000	\$1,000	\$1,000							\$1,000			\$2,000
Solid State Recorder	1	\$1,500	\$1,500	\$1,500							\$1,500			\$3,000
Cooling System	1	\$15,000	\$15,000	\$15,000							\$15,000			\$30,000
Misc D/A's and cabling	1	\$2,000	\$2,000	\$2,000							\$2,000			\$4,000
Sub-Total Studio Control			\$80,400	\$80,400	\$0	\$0	\$0	\$0	\$0	\$0	\$80,400	\$0	\$0	\$160,800
Total Room/Room Control			\$254,800	\$254,800	\$0	\$0	\$0	\$0	\$0	\$0	\$254,800	\$0	\$0	\$509,600

City of Vancouver/Clark County (CVTV)														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
City Library														
City Library														
Cameras	4	\$10,000	\$40,000		\$40,000							\$40,000		\$80,000
Sub-Total Library			\$40,000	\$0	\$40,000	\$0	\$0	\$0	\$0	\$0	\$0	\$40,000	\$0	\$80,000
Library Control Room														
Switcher	1	\$50,000	\$50,000		\$50,000							\$50,000		\$100,000
Robotic Camera Control	1	\$2,500	\$2,500		\$2,500							\$2,500		\$5,000
Character Generator	1	\$5,000	\$5,000		\$5,000							\$5,000		\$10,000
Audio Mixing	1	\$2,000	\$2,000		\$2,000							\$2,000		\$4,000
Multi-View Monitor	2	\$700	\$1,400		\$1,400							\$1,400		\$2,800
Solid State Recorder	1	\$3,500	\$3,500		\$3,500							\$3,500		\$7,000
Misc D/A's and cabling	1	\$2,000	\$2,000		\$2,000							\$2,000		\$4,000
Engineering Monitor	1	\$1,000	\$1,000		\$1,000							\$1,000		\$2,000
Sub-Total Library Control			\$67,400	\$0	\$67,400	\$0	\$0	\$0	\$0	\$0	\$0	\$67,400	\$0	\$134,800
Total Main Room/Room Control			\$107,400	\$0	\$107,400	\$0	\$0	\$0	\$0	\$0	\$0	\$107,400	\$0	\$214,800

City of Vancouver/Clark County (CVTV)														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
County Rooms														
Hearing Room														
Cameras	4	\$10,000	\$40,000			\$40,000							\$40,000	\$80,000
Audio Microphones (Wired)	12	\$175	\$2,100			\$2,100							\$2,100	\$4,200
Audio Microphones (Wireless)	2	\$150	\$300			\$300							\$300	\$600
Sub-Total Hearing Room			\$42,400	\$0	\$0	\$42,400	\$0	\$0	\$0	\$0	\$0	\$0	\$42,400	\$84,800
Training Room														
Cameras	3	\$10,000	\$30,000			\$30,000							\$30,000	\$60,000
Audio Microphones (Wireless)	1	\$4,000	\$4,000			\$4,000							\$4,000	\$8,000
Sub-Total Training Room			\$34,000	\$0	\$0	\$34,000	\$0	\$0	\$0	\$0	\$0	\$0	\$34,000	\$68,000
Hearing/Training Room Control														
Switcher	1	\$50,000	\$50,000			\$50,000							\$50,000	\$100,000
Robotic Camera Control	1	\$2,500	\$2,500			\$2,500							\$2,500	\$5,000
Character Generator	1	\$5,000	\$5,000			\$5,000							\$5,000	\$10,000
Audio Mixing	1	\$1,500	\$1,500			\$1,500							\$1,500	\$3,000
Multi-View Monitor	2	\$700	\$1,400			\$1,400							\$1,400	\$2,800
Engineering Monitor	1	\$1,000	\$1,000			\$1,000							\$1,000	\$2,000
Solid State Recorder	1	\$3,500	\$3,500			\$3,500							\$3,500	\$7,000
Misc D/A's and cabling	1	\$2,000	\$2,000			\$2,000							\$2,000	\$4,000
Sub-Total Room Control			\$66,900	\$0	\$0	\$66,900	\$0	\$0	\$0	\$0	\$0	\$0	\$66,900	\$133,800
Total Main County Rooms/Rooms Control			\$143,300	\$0	\$0	\$143,300	\$0	\$0	\$0	\$0	\$0	\$0	\$143,300	\$286,600

City of Vancouver/Clark County (CVTV)														
Equipment Title	Quantity	Unit Cost	Total Cost	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Ancillary Equipment														
Ancillary Equipment	1	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Total Ancillary			\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
Yearly Equipment Totals				\$547,760	\$194,700	\$281,300	\$77,000	\$50,000	\$50,000	\$20,000	\$598,560	\$166,900	\$265,300	\$2,251,520
Sales Tax (8.8%)				\$48,203	\$17,134	\$24,754	\$6,776	\$4,400	\$4,400	\$1,760	\$52,673	\$14,687	\$23,346	\$198,134
Sub-Total				\$595,963	\$211,834	\$306,054	\$83,776	\$54,400	\$54,400	\$21,760	\$651,233	\$181,587	\$288,646	\$2,449,654
30% Inst/Train/Warranty				\$164,328	\$58,410	\$84,390	\$23,100	\$15,000	\$15,000	\$6,000	\$179,568	\$50,070	\$79,590	\$675,456
Plus Ancillary Cost				\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$100,000
TOTAL				\$770,291	\$280,244	\$400,444	\$116,876	\$79,400	\$79,400	\$37,760	\$840,801	\$241,657	\$378,236	\$3,225,110
Sub-Total One Time Implementation & Upgrade Cost			\$1,240,760											
Sales Tax			8.8%											
Sub-Total			\$1,349,947											
30% Inst/Train/Warranty			\$372,228											
Plus Ancillary Cost			\$10,000											
Total One Time Implementation & Upgrade Cost			\$1,732,175											

10-Year Cost Summary

Entity Description	YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10	10 Year Total
Battle Ground Public Schools	\$220,698	\$322,300	\$10,000	\$10,000	\$27,350	\$10,000	\$10,000	\$25,129	\$339,650	\$10,000	\$985,128
Evergreen Public Schools	\$365,050	\$526,336	\$280,660	\$10,000	\$619,610	\$10,000	\$239,575	\$268,723	\$130,756	\$10,000	\$2,460,710
Vancouver Public Schools	\$86,756	\$621,830	\$32,208	\$521,617	\$513,844	\$16,940	\$201,544	\$54,971	\$240,408	\$114,100	\$2,404,219
TV-ETC	\$370,602	\$164,623	\$26,656	\$10,000	\$16,246	\$10,000	\$241,657	\$95,223	\$10,000	\$28,044	\$973,052
City of Vancouver/Clark County (CVTV)	\$770,291	\$280,244	\$400,444	\$116,876	\$79,400	\$79,400	\$37,760	\$840,801	\$241,657	\$378,236	\$3,225,110
Total	\$1,813,398	\$1,915,333	\$749,968	\$668,493	\$1,256,450	\$126,340	\$730,536	\$1,284,848	\$962,471	\$540,380	\$10,048,219