

PEG and Localism in the New Media Age: A Strategic Plan for the Carroll County Community Media Center

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1. Executive Summary

The Carroll County Community Media Center (CMC) has embarked on an effort to determine a strategic vision for the future in light of rapidly changing technological and regulatory environments. As part of that effort, Columbia Telecommunications Corporation (CTC) was asked by the CMC to prepare a strategic technology plan. CTC performed this work in the fall and early winter of 2007. This document represents a summary report of our analysis.

The purpose of this endeavor is to identify opportunities for expanding the role of the CMC for the benefit of the County's public, educational, and government (PEG) entities and PEG viewers--as well as the public, local governments, and community groups. This Report recommends specific opportunities and strategies, estimates costs, and provides market analysis, as they relate to meeting stakeholder technology needs and the needs of the public for quality local content.

The CMC is ahead of the great majority of PEG operators around the country with respect to its foresight in recognizing the need to develop technical and business strategies that account for enormous change in technology and uncertainty in the regulatory environment. In this way, the CMC is working to secure a future that may not include traditional cable distribution of video signals – which is potentially uncertain in the face of rapid-paced technological shifts and convergence.

In context of these changes, the CMC is a leader among PEG operators in developing paradigms beyond those traditional for access programming—by evaluating new technologies and new media to determine how they will serve the traditional PEG values of localism, local interests, and local programming.

1.1 Stakeholders look to the CMC for local content, production support, and IT/emergency services

The CMC listens closely to the community it serves. At the CMC's request, CTC conducted meetings with key stakeholders regarding key needs and requirements. This Report documents the stakeholders' extensive input into how the CMC can meet specific needs of Carroll County's municipalities and residents.

This discussion summarizes the highlights of the interviews conducted by CTC on behalf of the CMC. The discussions of current and future needs are presented as expressed by those interviewed by CTC staff.

The stakeholders all value localism and local content – and see the creation and dissemination of content about their community, by their community, as important to the life of Carroll County and its residents. The interests of the stakeholders in local content ranges across a wide variety of areas: virtually all the municipalities prioritize public access to government processes and meetings such as Town Council meetings; all stakeholders prioritize community life events ranging from parades to school sports and arts events to holiday events; all value educational content such as library events and speaker series. A number of stakeholders note the importance of personal and community histories to the residents of Carroll County and speak approvingly of the opportunity for the CMC to host and disseminate oral histories, community histories, and genealogical information.

With respect to technology services to local governments, all stakeholders see urgent, significant needs for communicating more information to the public, expediting routine processes, maximizing use of existing staff, and, above all else, finding low cost ways to implement the enabling technologies for each of these community needs more effectively. All the entities CTC interviewed see value in realizing economies of scale by collaborating, at least at the technological level, with their counterparts in other municipalities or entities throughout the County. Moreover, nearly all municipalities expressed an interest in participating in, or being provided with a range of new services, including public emergency alert capabilities; enhanced web presence, including streaming video; and increased local video production, particularly of public meetings.

1.2 Summary of Strategic Recommendations

Below, CTC provides a number of recommendations in a variety of areas. The “inputs” to these recommendations are the key data described above: (1) the project goals; (2) the new media context in which the CMC operates; and (3) the CMC’s core mission. The final—and equally important—input is stakeholder needs (described in detail below). To reach our strategic recommendations, CTC evaluated goals, environment, and mission in light of the needs of the community.

The recommendations are listed below in order of priority. Each of these recommendations is described in greater detail in Section 3 below.

In summary, CTC offers the following recommendations as a result of the work done to date in evaluating a strategic direction for the CMC:

1.2.1 Immediate Goal: develop a robust, interactive web-presence

Centrally and most significantly, we recommend that the CMC embrace new media and build a robust web-presence into its operations. Specifically, we recommend that the

CMC broaden its technological distribution to include Internet and digital media, offering both CMC-produced content and user-generated content over a robust web-presence.

This course of action is entirely within the CMC's mission and in-keeping with its history. First, it enables the CMC to repurpose its existing content and offer it to the community on an on-demand basis. Second, by incorporating user-generated content into a locally-focused web presence, the CMC can mesh two important components of public access—localism and accessibility of production—through new media technologies. The user-generated media phenomenon represents a new incarnation of what public access has been doing since the birth of PEG in the 1970s. YouTube and its progeny have made available to the world the opportunity to participate in something like public access (both as a programmer and as a viewer) on an on-demand basis and on a global scale.

But existing commercial user-generated sites lack the localism that is a hallmark of public access and that is such an important part of the public access mission.

1.2.1.1 The Business Case

Expansion to new media is an advisable course for the CMC as regulatory and technology environments change. Simply put, cable-based traditional public access may not have a future in an increasingly IP-based, deregulatory environment. To hedge against this risk, the CMC can protect its role within the community by developing additional means of distributing public access content. In other words, as it continues to work to enhance its production infrastructure, the CMC should also be sure it has in place a multi-layered public access distribution infrastructure.

There is an even stronger business rationale for this new strategy: to increase the value of the CMC to the community for purposes of ensuring community, political, and financial support. The CMC's future is dependant its image and reputation as a key cultural institution—on the cutting edge of technology—within this community. Such an image created a sustainable, long-term argument for public funding of this institution, whether through cable franchise fees or other means. Simply put, the CMC's goal is to enhance its reputation and centrality in Carroll County, because that reputation will ensure its future. To do this, the CMC should be recognized as the home of important local content and creative technology policy in Carroll County. In addition, the CMC can use this new web presence expand the demographics of those community members who use—and who are touched by—the CMC, by introducing the YouTube-generation to PEG in an online format and by serving other generations by enabling them to consume and share content about their lives and those of their families.

1.2.1.2 Startup and Ongoing Costs

CTC estimates that the startup cost for this project would entail between \$15,000 and \$50,000 based on an in-house model, or \$1,500 to \$11,000 based on an outsourced hosting model. Beyond the startup period, however, long term operations likely shift the economics towards hosting the site in-house.

It's also important to note that, beyond the initial equipment requirements, the great majority of the cost of this project relates to staffing in the form of a web developer.

The following table roughly summarizes the costs of the two options.

Estimated Startup Costs	In-House Hosting	Outsourced Hosting Solution
Software and licensing	\$0 to \$10,000	<\$1,000
Network hardware and installation	\$5,000 to \$10,000	Included
Server hardware and installation	\$10,000 to \$20,000	Included
Web development services	\$500 to \$10,000	\$500 to \$10,000
Implementation Total:	\$15,500 to \$50,000	\$1,500 to \$11,000
Estimated Ongoing Costs (Annual)		
Server monitoring	\$500	\$4,000 to \$10,000
Hardware and software maintenance	\$2,000 to \$6,000	Included
Internet bandwidth	\$20,000	\$10,000
Engineering and web development	\$60,000 to \$75,000	\$60,000 to \$75,000
Annual Operation Total:	\$82,500 to \$101,500	\$74,000 to \$95,000

1.2.1.3 Potential Economies of Scale

By building the capacity to design and host its own website, the CMC will realize economies relative to designing and hosting websites for some of its key stakeholders, the municipalities. A number of the municipalities signaled an interest in such a service from the CMC. These sites could serve both as a modest source of revenue, a public service,

and yet another distribution mechanism for the public policy/process content the CMC produces.

There will be only marginal incremental cost for each of the websites envisioned for the municipalities, assuming appropriate staffing and either the outsourced or the in-house hosting model.

1.2.2 Immediate Goal: develop a citizen alert system for municipalities

CTC recommends that the CMC offer to the municipalities an aggregated, cost-effective public emergency notification and alert system utilizing e-mail and text messaging. Unlike the other IT services proposed below, this strategy is not dependant on unrestricted access to the fiber optics between the CMC and the municipalities.

This mass notification emergency alert system will meet a key need expressed by stakeholders. The system would allow municipalities to alert citizens and provide critical information during an emergency or severe weather event, with most messages delivered to all citizens in a matter of minutes via their email addresses, cell phones, pagers or any other wireless device. By individually targeting messages to people via the device of their choice, the likelihood of each citizen receiving the message is dramatically increased compared to standard broadcast emergency alerts. Moreover, these systems can be used for non-emergency notifications, such as major traffic alerts and road closings, with each subscriber to the system able to select the categories of messages they want to receive.

This cost estimate assumes participation of all municipalities within Carroll County, as well as in-house hosting costs on an incremental basis relative to an increased IT capability and web-presence necessitated by other strategic recommendations in this report. The following table summarizes the estimated costs for the system deployment.

Startup Cost Component	<i>Estimated Cost</i>
Software and licensing (50,000 subscribers)	\$50,000
Server hardware and installation	\$15,000 to \$25,000
Implementation Total:	\$60,000 to \$75,000
Ongoing Cost Component (Annual)	<i>Estimated Cost</i>
Hardware and base software maintenance	\$5,000
Subscriber-based licensing/maintenance (50,000 subscribers)	\$15,000
Annual Operation Total:	\$20,000



This cost, shared by all the municipalities, offers dramatic savings relative to efforts by individual municipalities to accomplish the same functionality alone.

1.2.3 Immediate Goal: offer opportunities to student web developers

We recommend that the CMC partner with the local community colleges and even high schools to leverage cost-effective student technology (and particularly web-development) skills in the new areas recommended here—thereby also enabling local young people to develop experience and credentials in promising new media fields.

1.2.4 Medium-Term Goal: develop content to appeal to a broader demographic

This Report recommends a range of programming ideas (and partnerships) based on the suggestions and needs of CMC stakeholders, including school sports and activities; government meetings and events; and technology-focused content such as the Technology Council speaker series and technology/Internet education programs.

The Report also recommends that the CMC consider allocating resources toward providing high level oversight and instruction in the areas of community access video production for a wider range of clientele, and reducing turnkey production services. The growth of Internet-based public media venues demonstrates that a substantial market exists for video content that lacks some of the polish of professionally produced content, but that has a high degree of relevance to targeted audiences.

This recommendation is intended to enable the CMC to offer programming that stimulates local discussion of technology, educates, and underscores the CMC's role as a local technology thought-leader—and that is geared to a variety of age-groups and interests.

1.2.5 Medium-Term Goal: enable genealogy, oral history content

CTC recommends that the CMC use the new web-site to highlight, stimulate, and enable user-generated content that focuses on local history, family histories, and genealogy—so as to further the CMC's mission to further localism and to preserve local stories.

Local history is one area of particular interest to CMC stakeholders and the broader Carroll County community. CTC recommends that the CMC supplement and complement its professionally-produced programming with user-produced programming; provide training courses for user-production (and posting to the “CarrollTube” site) of oral histories, family genealogical data, and other local history-related content; and potentially assist community-members with digital conversion of existing analog video tapes and other legacy film media.

This local history/genealogy project could be an important way to reach out to seniors in the community and interest them in new media.

1.2.6 Longer-Term Goal: leverage physical assets to meet stakeholder needs

In the longer term, CTC recommends that the CMC leverage the CMC building itself to offer services enabled by this world-class asset and to expand the CMC’s user-base. The building can serve the CMC’s goals and missions by opening the building to the public under limited circumstances—further enhancing the CMC’s role as a digital community center—on cable, online, and in physical reality. It would provide the bricks and mortar equivalent of public access: a community meeting place, where citizens meet, create content, share information, learn, and exchange views. The facility would offer affordable, accessible space to support public dialogue, and offer media and production training to those who would not otherwise have access.

Specific, cautious strategies toward this vision could include:

- Partnering with the neighboring high school, Arts Council building, and Career and Tech Center and co-hosting (and cable-casting) events in their performance and symposium spaces--making the CMC building part of the events by hosting modest receptions before or after.
- Hosting civic events at the CMC itself with co-sponsorship from other community institutions such as the Tech Council, Economic Development Department, Chamber of Commerce, Libraries, and Schools. The CMC is naturally a forum for dynamic civic dialog – a public space wired for cablecast and streaming media.
- Adding an open public space to the CMC building as part of the planned expansion--perhaps a community Internet café for CMC stakeholders and public access participants, that would extend outside during the summer. CTC engineers estimate that the CMC could offer free wireless throughout its building and in the immediate surrounding outdoor area for no more than a one-time charge of a few hundred dollars.

- Offering free WiFi also to the outdoor areas around neighboring buildings. CTC engineers estimate that for not more than a couple of thousand dollars, WiFi could potentially reach up to 1,500 feet from the building, perhaps enabling limited penetration into the Career and Tech Center. To offer fuller coverage to the neighboring buildings could be as low as a few thousand dollars, using low-cost, off-the-shelf materials for a wireless point-to-point system to those buildings, with access points within those buildings.

1.2.7 Longer-Term Goal: provide IT services to municipalities

Also in the longer term, CTC recommends that the CMC broaden its service role to meet stakeholder needs, include IT and wireless broadband services to the public sector that can affordably be offered and housed in the CMC facility.

CMC stakeholder municipalities note growing requirements for IT services that can more cost-effectively be met on an aggregated, rather than individual, basis. The CMC can meet stakeholder needs by hosting and managing such systems and services as centralized e-mail servers, offering greater functionality, storage, and reliability than free or low-cost services from many Internet Service Providers; Voice-over-IP telephone system to reduce telecommunications charges and increase telephone service reliability; offsite data backup and server mirroring to protect against catastrophic data loss due to hardware failure, natural disaster, fire, and other events; website hosting, development, monitoring, and updating; high-speed Internet access; and central videoconferencing services.

In each case, the CMC could potentially offer a competitive alternative to commercial services by aggregating the needs of several of its stakeholders to realize economies of scale.

Each of these services requires access to the I-Net and PEG fiber that currently links the CMC and the municipalities in order to enable the cost-effectiveness that would serve the stakeholders. CTC recommends that the CMC work with the Cable Regulatory Commission to negotiate with Comcast access for non-commercial purposes to the existing fiber. The CRC is supportive of this vision and is willing to address this issue with Comcast, with this Report serving as documentation of community needs and interests.

CTC also recommends that the CMC consider working with the municipalities to provide centrally managed, non-commercial, public wireless Internet hotspots in or around municipal downtown areas. This need was clearly expressed by a number of the municipalities during the interviews. This strategy is in keeping with the CMC's mission to expand access to local content and public interest media.

Key to this project also is expanded access to the PEG fiber that runs between the CMC and the municipalities. In an environment in which restrictions on the fiber are relaxed, as is possible as a result of the upcoming cable franchise negotiations, the fiber could be effectively used for non-commercial WiFi backhaul, an ideal application for the CMC.

CTC believes that public interest WiFi can be cost-effectively deployed by a creative partnership of public entities in Carroll County at the instigation (and under the leadership) of the CMC. The partnership would consist of the CMC, the municipalities, and perhaps other entities such as the libraries, County, and CRC.

1.3 Report Methodology

To adequately evaluate a range of strategic directions in light of these goals, CTC's staff of engineers and analysts undertook the following tasks:

- Met with the CMC Board of Directors Strategic Planning Committee, so that CTC could understand the interests, concerns, and parameters of this key subset of the CMC Board
- Met with policy-makers, including Commissioner Dean Minnich and County Manager Steve Powell
- Met with interviewed key CMC staff, including Executive Director Marion Ware and the CMC's accounting consultant
- Met with and interviewed Mr. Ken Decker and Dr. Robert Wack of the Carroll Cable Regulatory Commission, a key strategic partner of the CMC. These meetings were intended to align strategic directions in light of the upcoming cable franchise renewal with Comcast Cable
- Interviewed key stakeholders and existing PEG partners, including:
 - Town of Sykesville
 - Town of Union Bridge
 - Carroll County Board of Education
 - Town of Hampstead
 - Carroll County Public Library
 - Carroll County Technology Council
 - Carroll County Career and Technology Center
 - City of Westminster
 - Carroll County Community College
 - Town of New Windsor
 - Town of Mount Airy
 - City of Taneytown
 - Town of Manchester

- Reviewed background and historical documents to understand existing business and financial model
- Reviewed and analyzed other similar PEG centers' strategic plans (both within Carroll County's geographic region and around the nation) with particular emphasis on emerging innovative strategies for incorporating new media into PEG services
- Reviewed financial records to assess financial assets and identify future funding challenges
- Analyzed community needs, with focus on an expanded range of digital media services the CMC can provide using potential, future I-Net fiber to meet the needs of the municipalities. This analysis serves to document these community needs and interests for purposes of the upcoming cable franchise renewal with Comcast
- Presented and facilitated an interactive workshop "summit" on broadband issues to stimulate community discussion of these issues, and to develop the image of the CMC as a thought-leader on technology issues within the County

2. The Goals of this Strategic Planning Process

In order to create reasonable boundaries and mileposts around this expanded mission, CTC recommends a unifying set of goals for the new strategic direction for the CMC. The goals are based on information learned during discussions with key stakeholders, including the CMC's Executive Director, members of its Board of Directors, and key community members. Ideally, the goals should direct all aspects of the strategic planning project and should serve to establish parameters for all recommended strategies.

First and foremost, we recognize and endorse the CMC's stakeholders' most significant overall strategic goal: to demonstrate and enhance the value of the CMC to the Carroll County community so as to ensure consistent community, political, and financial support. This goal represents a recognition that the CMC must serve this community to maintain meaning, to continue to receive funding, and to further develop broad-based community support. The CMC's future is dependant on recognition by policy-makers in this community that the CMC benefits the community – these benefits are the intended results of this strategic planning process and all future strategic and tactical efforts. In this way, the CMC can create a sustainable, long-term argument for public funding of this institution, whether through cable franchise fees or other means. Simply put, the CMC's goal is to enhance its reputation and centrality in Carroll County, because that reputation will ensure its future.

A number of “sub-goals” will drive achievement of the overall strategic goal. The first sub-goal is to continue the CMC's image broadening and expansion of the CMC brand. Ideally, the CMC should be recognized as the home of important local content and creative technology policy in Carroll County. The CMC made a strong start on realizing this goal by initiating a series of community symposia—the first one, on the topic of national broadband planning, was held at the CMC in October 2007. This strategic planning document should serve to reinforce that goal—as should implementation of this document's recommendations.

The second sub-goal is to expand the demographics of those community members who use—and who are touched by—the CMC. In particular, the CMC intends to introduce a new generation to PEG—a generation that is “post-television” and that consumes content over new media as well as over one-way video. In addition, the CMC seeks to serve the County's growing senior generation through a new generation of PEG—seniors represent key consumers both of one-way video and of user-generated video related to their own lives and that of their families—a significant user-base for some of the CMC's new strategies. The third sub-goal is to expand both services and market so as to build the CMC's stakeholder base and realize modest long-term revenue generation potential.

Each of these goals should be served by the recommendations below.

3. The CMC Exists in a New and Evolving Media Landscape

Television made its consumer debut at the 1939 World Fair and was widely adopted in the United States in the 1950s and '60s. Cable was born in the 1960s and '70s to bring television signals to remote areas of the country; it spread nationwide in the 1980s. Technological, media, and regulatory environments have changed dramatically since then. These changes carry powerful implications for PEG entities such as the CMC.

3.1 The Media Environment Was Limited at the Time of PEG's Birth

In the early 1980s, as cable and PEG were being deployed across the country, the media market was dominated by three broadcast television networks. Most cable systems offered fewer than 35 channels over systems supporting a total capacity of 300 to 450 MHz. HBO was only a decade old, MTV was in its infancy, and there was no Discovery Channel. Interactive TV, Video-on-Demand, and fiber optics were "blue sky" concepts. PEG channels were available primarily in larger, metropolitan areas.¹

In the early '80s, the Internet (then known as ARPANET) was a virtually-unknown network that was used almost exclusively by the military, researchers, and academics. Only a select few could afford desktop computers and wide-area data connectivity. Mobile telephones were big-ticket items, limited in service area to large cities, and usually installed in cars because of the relatively large size of the electronic components.

3.2 The Media Environment Has Changed Dramatically Since PEG's Birth

Today, most cable systems have been upgraded with fiber optics that span most of the distance between the subscriber and the cable operator. This shift in cable infrastructure has greatly increased the overall capacity and performance of cable systems, enabling interactive two-way digital services that require the clean transmission paths that fiber offers. In much of the country, cable operators and phone companies offer high-speed Internet access and telephone services. Cable operators also offer hundreds of television channels, and phone companies are attempting to do the same.

¹ The Cable Policy Act of 1984 opened the door to PEG broadcasting by allowing local franchise authorities to negotiate for equipment and facilities in support of PEG access.

Today, computers are standard in offices and the majority of homes. Cells phones, smart phones, personal data assistants, and portable computers are everywhere. The current generation of these devices is equipped for wireless receipt of email and access to the Internet. Every media company has a website, most Internet Service Providers (ISPs) provide customers with their own websites for free or at a nominal fee, and streaming multimedia content is a staple for high-speed Internet-connected individuals.

These new technologies and Internet capacity make possible not only the provision of an extraordinary amount of content—but also interactive communications over formerly-one way media. Enabled by new technologies, the exchange of information within our society is beginning to migrate from a one-way broadcast format to a pervasively online and on-demand digital environment. The advancements in interactive cable services, specifically, demonstrate consumers' desire to have greater control over content and time usage. The exponential growth in digital storage capabilities and tremendous advancements in video compression technologies have enabled both Video-on-Demand (VoD) services, now widely available from all major cable operators, and Digital Video Recorders (DVR), available through cable operators, satellite television providers, and third party providers such as TiVo.

As we enter 2008, Americans watch “television” differently than they did at the birth of PEG in the 1970s and 1980s. In August 2007, 9.13 billion videos were viewed over the Internet in the United States. This number represents an almost 25 percent increase compared to just six months earlier, when 7.24 billion videos were viewed online, according to a comScore Inc. estimate cited in the Wall Street Journal.²

Americans are adopting Internet-based video in the 21st Century dramatically faster than we adopted television-based and cable-based video in the 20th. This growth is a phenomenon of the past five to eight years—but it is almost universally considered a harbinger of things to come, and potentially just the tip of the iceberg in terms of the interests of consumers in accessing video online in new and evolving ways.

For the moment, online video is viewed primarily on computers, either desktops or laptops. In the near future, online video will also increasingly be viewed on mobile devices (such as smart phones)—and on televisions. New technology makes possible viewing of websites on televisions rather than computers, enabling digital TV-quality pictures and sound—while simultaneously enabling access to the breadth of the entire Internet. This particular phenomenon is in its formative stages, but a growing number of devices (including, for example, the Wii gaming system) are capable of receiving Internet transmissions and displaying them on televisions. Internet video over television has not

² Nick Wingfield, “The Internet. The TV.,” The Wall Street Journal, December 11, 2007, p. R1.

yet emerged as a dramatic force in the way that Internet video over computers has, but it is universally considered an inevitable trend.³

These changes in how Americans (and the world) access content have not gone unnoticed, though their impact on public interest production is only now beginning to be acknowledged. In Britain, OfCom, the government agency charged with anticipating how the public can be served through media recently noted that:

Television is now part of a rich and exciting digital media landscape. Time and money spent on other communications technologies has grown rapidly and significantly, and consumers are increasingly accessing content on the internet and other digital media platforms.⁴

3.3 Traditional Video is Viewed in Non-Traditional Ways

There are two major categories of video that consumers increasingly view online—first, traditionally-produced video, and second, user-produced video. The first category represents programming produced by traditional broadcast and cable programmers that is available in traditional, scheduled format over the air and over cable. Programmers are increasingly making available online such traditional TV and cable programming. Online archiving and streaming represents an area of enormous potential growth for traditional programmers—both advertising-based and subscription-based. Traditional television is fast incorporating new media—and consumers are responding. According to NBC, it streamed more than 50 million shows in response to user demand from its website in October 2007.⁵

3.4 User-Generated Video Represents Non-Traditional Production and Distribution

The second category, user-generated video, represents content that is produced by non-traditional sources, both individuals and groups, and then uploaded to central aggregation sites (most famously YouTube) where it can be viewed by anyone, anywhere in the world, so long as they have a sufficient Internet connection. User-generated content represents a phenomenon of dramatic and fast-growing proportions. YouTube, arguably one of the most successful websites in history, grew in nine months from a small,

³ Nick Wingfield, “The Internet. The TV.,” *The Wall Street Journal*, December 11, 2007, p. R1; Andrew Blau, “Deep Focus, A Report on the Future of Independent Media,” National Alliance of Media Arts and Culture, 2004.

⁴ “A New Approach to Public Service Content in the Digital Media Age,” United Kingdom Office of Communications (OfCom), January 2007.

⁵ Nick Wingfield, “The Internet. The TV.,” *The Wall Street Journal*, December 11, 2007, p. R3.

entrepreneurial site to a commercial blockbuster that was purchased in November 2006 by Google for \$1.65 billion in stock.⁶ YouTube is the most prominent of many such web sites that allow users to upload their own video content and view others' videos. More than 100 million videos are viewed on YouTube every day.⁷ Google's primary competitors, such as Yahoo!, have launched video-upload sites of their own, with impressive success—if not success comparable to that of YouTube. Similar sites are geared towards users with specific interests or particular content genres.

As the British Office of Communications recently noted:

Forms of content are changing.... newer platforms allow two-way, participative platforms – the ability of users to create, annotate, comment and communicate around content goes some way toward explaining the adoption of the [I]nternet as a cultural phenomenon.⁸

User-generated Internet leverages both the growth of broadband Internet connections and the increasing affordability of video-production equipment, both of professional and consumer quality. Most significantly, user-generated Internet leverages the participatory, interactive culture of the Internet—the culture that does not assume that The Network Knows Best, or that consumers have to rely on major corporations to get news, commentary, entertainment, or exposure to the world. User-generated video sites extend to video the equalizing, democratic culture of the Internet.

3.5 Young People Access and Consume Video in New Ways

Younger generations in particular are likely to view video content in non-traditional ways and on devices not traditionally associated with video, ranging from desk-top computers to lap-tops to mobile phones. Younger people are more likely to consume video using an on-demand model—downloading or storing it for consumption at times that suit them—rather than the traditional, scheduled model. Young people have the devices and the technology to make video suit their schedule and needs rather than the inverse—and they are more likely than their parents' generations to watch TV online, view user-generated content online (on sites such as YouTube or “virtual reality” sites such as Second Life), email video content to their friends, and post their own content online.

But existing commercial streaming and user-generated sites lack the localism that is a hallmark of public access and that is such an important part of the public access mission.

⁶“Google To Acquire YouTube for \$1.65 Billion in Stock,” Google Press Center, http://www.google.com/intl/en/press/pressrel/google_youtube.html, accessed December 28, 2007.

⁷ http://www.usatoday.com/tech/news/2006-07-16-youtube-views_x.htm, accessed December 2007.

⁸ “A New Approach to Public Service Content in the Digital Media Age,” United Kingdom Office of Communications (OfCom), January 2007.

That mission is even more significant in the context of the ongoing nationwide debate regarding media concentration. In an era of centralized, corporate, consolidated media, public access is one of the last remaining media for local expression. One of PEG's greatest achievements is media participation, democratic values, community interests, and the right to express and hear differing opinions.

In this era of centralized media, commercial sites do not emphasize localism, despite the fact that "video clips of local interest have a high local popularity,"⁹ as has been recognized in some academic data.¹⁰

3.6 The Public Also Increasingly Is Producing Video

The YouTube phenomenon speaks not only to the interest of the public in consuming amateur video online—but also to the public's interest in producing video. With today's digital video technologies, video production and editing are computer-based, nonlinear processes. As prices drop for personal computers and a wide array of digital video editing software, the video production tools available to consumers in many ways far surpass the multimillion-dollar studios of a twenty ago, from simple character generation to more sophisticated animation and digital special effects.

While state-of-the-art professional equipment still carries a premium cost, digital technologies offer lower-cost consumer products that provide both high quality and capability. Consumer camcorders record crisp digital images and fit in the palm of the hand. Scaled-down high-definition television (HDTV) cameras have moved beyond 'early adopters' in the consumer market and are becoming common. Some digital camcorders that retail for only a few hundred dollars incorporate many of the same technologies as the highest-quality gear, allowing an individual to capture video at a quality level that exceeds thresholds for standard television reception and analog cable television requirements.

⁹ The Internet offers unprecedented public access that surpasses – and extends -- the 1970s-era purpose and vision for public access. Even in a world where global communities of varying size are constantly forming around common interests without geographic boundaries, no matter how obscure the ideas or interests they represent, our geographic communities will always have relevance and importance so long as we continue to interact in a physical world. The CMC has the opportunity to fill this niche formed by local community interest and Americans' desire to see and be seen by their own community in a manner that more fully utilizes the same web-based technologies that so effectively enable more global communities.

¹⁰ Michael Zink, Kyoungwon Suh, Yu Gu, Jim Kurose, "Watch Global, Cache Local: YouTube Network Traffic at a Campus Network – Measurements and Implications," University of Massachusetts, Amherst, Department of Computer Science, 2007; <http://gaia.cs.umass.edu/networks/papers/MMCN08-0.2.pdf>, accessed December 29, 2007.

For editing, a consumer can purchase for a few hundred dollars a software package that runs on a desktop or laptop computer and that can accomplish what once required a 400 square-foot linear edit suite with millions of dollars of dedicated effects hardware.

All of these elements make up a technological environment conducive to integrating multimedia more extensively into the PEG environment.

4. The CMC's Mission Naturally Encompasses New Media

What does this dramatic technology change mean for the mission of the CMC? Another interested public interest programmer, the British Office of Communications, has noted that the new media phenomenon will “put pressure on traditional one-way public service broadcasting [but] also represents an opportunity for public service purposes to be fulfilled in an increasingly engaging way.”¹¹

Analogous public service values form the core of the CMC's mission, as does the imperative to meet stakeholder needs. That mission sits at the center of CTC's evaluation of new media and the CMC's strategic future.

The CMC's central current objective is to leverage electronic communications media, particularly cable television, for the purpose of exposing the public to subjects of local significance, and to provide the means for individuals and organizations within the local community to have a local voice in matters of any geographic scale. Put another way, the CMC's primary mission, in very broad terms, is to facilitate high-quality and effective communications within and among the public and public sector entities within Carroll County. This mission spans broad areas of education, public forums, public safety, and government support. Of course, a particular emphasis must be placed on creating forums for public exchange given the original commission of the CMC as a PEG access entity. This charge does not overlap significantly with the mission of any other public entity on a local level, and is thus a key responsibility placed on the CMC alone.

All these aspects of the CMC's existing mission can be summarized as follows:

- “Make television matter”
- Deliver local content and services that serve the local community—both individuals and institutions
- Add quality to the choices available to cable consumers

The strategic recommendations in this Report were developed in light of this series of overlapping missions. One of the core questions underlying this strategic endeavor is to

¹¹ “A New Approach to Public Service Content in the Digital Media Age,” United Kingdom Office of Communications (OfCom), January 2007.

evaluate the CMC mission in the era of new media such as user-generated content. How should the CMC evolve to acknowledge the existence of new media phenomena such as YouTube? How should the CMC's goals and purposes extend beyond one-way video and incorporate user-generated video and emerging technologies?¹²

This strategic planning process answers that question by constantly returning to the CMC's original goals and mission—and then applying them to the new media landscape that now permeates the entire world, as is discussed above. **Rather than change or abandon its history and core values, the CMC seeks to expand and reaffirm its mission and public-centered values *through* new media. If successful, the CMC's evolved strategy will infuse into new media in Carroll County the DNA of localism, public interest goals, and public service values. In this way, the CMC will change media, not change itself, even as it goes beyond television—to make *media* matter.**

5. Strategic Recommendations

In this Section of the Report, we discuss in detail each of the strategic recommendations summarized above.

5.1 ***Broaden Distribution to New Media and User-Generated Content***

CTC recommends that the CMC develop a robust website that includes not only real-time streaming of current CMC content but also extensive Video-on-Demand (VOD) functionality for archived materials—both CMC-produced and user-generated. The site can be called CMCnet or something along those lines to extend the CMC brand and

¹² No discussion of new media is complete without acknowledgement of the two other key phenomena of recent years: social networking and virtual reality. Both trends may have the same kind of growth potential and social transformative capability as user-generated video. In the area of social networking, MySpace, FaceBook, and LinkedIn have changed and supplemented the way people meet other people and share information about themselves—each appealing to slightly different user-groups, respectively, young people, college students, and business professionals. In the area of virtual reality, SecondLife has demonstrated not only an enormous interest in such experiences, but also huge commercial potential, for both the site-owners and for entrepreneurial users. Despite the excitement generated by these phenomena, CTC recommends that, for now, the CMC approach them with caution. It is not yet clear how access entities can effectively meet public appetites for these new media. Unlike user-generated video sites, social networking and virtual reality sites do not have at their core the sharing of video, and are thus less closely related to the core purposes of the CMC. It is therefore our recommendation that the CMC continue to watch these phenomena with an eye to the future, but that immediate new media initiatives be limited to web streaming and hosting user-generated content.

mission to the web.¹³ The site will offer functionality similar to YouTube--while providing a look and feel specific to Carroll County, and enveloping the CMC's public interest values and mission.

Providing the CMC's existing content over the site may also serve to attract a larger audience and public support for the CMC, by broadening distribution of its programming to multiple avenues. CMC programming can be streamed live and also archived for online VOD.

VOD is particularly important in contemporary times--the opportunity to view a program at a later date may be the only way some members of the public can view a program. The CMC can potentially work with the Libraries to provide VOD viewing stations to give access to residents who do not have high-speed Internet at home.

With respect to the user-upload functions of the site, we recommend partnering with other Carroll County institutions (such as the schools) to publicize the site and encourage user participation. The site could begin by highlighting local football games, school plays, and other student activities that would serve as popular subject matter. This approach would leverage both community interest and the existence of large amounts of student and parent footage of such events.

Providing opportunity to comment on videos (through short commentaries posted on the page on which the specific video is located) would also increase the interactivity of the experience for viewers and further facilitate the participatory, accessible features of a user-generated site.

YouTube's success in the past two years demonstrates not only the popularity of this new technology – but also the continued need and demand of Americans for public access forums. In this environment, the CMC can continue to fulfill its mission through a strong emphasis on web-based media delivery to the community and for the community.

5.1.1 Users and Stakeholders: how might this medium be used?

Modern families accumulate large quantities of digital video of their children, local school events, and family and life-cycle events. Older generations have video or film of fewer events—but many of them very significant—weddings, graduations, awards ceremonies. All of these are part of the history of Carroll County and could be shared and preserved through the CMC online project.

¹³ The name CMCnet is used in this Report for shorthand and convenience purposes only, not to impose a name on the site the CMC may develop. The range of potential names for the site is unlimited, ranging from the obvious (CMOnline) to the more Internet-edgy (Carrolline) to the more derivative (CarrollTube). CTC does recommend trying to mesh the name and brand of the website with that of the CMC itself in order to facilitate the goals discussed above.

A December 2007 YouTube search for videos relating to “Carroll County, MD” reveals significant amount of content from local residents, ranging from a Manchester Volunteer Fire Company recruitment video to the Westminster Christmas Parade to a history of Westminster architecture to footage of a local anti-war demonstration (and counter-demonstration). A relatively untapped wealth of content exists, including from professional sources already producing content regularly, such as the Carroll County Times. While these videos have a forum on YouTube, the CMC could provide them with a far greater audience—including local residents who might not use YouTube but would spend time on a local, community-based website. The CMC could also stimulate users to produce and upload videos who would not be likely to do so to a site like YouTube.

A site organized to suit Carroll County-specific interests, from public school events to political issues, would likely encourage video production from a wide range of sources and relating to topics well beyond those the CMC itself could produce with limited resources. Thus, the site would facilitate true public access without the limits of studio space and personnel, and moreover, would have a built-in audience of local content producers, their subjects, and interested local residents. The types of videos possible are endless, and could include:

Local Sports: A significant number of local leagues operate in Carroll County—and boast members in multiple age-groups. Team-members and families could post video from games of the

- Carroll County Men's Softball League
- Carroll County Co-ed Softball League
- Carroll County Church Softball League
- Carroll Senior Softball Team (the 2007 Baltimore Beltway Champions)
- Charles Carroll Recreation Council youth baseball, softball, and soccer leagues

High school football, baseball, soccer, and league games all hold local interest for viewers unable to attend the game. Amateur video of a local high school football game could attract hundreds to thousands of viewers, including team members, other students at the school, rival football team players, players’ parents, and so on.

School Events: Video footage of class reunions, graduation ceremonies (present and past), recitals, school band and orchestra concerts, plays, science fairs and other school highlights. This category of programming particularly lends itself to Video-on-Demand for later viewing online.

Library-Produced Programs: The CMC has worked with the Libraries to produce a technology series. The Libraries in Carroll County produce a significant amount of other programming and have expressed interest in possible cablecast of that programming. Even more easily, this programming could be produced by the Libraries, uploaded to the CMCnet site, and archived for users who were unable to attend the events live.

Archiving programs such as Story Pals, the Teen Book discussion group, or the Free Spirit Book Club can appeal to their targeted audience and allow at-home interaction with library programming.

Senior-Focused Content: This audience is less mobile (or in many cases not mobile) and video of local events can act as a viewing window into the life of the County for this community.

Although this content may not have significant appeal outside Carroll County, its value to the local community is unquestionable. Moreover, the video may not have the visual appeal of professionally-produced content, but this is likely outweighed by the passionate interest surrounding particular local activities and topics—and the popularity of YouTube has demonstrated the demand for diverse, interesting, and unique content—even if it is not professional-looking.

A local, community-based version of YouTube also offers an enormous technical advantage over YouTube and its progeny—speed. Video that is stored or cached locally is more speedily downloaded to user computers—and user-generated video is more speedily uploaded to local servers than to distant Google-owned servers.

5.1.2 Technical Considerations: requirements and options

A website with this level of interactive capability presents a greater challenge for development and support than a standard website with relatively static text, graphics, and even downloadable video. Some degree of in-house web development support will be necessary, at least in the long term, though the website can be hosted either locally on CMC-operated servers or by a third-party hosting provider.

Hosting a web server in-house has the advantage of keeping the content stored locally to facilitate backups and archiving more readily. At a certain scale of hosting services, keeping the resources in-house is more cost effective from a support and bandwidth cost perspective. Aggregated with other hosted applications and services, particularly those using I-Net or PEG fiber optics in the future, may achieve economies of scale to allow for cost effective in-house hosting of a robust video website. However, where demand is small initially, outsourced hosting solutions typically are more cost effective, as hosting providers can offer technical expertise, bandwidth, and server capacity at reduced rates through aggregation of their customers' requirements and associated economies of scale. In most cases, third-party providers will allow options for hosting a customer's services or website on a dedicated hardware server, either leased or purchased by the customer. This has the added benefit of more easily transitioning to an in-house service, as it is usually possible to purchase and relocate the server.

One of the key technologies at work behind the scenes for YouTube and similar websites is a powerful video format converter to allow users to upload video of nearly any standard type, while automatically converting these files to Adobe's Flash Video format for viewing by users of the site. Flash Video can be viewed ubiquitously across nearly all computer operating systems and web browsers using the free Adobe Flash Player, and is relatively simple and efficient from a computer processing perspective. Thus, Flash Video is used by many "social networking" sites to ensure nearly everyone with a computer connected to the Internet will not have technical barriers to access the site.

The following describes the basic technical components required for the initial development of the web site:

- ***Software and licensing*** – Software licensing does not necessarily represent a major cost component for this solution, depending on the specifics of the implementation. The operating system of the server, type of media delivery desired (streaming versus progressive download), specific interactive features required, and the degree of in-house expertise will impact the specific software selection and server architecture. One option is the use of open source software tools and that run on the Linux operating system. Linux is based on open source software code, and is available from a variety of vendors. There is a community of software developers that can provide software scripts and support at for creating a YouTube clone websites using open source tools in a Linux environment. This, of course, has the advantage of lower costs for software and licensing, but requires more technical expertise for support and development. Alternatively, Adobe has a range of development and streaming server software products that can operate in Windows and Linux environments, but at a higher cost than open source alternatives. Software costs can range from free to approximately \$10,000, depending on the approach.
- ***Network hardware*** – If the CMC decides to host a video web server in-house, certain network components will be required for network connectivity. Specifically, the CMC will need a high capacity router and firewall capable of supporting the bandwidth necessary for streaming video, while securing the server from Internet attacks. We estimate the cost will range between \$5,000 and \$10,000 for suitable hardware capable of supporting the necessary bandwidth and reliability. While lower cost hardware is available for "business-grade" cable modem or DSL connections, neither the hardware nor type of connection is intended for high bandwidth hosting applications. Given the available service options in Carroll County, it is likely that the CMC would need to lease Internet service via a large dedicated circuit, such as a DS-3 (45 Mbps) or fractional DS-3, which can require certain interface hardware only available in more expensive routers. Suitable equipment might include a Cisco 3825, or equivalent. Note that an outsourced hosting solution eliminates the need for any specialized network hardware at the CMC.

- **Server hardware** – If the CMC decides to host a video web server in-house, procurement of a high performance server will be required. Even with some outsourced hosting solutions, the customer has the option to buy or lease a dedicated server that is configured and hosted at the provider premise. The technical specifications of the server will be determined by the anticipated demand of the website, and ultimately subject to the most current hardware configurations available at the time of purchase. Initially, a fairly powerful server would be required, as it will host all components of the website, including the video file conversion and actual video streaming. In the longer-term, the capacity can be scaled to meet increased demand by distributing components of the website onto multiple servers, or supporting the entire website across multiple servers through server virtualization. Initially, a server with sufficient redundant storage capacity (>1 TB, RAID 5), processing capacity (currently Quad or Dual Core Xeon 2 to 3 GHz), and memory (currently 8 GB, or more) will cost between \$10,000 and \$20,000, depending on the options and scalability desired.
- **Web design and development** – The most critical component for success of the website is the design and development expertise. A website offering interactive video features involves a specialized area of website development. It may be difficult to find a single individual with all of the necessary expertise at a reasonable cost; more likely, the CMC will need to obtain certain development assistance from a hosting provider or third-party consultant for the initial implementation of the server components and website template. Experience with basic HTML, Flash Video, Adobe Flash Media Server, and Linux scripting are likely baseline requirements for this initial support consultancy. The cost for the web development can range from a few hundred dollars for a basic template to \$10,000+ for custom design with advanced features. Unfortunately, there is no upper limit, as it depends on the sophistication of the website.

Ongoing operations of the website would incur certain costs, characterized by the following main components:

- **Server monitoring** – Whether hosted in-house or using an outsourced hosting provider, the server must be monitored on a continuous basis to allow for remote notification in the event of a failure. Of course, a server hosted by a third party provider will be monitored by the provider as part of their hosting package. For a server hosted in-house, there are server monitoring software tools that can be run on any computer or network management server to provide continuous status monitoring. Even for a server hosted in-house, server monitoring can be provided by third party providers, typically offering advanced monitoring capabilities that more thoroughly examine the entire system status, from Internet connectivity to specific components of the server. Alerts would be provided via email, pager, or

- telephone on an automated basis to CMC staff. Monitoring of this type will cost approximately \$500 annually.
- ***Hardware and software maintenance*** – Whether hosted in-house or by an outsourced hosting provider, we recommend maintenance contracts to ensure rapid replacement of failed hardware components for the server and any critical network hardware. Again, a server hosted by a third party provider will be monitored and maintained by the provider as part of their hosting package. For a server hosted in-house, maintenance contracts can range from advanced hardware replacement within two days of notification during business hours to onsite hardware replacement anytime within two hours. Maintenance contracts for a server and the network hardware discussed (for a server hosted in-house only) will likely range from \$2,000 to \$6,000 annually.
 - ***Internet bandwidth*** – Internet capacity required to facilitate many simultaneous video viewers must be procured both for servers hosted in-house or with an outsourced hosting provider. With an outsourced provider, the capacity can often be purchased more economically, or at least support higher short-term demands, when average capacity requirements are relatively low. These providers typically charge on a per byte transferred basis, rather than the maximum connection speed. This means that periods of high demand can be supported over the high capacity connections of the provider without negative impact to the users. To achieve the same performance in-house, the CMC would need to have a connection equal to the maximum capacity demand likely to occur at any time for the site. For a site with constantly high demand, bandwidth can likely be acquired less expensively directly from an Internet Service Provider (ISP). The amount of actual traffic and needed capacity will need to be monitored continuously to ensure the most cost effective package is being procured. As a baseline, we estimate that approximately \$10,000 annually would be required with an outsourced hosting provider (roughly 10 GB of monthly transfers), or approximately \$20,000 annually if hosting the site in-house (approximately 20 Mbps symmetrical Internet connection).
 - ***Engineering and ongoing web development*** - In-house support is ideal for ongoing updates, troubleshooting, and enhancements, regardless of how and where the server is hosted. We recommend that the CMC hire, or provide training for existing staff, someone to support ongoing website enhancements and basic server maintenance. Experience and training for this person should span a wide range of web design languages (HTML, Java, XML), media formats (MPEG, Windows Media, QuickTime, Flash, etc.), and operating systems (Windows Server 2003 and Linux). We estimate total compensation for someone with the proper expertise and experience will cost approximately \$60,000 to \$75,000 annually.

5.1.3 Technical Considerations: cost estimate summary

The following table provides a rough cost comparison between developing and hosting a video website in-house versus using a third-party hosting solution.

Estimated Startup Costs	In-House Hosting	Outsourced Hosting Solution
Software and licensing	\$0 to \$10,000	<\$1,000
Network hardware and installation	\$5,000 to \$10,000	Included
Server hardware and installation	\$10,000 to \$20,000	Included
Web development services	\$500 to \$10,000	\$500 to \$10,000
Implementation Total:	\$15,500 to \$50,000	\$1,500 to \$11,000
Estimated Ongoing Costs (Annual)		
Server monitoring	\$500	\$4,000 to \$10,000
Hardware and software maintenance	\$2,000 to \$6,000	Included
Internet bandwidth	\$20,000	\$10,000
Engineering and web development	\$60,000 to \$75,000	\$60,000 to \$75,000
Annual Operation Total:	\$82,500 to \$101,500	\$74,000 to \$95,000

Note that these estimates are for an initial deployment, and that ongoing success of the website would likely shift the economics towards hosting the site in-house. Moreover, these estimates do not account for any potential economies of scale associated with combining the infrastructure or expertise with the requirements for other potential future CMC applications and services.

5.1.4 Practical and Legal Considerations: filtering, monitoring, access, copyright

A number of issues regarding filtering, copyright, and access arise with deployment of a web-site by an entity such as the CMC. Some of these issues are suggested below, but

this is not a comprehensive list.¹⁴ CTC is, of course, not a law-firm and cannot provide legal advice. CTC's assumption is that the CMC will seek legal counsel regarding the appropriate steps to take in deploying the CMCnet site so as to protect against claims associated with the First Amendment, intellectual property, and other areas. CTC therefore recommends that the CMC obtain legal advice regarding potential liability matters in advance of enacting this recommendation. The following areas, among others, bear consideration:

1. Access-limitation
 - a. Who may post to the site?
 - b. Will there be direct access or application mechanisms for posting access?
 - c. May the CMC limit the range of those who may upload content?
2. Content-limitation
 - a. To what degree is the CMC free to manage and filter content? On what bases?
 - b. What steps does it need to take to maximize its flexibility and protect itself from liability in this area?
 - c. Can the CMC limit the site's user-posted subject-matter to locally-focused issues or otherwise connected to the County?
 - d. If it can, how should it articulate and publicize those policies and limitations to protect itself?
3. Intellectual property
 - a. Who owns the programming posted by users?
 - b. Does the CMC need to obtain any copyright clearances in addition to those it already holds?
4. Are there any other areas of concern with respect to potential liability?

5.2 Develop a Citizen Alert System for Municipalities

¹⁴ These and other legal issues are discussed in brief in publicly-available documents prepared by recognized authorities on the subject of PEG websites. See, for example, Joseph Van Eaton, "PEG Issues in the New Digital World," presentation to TATO A Conference, August 2005, <http://www.millervaneaton.com/p200508PEGIssues.ppt#434,1>, PEG Issues In the New Digital World; accessed December 27, 2007; Adrian E. Herbst and E. Casey Lide, "Legal Considerations and Practical Advice for Government Website Operators," presentation to WebMasters Conference, October 2003, http://www.baller.com/pdfs/webmasters_conference_handout-final.pdf; accessed December 27, 2007.

CTC recommends that the CMC consider developing a mass notification emergency alert system leveraging modern data and mobile communications technologies that have become ubiquitously accessible. The system would allow municipalities to alert citizens and provide critical information during an emergency or severe weather event, with most messages delivered to all citizens in a matter of minutes via their email addresses, cell phones, pagers or any other wireless device. By individually targeting messages to people via the device of their choice, the likelihood of each citizen receiving the message is dramatically increased compared to standard broadcast emergency alerts. Moreover, these systems can be used for non-emergency notifications, such as major traffic alerts and road closings, with each subscriber to the system able to select the categories of messages they want to receive.

5.2.1 Technical Overview

A number of products are available specifically designed for emergency notifications through Short Messaging Service (SMS) and email, requiring a local server hosted at the CMC. The system functionality is based on a specialized e-mail server, providing the ability to transmit both standard e-mails and SMS text messages to commercial wireless carrier customers via the Internet.

Because customers of wireless carriers may be charged per message they receive, the systems typically support citizen self sign-up via a website interface or by sending a text message to a specific address, allowing each “subscriber” to choose the categories of messages they wish to receive. Links to a sign-up site could be embedded in each municipality’s website and the CMC’s website.

Generating and distributing messages typically occurs through an online web interface, and limited to authorized users via username and password. System users authorized to generate messages for distribution to citizens can be correlated to specific subscriber groups – for example, messages from the Mayor of Sykesville would be sent only to those subscribers wanting messages relating to Sykesville. Additionally, some systems provide speech-to-text conversion so messages can be created by users when not accessible to an Internet connection, or via their own mobile data device or text-enabled mobile phone.

SMS text messaging uses capacity within wireless carrier networks that is allocated only for data, so it is not competing with voice calls to reach the recipient’s device. Text also uses a smaller share of mobile network capacity, or less bandwidth, since message size is limited. Additionally, if network volume is too high, voice calls can be dropped until more capacity becomes available on the network. Text-based messages are placed in a queue and delayed until capacity is available, so messages are less likely to be lost entirely in a situation where the carrier network is heavily utilized. This is one

substantial benefit over many “reverse-911” systems that rely on standard phone call notifications.

Amtelco’s Red Alert Software Package and Roam Secure’s RSAN-CWS (Roam Secure Area Network- Citizen Warning System) are examples of vendors that provide this kind of solution.

5.2.2 Technical Considerations: implementation and cost

The two primary factors affecting cost for an in-house deployment include 1) System size (number of citizens), and 2) system redundancy.

For the purpose of estimating costs, we will assume participation of all municipalities within Carroll County, roughly equating to an upper limit of approximately 50,000 subscribers. We estimated in-house hosting costs on an incremental basis relative to an increased IT capability and web-presence necessitated by other strategic recommendations in this report. Thus, the need for increased Internet capacity, network equipment, and basic IT infrastructure support staff are not duplicated for this application.

Given the criticality of emergency notification, enhancing system availability with redundancy will be a significant requirement. Redundant systems could be implemented within the CMC, or distributed between the CMC and one or more municipalities’ facilities, potentially interconnected by PEG fiber if available for this purpose. In either case, system redundancy can be implemented in an active-active configuration between diverse physical locations, between which data is continuously replicated and the system can be operated with a failure at either location.

The following table summarizes the estimated costs for the system deployment.

Startup Cost Component	<i>Estimated Cost</i>
Software and licensing (50,000 subscribers)	\$50,000
Server hardware and installation	\$15,000 to \$25,000
Implementation Total:	\$60,000 to \$75,000
Ongoing Cost Component (Annual)	<i>Estimated Cost</i>
Hardware and base software maintenance	\$5,000
Subscriber-based licensing/maintenance (50,000 subscribers)	\$15,000
Annual Operation Total:	\$20,000



5.3 Partner with Colleges, Schools to Leverage Student Skills

Expanding the CMC's partnerships and interaction with educational institutions in Carroll County could have benefits on multiple levels. As an example, the CMC could expand its partnership with the Carroll County Career and Technology Center, allowing a greater number of students to participate in the CCCTC's video production program. CMC staff would likely need to coordinate the development of curriculum and provide oversight of students to successfully expand this type of interaction, but this would ultimately allow the CMC staff to duplicate its own capabilities many-fold through the creation of a low-cost workforce for collecting raw programming footage, editing, and even producing. It would require a concerted effort and commitment on the part of CCCTC to allow the CMC to direct the program as needed to achieve a baseline level of productivity from students involved in CMC content production.

The CMC could potentially leverage instructors and skilled students from the community colleges to aid in the instruction of CCCTC students, and assist in CMC productions as part of their coursework and internships. Moreover, greater student interaction would provide the CMC with leads for future paid positions, and provide the CMC with sources of information for programming topics with greater relevance to younger demographics. We recommend that the CMC start by meeting collectively with the relevant instructors and administrators to develop a framework for a new educational program, building from successful elements of past efforts.

Should the CMC deploy the robust web-presence recommended above, talented students could provide important, cost-effective services in maintaining and improving the site on an ongoing basis. A formal program that enabled students to learn and refine web development skills could be very attractive not only to the CMC—but also to the colleges and students. Web developers with skills in user-generated content are in high demand in 2008's job market, according to the Wall Street Journal. Demand is particularly high because the user-generated genre is both new and extremely hot. The Journal's interviewee projected salaries to range nationally from \$45,000 for recent college graduates to \$110,000 for experienced developers.¹⁵ By developing a program that affords students experience in this potentially-lucrative field, both the CMC and the students could benefit.

¹⁵ Sarah E. Needleman, "What '07 Headlines Say About '08 Job Market," Wall Street Journal, December 11, 2007, p. B12.

5.4 Develop New Content to Appeal to Broader Demographics

Like other areas of CMC effort, new programming should serve the goals of enhancing the CMC's centrality to the Carroll County community. The programming must be important to CMC stakeholders, to further cement the CMC as an essential institution in Carroll County.

CTC suggests the following programming ideas based on the suggestions and needs of CMC stakeholders, as expressed during interviews for this project. Multiple stakeholders are interested in establishing partnerships with the CMC to facilitate these ideas:

- *School sports and activities:* School sports and extracurricular activities are topics of passionate interest within any local community for the students involved, their peers, and their family. For large sporting events, such as a football championship, this could represent a program with a large audience and significant community support. More importantly, operating cameras and basic editing are tasks that can be performed by the community, from students to parents, with minimal training. While it would not be possible to broadcast every event from every school, more exceptional or unique activities could be used as pilots. A "news magazine" programming providing highlights and recaps on a regular basis for school events throughout the County could represent a logical next step after gaining contacts within the community and developing some of the logistical mechanisms for acquiring video and information from community sources.
- *Government meetings:* In the area of government meeting production, we recommend that the CMC continue to expand capabilities to support live, recorded, and on-demand access to local government public meetings. The CMC and the community will be well-served by increased development of live broadcast capabilities to a greater number of communities, and a strong emphasis on making meetings available over the Internet. Of primary importance for Internet distribution is the archiving of meetings, made searchable by topic or agenda item. This would significantly enhance the value of providing better access to local government; ensuring citizens can be more readily and consistently informed on local government issues of relevance to them. Moreover, this is an area nearly all municipalities and the County agree are significant components of their public information and outreach obligations.
- *Technology Council speaker series:* The Technology Council sponsors ongoing speaking events on a wide range of technology-oriented topics, many of which would be of interest to a broad sector of the public. The CMC could support the Technology Council in producing these events, possibly to include follow-up interviews and background material on the subject matter.

Given the uncertainty of future funding, it may also be worthwhile for the CMC to build community partnerships to create programming that is not as resource-intensive for the CMC as some current productions may be. For example, the CMC could allocate more resources toward providing high level oversight and instruction in the areas of community access video production for a wider range of clientele, and minimize turnkey production services. The growth of Internet-based public media venues demonstrates that a substantial market exists for video content that lacks some of the polish of professionally produced content, but that has a high degree of relevance to targeted audiences. Indeed, lower production values seem not to have hindered the popularity and success of venues such as YouTube. CTC therefore recommends that the CMC consider some programs in which CMC staff's primary role is high-level oversight, and the CMC is assisted by community volunteers, students, and industry partners as much as possible

One potential criterion for new areas of programming could be whether the content has built-in audiences and sponsors willing to support its creation both with labor and even financial support.

5.5 Develop Local History/Genealogy-Focused Content

Local history—both communal and familial—forms one area of particular interest in local communities. The CMC has recognized and facilitated this interest through its Carroll County oral history project. CTC recommends that the CMC supplement and complement this professionally-produced programming with user-produced programming. Specifically, CTC recommends that the CMC provide training courses for user-production (and posting to the CMCnet site) of oral histories, family genealogical data, and other local history-related content. This area of content can be showcased on the CTCnet website main-page through a noticeable graphic that links to the home-page for the local history/genealogy project.

The CMC can also potentially provide an important public service (and enhance interest and use in the local history/genealogy project) by assisting community-members with digital conversion of existing analog video tapes and other legacy film media. Many families (and even institutions) own footage of family and community events—some dating back to the early and mid-twentieth century--but these events were captured on media that are now defunct. The CMC's existing technical capabilities enable it to provide conversion services and/or training (for a reasonable fee) to convert these older media to digital format. The conversion services could include upload of the newly-digitized video to the CMCnet site—an added bonus for those who wish to share their old videos. Alternatively, the digitized video could be provided on CD or thumb-drive to those who would prefer to keep the video private. Either way, this service would provide significant value to the community, increase interest in the local history/genealogy project, and realize some modest revenues for the CMC.

This local history/genealogy project could be an important way to reach out to seniors in the community and interest them in new media. As is discussed above, new technologies for viewing of Internet content over televisions could eliminate one of the barriers preventing use of the Internet by those who do not use computers, such as many seniors. Video-sharing over CMCnet, whether on a computer or a TV screen, is an ideal way to bring older citizens into the new media age—and to expose younger citizens to the memories and experiences of their seniors.

5.6 Develop CMC Building to Bring Community In and Enhance CMC Centrality

CTC recommends that the CMC building be leveraged to serve the CMC's goals and missions in a variety of ways. The CMC can further demonstrate its centrality to the Carroll County community by (cautiously) providing access to that community, inviting the public in and transforming the CMC into a community meeting place.

In an idealized vision that would demonstrate the CMC's indispensability, the CMC would become a digital community center—on cable, online, and in physical reality. It would provide the bricks and mortar equivalent of public access: a community meeting place, where citizens meet, create content, share information, learn, and exchange views. The goal would be to promote local community interaction and civic dialogue, and to serve the CMC's mission. The facility would serve as a physical (as well as electronic) civic space. It would offer affordable, accessible space to support public dialogue, and offer media and production training to those who would not otherwise have access.

This vision is ambitious, but CTC recommends a few steps that could be taken incrementally to work toward making the CMC building itself a destination within the County—much as the recommendations above are designed to make the CMCnet site a cyber destination for County residents.

- Develop partnerships with the neighboring institutions (the high school, Arts Council building, and Career and Tech Center) that would include co-hosting of events in their performance and symposium spaces. The CMC could cablecast these events—and make the CMC building part of the events by hosting modest receptions before or after the event.
- Host civic events at the CMC itself (either in an existing studio or in space planned in the expansion), with co-sponsorship from other community institutions such as the Tech Council, Economic Development Department, Chamber of Commerce, Libraries, and Schools. The CMC is naturally a forum for dynamic civic dialog – a public space wired for cablecast and streaming media.

- Consider adding an open public space to the CMC building as part of the planned expansion. A community café, serving coffee and offering free Internet access, could become a destination for CMC stakeholders and a meeting-place for students and other residents who produce public access programming or take training courses at the CMC. In the summer, the space could be extended to the area immediately outside the CMC building. CTC engineers estimate that the CMC could offer free wireless throughout its building and in the immediate surrounding outdoor area for no more than a one-time charge of a few hundred dollars.
- Offer free WiFi not only within the CMC building but also in the surrounding areas, potentially reaching to the outdoor areas of the neighboring buildings. CTC engineers estimate that for not more than a couple of thousand dollars, WiFi could potentially reach up to 1,500 feet from the building, perhaps enabling limited penetration into the Career and Tech Center. To offer fuller coverage to the neighboring buildings could be as low as a few thousand dollars, using low-cost, off-the-shelf materials for a wireless point-to-point system to those buildings, with access points within those buildings.

5.7 Consider Offering IT Support to Stakeholders

CTC recommends that the CMC consider long-term development of capabilities to offer IT services to Carroll County's municipalities that are already CMC stakeholders.

Technologies relating to video, voice, and data communications are rapidly converging so that similar areas of technical expertise, physical support for equipment, and communications connectivity are common across these areas. Meanwhile, many of the stakeholders of the CMC, in particular the municipalities, have growing requirements for services spanning each of these areas that they likely will not be able to entirely meet cost-effectively on an individual basis. As a result, there may exist opportunities for the CMC to offer services outside its normal purview in a manner that enhances capabilities for its clientele, reduces costs, or both.

In the stakeholder needs assessment below, CTC documented a few specific examples of the types of services needed by CMC stakeholders that may represent opportunities for the CMC to host and manage the necessary systems and services. These include, for example:

- Centralized e-mail servers, offering greater functionality, storage, and reliability than free or low-cost services from many Internet Service Providers
- Voice-over-IP telephone system to reduce telecommunications charges and increase telephone service reliability

- Public emergency notification and alert system utilizing e-mail and text messaging
- Offsite data backup and server mirroring to protect against catastrophic data loss due to hardware failure, natural disaster, fires, and so on
- Website hosting, to include website development, monitoring, and updating services
- High-speed Internet access
- Central videoconferencing services

In each case, the CMC could potentially offer a competitive alternative to commercial services by aggregating the needs of several of its stakeholders to realize economies of scale.

5.7.1 Practical Consideration: Need for Access to Fiber

For most of these services, network connectivity of sufficient reliability and capacity is necessary. While the I-Net and PEG fiber already in place could provide the means to achieve the necessary connectivity at very low operating cost, a determination must be made as to whether these applications fall within the limits imposed by the cable franchise agreement under which the fiber was constructed.

Without access to fiber optic connectivity, some of these applications would either be impractical or too costly using leased communications circuits. Thus, the specific cost estimates and designs must be developed upon determining the limits of the fiber usage, according to the technology and pricing available at that time. Quite likely, the feasibility of providing any IT services will depend upon the number of stakeholders willing to commit to acquire these services through the CMC, and how many of these services the CMC can aggregate and support with common infrastructure and internal support staff.

CTC therefore recommends that the CMC work with the Cable Regulatory Commission, to negotiate with Comcast access for non-commercial purposes to the existing fiber that links the CMC and the County's municipalities. In light of the upcoming cable franchise renewal negotiations, the CMC's timing in developing the needs assessment below is ideal, and that needs assessment can serve to document and evaluate community needs and interests with respect to the fiber at issue. The CRC is supportive of this vision and is willing to address this issue with Comcast. Indeed, the CRC's counsel and leadership have indicated that they envision this study as part of the necessary community needs assessment for the franchise negotiations.

5.8 Broaden Services to Public Wireless through Creative Partnerships

CTC also recommends that the CMC consider working with the municipalities to provide centrally managed, public wireless Internet hotspots in or around municipal downtown areas. This need was clearly expressed by a number of the municipalities during the interviews.

This strategy is in keeping with the CMC's interest in expanding access to media, and would also serve as an important, mission-focused way to extend the CMC's mission and brand by offering not only Internet access, but also access to all the programming on CMCnet in the downtown areas.

Specifically, we envision cost-effective deployment of a wireless hotspot in each town that partners with the CMC. Using this technology, the CMC and municipality could inexpensively deploy wireless access, and anyone in the hot spot area could access the CMC website and the Internet over their computer with a WiFi card. As WiFi technology is increasingly built into mobile phones and smart phones (such as the iPhone), access would also be available to anyone with a WiFi-enabled phone.

Key to this project, as to the IT project discussed above, is expanded access to the PEG fiber that runs between the CMC and the municipalities. This fiber would make the WiFi project cost-effective by enabling high-quality "backhaul" of the aggregated transmissions back to the CMC and from there out to the Internet. In the current franchise environment, it may be possible to use the existing fiber, with its current restrictions, on the grounds that the service provided is a form of PEG access—but Comcast may not agree and thus this course entails some risk. However, in an environment in which restrictions on the fiber are relaxed, as is possible as a result of the upcoming cable franchise negotiations, the fiber could be effectively used for non-commercial WiFi backhaul, an ideal application for the CMC.

CTC believes that public interest WiFi can be cost-effectively deployed by a creative partnership of public entities in Carroll County at the instigation (and under the leadership) of the CMC. The partnership would consist of the CMC, the municipalities, and perhaps other entities such as the libraries, County, and CRC.

We suggest the SkokieLink project in Skokie, IL as a model for what can be achieved by such a creative grouping. Skokie deployed wireless in its aging downtown two years ago in a bid to drive revitalization in the area. SkokieLink was initiated by citizens, staff, and businesses, including development groups, the Cable Commission, and local downtown business group. The system was deployed in a cooperative manner by the Village government, Library system, private groups, Park District, and other public and non-profit entities.

The system consists of five access points in areas of public gathering—Village Hall, the Skokie Public Library, and three downtown parks.¹⁶ The network was designed for maximum future scalability so that the network could grow as the need arises.

A critical component of the WiFi project was a review of existing municipal assets. This process enabled identification of locations for wireless access points – and also presented the opportunity for costs to be substantially reduced through use of existing resources. With all SkokieLink partners at the table, the group identified resources ranging from staff expertise to real estate to light posts to internal technical capabilities.

The partnership of various community entities then set out to use all these resources: Park District staff installed the park access point under direction of the consultant. To bring down the cost of the remaining installation work, the Village supplied a bucket truck, access to electric power, and detailed information on existing conduit routes. The Library IT Department assisted with the configuration of radios and supplied access to the Library Blue Socket device for SkokieLink use. Centralization of traffic at the library reduced monthly access charges by 75 percent. Access points were mounted on the library and park facilities in addition to Village light posts, eliminating the need to negotiate a pole attachment agreement.

SkokieLink uses Tax Increment Financing (TIF) as a funding mechanism. Costs are very modest—the initial equipment and installation costs were about \$30,000. On an annual basis, Internet access costs \$600 and \$5,000 is budgeted for equipment replacement. Even without access to TIF funds, the project is designed to maximize resources and reduce monthly operation and maintenance charges. A neighboring community, Northbrook, used a similar process to deploy five downtown hot-spots, for approximately the same cost.

6 Stakeholder Needs

Stakeholder needs should serve as the building blocks of a strategic vision. To enable understanding of the needs of the CMC’s stakeholders, CTC staff conducted extensive meetings with institutional and municipal stakeholders throughout the County.

This Section of this Report summarizes and analyzes what CTC learned during those meetings regarding those entities’ needs that could be met through strategic activity by the CMC.

¹⁶ Skokie achieved significant coverage: The Village Hall and Library hot spots together cover approximately 133,333 sq. feet; the Park hot spots cover 38,641 sq. feet, 12,489 sq. feet, and 581,940 sq. feet, respectively.

The CMC was created to fill a unique position in the community, serving as a partner to its stakeholders in their efforts to meet public needs. The CMC stakeholders include those entities that provide its current funding stream in the form of cable operator franchise fees, consisting of each incorporated municipality and the County. Other key stakeholders include public and educational entities that directly serve the public interest in Carroll County, including the libraries, public schools, and community college.

6.1 Interview Methodology

Recognizing the function of this strategic plan as a tool to facilitate CMC alignment with stakeholder needs, CTC's interview process focused on the following key areas:

- Understanding how each CMC stakeholder currently communicates with the public as part of their own mission objectives
- Understanding how each stakeholder communicates with other CMC stakeholders and other public-oriented entities in supporting their mission objectives
- Capturing perceived shifts in the methods that are most effective for communicating with the public

Our interviews were a highly interactive process steered by the type of input provided by each stakeholder. As we expected and found to be true, each stakeholder has a unique perspective on the current value and future of the CMC. In each interview, we introduced the CMC's strategic planning process, explaining that the future of CMC is not necessarily bound by the limits of past services, technologies, or current skill sets of staff. Instead, we painted a picture of expanded partnerships with public and commercial entities, a view of mass media spanning all available technologies, and identified candidate service-sets based in a wide range of potential expertise and resources. Moreover, we described the potential of the I-Net and PEG fiber, to which CMC is connected in a central manner, and the types of applications these resources could support, ranging from enhancements of current video production and cable-casting to meeting specific internal telecommunications needs of the CMC stakeholders.

6.2 Interview Summaries

The following summaries are intended to summarize the highlights of each interview conducted by CTC on behalf of the CMC. The discussions of current and future needs are presented as expressed by those interviewed by CTC staff.

It should be noted that of paramount importance to all stakeholders is the continuous pressure to disseminate and facilitate local content of all forms so as to meet the needs of Carroll County's residents for community building, community sharing and learning,

community participation, and community life. All stakeholders also recognized the need to disseminate more information to the public, expedite routine processes, maximize use of existing staff, and, above all else, find low cost ways to implement the enabling technologies for each of these needs more effectively. Nobody CTC interviewed was averse to identifying ways to increase economies of scale by collaborating, at least at the technological level, with their counterparts in other municipalities or entities throughout the County. Moreover, nearly all municipalities expressed an interest in participating in, or being provided with a range of new services, including public emergency alert capabilities; enhanced web presence, including streaming video; and increased local video production, particularly of public meetings.

6.2.1 Town of Sykesville

CTC staff met with Mayor Jonathan Herman.

Sykesville is one of the larger municipalities in Carroll County, and has taken large steps on its own to meet technological needs. Still, Sykesville has significant expenses related to leased telecommunications capabilities, sees a need to reach people more effectively via the Internet, and would like to expand their cable TV presence.

Notably, Sykesville has very recently implemented a reverse-911 system, capable of making automated emergency notification telephone calls to hundreds of residents when activated by Town officials. While systems of this type are becoming more common everywhere, Sykesville's unique experiences with local train derailments involving hazardous materials demanded that they enhance their capabilities to reach the public for emergency notification purposes. The Mayor expressed his perception that each municipality is on its own with respect to emergency response, at least during the beginning of a disaster situation. He feels that other systems, including e-mail/SMS-based notification systems would be a good complement to their existing capabilities.

With respect to cable TV, the Mayor is of the opinion that a more continuous broadcast presence of Sykesville would be of use in reaching out to the residents. He indicated that a cable channel would meet this need, but that Internet streaming is of equal or greater importance. Currently, the Town has neither the camera equipment nor the broadcast capabilities to support this type of communication.

The Mayor's very succinct advice to the CMC is that they, and probably other municipalities, would be willing to explore a range of candidate services from the CMC, but that they must be packaged in a way as to clearly identify any associated costs and benefits.

6.2.2 Union Bridge

CTC staff met with Mayor Bret Grossnickle of Union Bridge.

Union Bridge is a small municipality on the verge of having more modern communications requirements. They do not have a Police Department, but do have a Volunteer Fire Department.

Admittedly, the current demand for internal communications services for the Town is not great, and the scope of what they hope to accomplish in the near term is limited by their funding. There are no real internal data network requirements, nor is there a data network. Most of the Town's business is handled by the Clerk/Treasurer, for whom a single computer is used for keeping meeting minutes, receipts records, Invoices, bills, and property plat maps.

The Town's website is updated by a volunteer. Currently, Internet access at the Town Hall is provided for free from Comcast as per the Franchise Agreement. The Mayor feels that providing some degree of free Internet access, particularly access to County Library resources, would be of benefit to the residents, since there is no County library in Union Bridge.

Union Bridge is one of the few municipalities in Carroll County with the ability to broadcast Town Meetings live on a cable channel via the CMC, which utilizes the PEG fiber. The Mayor believes that archived recordings of meetings made available on-demand from a website would improve their interaction and communications with their residents.

6.2.3 Carroll County Public Schools

CTC staff met with Carey Gaddis, Supervisor of Community and Media Relations, and Patrick Flaherty, Television Production Specialist.

The Schools are provided all of their internal data and voice communications services through internal departments. Moreover, they are relatively self sufficient with respect to video production, but have collaborated in the past with the CMC on for certain video shoots, such as musical programs. The focus of Community and Media Relations is on public outreach programming, rather than curriculum-based content. As such, they have a significant need to disseminate information via the Internet, particularly in the form streaming video, which is not currently being provided or supported internally.

The School Board has interest in using on-demand, educational video service providers, such as Discovery Education Streaming, but have not moved forward on these services yet. They do currently use Elluminate Live!®, a web-based collaboration tool providing electronic whiteboard and chat functionality to facilitate staff development, but would like to see more in terms of video-based and on-demand resources for staff development.

The barriers for progress in these areas seem to be, from their perspective, both internal network bandwidth and Internet bandwidth.

Of notable significance is the positive working relationship between the School Board and the CMC on issues relating to video production. They are open in concept to offloading some of their content production and video distribution desires to the CMC, but they must be cognizant of internal processes for these services.

Among the many areas they envision as potential priorities for the CMC, they believe facilitation of regional videoconferencing for School Board Meetings would be beneficial, particularly those that relate to redistricting of school boundaries.

6.2.4 Town of Hampstead

CTC staff met with Ken Decker, Hampstead Town Manager.

Mr. Decker indicated there are no particular media-oriented or IT service needs the Town currently has that is not being met, but is conceptually in support of the CMC expanding its service capabilities.

From a strategic perspective, Mr. Decker has the following suggestions for the CMC with respect to delivering new services to the municipalities directly:

- Whatever the CMC proposes must be an attractive alternative for a municipality relative to handling the same need internally or going directly to the private sector from a functionality or service quality perspective; and
- The CMC must be able to provide it either at a lower cost or for free relative to the private sector.

Relative to current needs and applications, Mr. Decker stated that there is little or no real-time data sharing among municipalities and between the County and the municipalities. Moreover, the Town has no substantial need for enhanced data backup or recovery capabilities; they currently backup data to tape on a weekly basis, and the data is not sensitive enough to warrant additional backup expenditures. Website development is handled in-house by the Assistant Town Manager, which is meeting their current needs adequately.

Mr. Decker suggests the following as specific enhancements for the CMC:

- Obtain in-house engineering support for ongoing development and innovation in the areas of expanded service capabilities, and to develop partner relationships with technical personnel of stakeholder entities;

- Deploy a WiFi hotspot pilot for free Internet access in one or more municipalities to provide free Internet access;
- Implement a more decentralized model for video content production, comprised of more programming centered on community events and activities; and
- Web stream CMC content.

6.2.5 Public Libraries

CTC staff met with Lynn Wheeler, Director, and Scott Reinhart, Assistant Director for Operations, of the Carroll County Public Library.

They offered a unique perspective on the CMC, both with respect to having a public information-oriented function that overlaps with the CMC in some respects, and because Lynn Wheeler currently sits on the CMC Board of Directors. Overall, the Library presents an opportunity for the CMC in the area of collaborative programming development to reach a wide demographic.

The Library welcomes support from the CMC with respect to developing and distributing video content, and feel there are a wide range of opportunities along these lines if the resources were available. For example, many of the libraries have public events on a regular basis, including many educational programs, such as Aha! Science and the Family Storytime series. It would be feasible to produce any of these programs for cable broadcast or Internet streaming or download. Currently, the Library does not do any internal or web-based video streaming.

Despite the desire, there are roadblocks that have prevented past efforts towards collaborative program production between the CMC and the Library. For example, Library events surrounding particular books or other copyrighted materials often require acquisition of specific broadcast rights if used in any type of online or cable programming. Moreover, a previous attempt to produce the Aha! Science series was stalled due to the lack of both internal Library resources and CMC staff capable of scripting the production. Despite the challenges, the Library believes this would be a useful function of the CMC that would expand the reach of Library resources.

There may be many other partnership opportunities of this type for the CMC. One such example noted by Lynn Wheeler is the Carroll County Arts Council, which has a theater in Westminster in which local artists perform. Many such artists might welcome the opportunity to broadcast or webcast their performances. Another such opportunity existed with the Carroll County Times, who approached the CMC for assistance with producing video content and developing a video streaming presence on the Internet.

Lynn Wheeler indicated that the CMC was unable to mobilize quickly enough at that time, but that future opportunities might exist.

6.2.6 Carroll Technology Council

CTC staff met with Ron Harrington, President of the Technology Council.

The members of the Technology Council represent some of the most forward-thinking local technology companies in Carroll County. Moreover, their desire to cultivate technology-oriented business development and educate the public on issues relating to technology presents a significant opportunity for partnerships with the CMC.

The Technology Council membership is comprised of a wide range of technologists that potentially can provide the expertise needed by the CMC for future initiatives. The CMC worked with the Technology Council to produce a technology-oriented television program, “Technically Correct,” though a range of speaking series and events with both local and broader interest organized by the Technology Council are not recorded or broadcast. Mr. Harrington expressed specific interest in making certain internal meetings and events available for viewing on a “closed-circuit” basis, possibly via web streaming for their numerous members that are unable to attend.

In addition to the technical expertise and project partnership opportunities, the Technology Council acts as a purchasing coalition for its members. For example, they were successful in acquiring redundant Internet connectivity for several of their members at a reduced cost through economies of scale. This type of collaborative approach to purchasing and aggregating needs is strategic model for a range of communications and technology services in which the CMC might be able to participate and contribute.

6.2.7 Carroll County Career and Technology Center

CTC staff met with Catherine Engel, Principal of the Carroll County Career and Technology Center (CCCTC).

The CCCTC is a specialized high-school with advanced technology programs integrated into the curriculum. The CCCTC would like to expand their use of the CMC for their Video Production Program. The CCCTC and the CMC occupy the same property, and in fact, share a parking lot, presenting a unique set of opportunities for both entities.

Though the CMC would need to coordinate training and oversight of students to successfully expand this type of interaction, this effort could offer the CMC access to a low-cost workforce for collecting raw programming footage and provide leads for low-cost talent in the form of internships and paid positions.

The CCCTC expressed frustration surrounding attempts to implement this type of program with CMC involvement in the past, citing a lack of support from the CMC with respect to coordinating the training and/or providing the CCCTC with guidance on subject matter in which to train students prior to onsite work with the CMC.

6.2.8 City of Westminster

CTC staff met with Ms. Margaret Wolf, City Administrator, and Dr. Robert Wack, City Council Member.

The City of Westminster is the largest municipality within Carroll County, in terms of population (more than 17,000 residents); technology capabilities; and technology and communications requirements. The City has approximately 160 employees and 100 computers, though information technology services have not yet been centralized across departments and facilities.

Westminster recently completed a study prepared by an internal Technology Task Force to identify specific technology-oriented needs and make recommendations to meet these needs. The report highlights a few critical needs and recommendations that illustrate their priorities and might indicate a strategic direction for the CMC, including:

- Enhancement of internal City communications, to include the construction of more fiber optics between City facilities;
- Creation of an Advisory Board on communications and technology issues, including acting as a liaison to the community and other City agencies;
- Improve web capabilities for citizen services, to include utility bill payment, parking ticket payment, service requests, reservations and sign-ups for City activities, and online building permit approval; and
- Develop shared applications and connectivity with outside entities, to include: training and education opportunities with the Community Colleges, County, Schools, and Libraries; and shared storage for backup purposes.

With respect to interaction with the CMC, Westminster would like to be able to leverage the CMC for production and development of local programming, development of more advanced online services and capabilities, and to enhance local emergency notification capabilities. Westminster would be highly interested in partnering with the CMC on any initiative that could provide an offsite location for backup data storage, as the City is working on developing a plan for business continuity for which data recovery will be a significant component.

Westminster indicated they have tried to work with the CMC in the recent past to develop a video Public Service Announcement (PSA), but was unable to move forward without the assistance from the CMC with developing the scripting and storyboarding for the project. Overall, they feel the CMC should be producing more local content, including programming relating to school activities and sporting events. They believe the CMC should be streaming existing programming on the Internet, and making recorded programming available for download from the CMC website.

6.2.9 Carroll County Community College

CTC staff met with Dr. James Ball, Ed.D, Vice President of Academic and Student Affairs and Dean of the Faculty, and Patti Davis, Director of Network and Technology Services.

Dr. Ball serves on the Board of the CMC and represents the Carroll County Public Network (CCPN) as one of the four member entities. He emphasized the need for a strategic vision that incorporates the CMC, and extends Countywide to all stakeholders of initiatives relating to communications infrastructure and technology services development.

The Community College has a wide range of needs and initiatives that might represent potential opportunities for collaboration with the CMC. Production and distribution of educational programming are central to many of the current initiatives and future vision, including streaming video for classes, on-demand download of recorded classes, instructional videos highlighting professionals working various fields, and video “field trips” for places of interest and historical significance. They have considered other particular uses of video technology in the context of partnerships with the CMC, including creation of instructional videos for police and fire professionals, staff development instructional video programs, and distribution of video programming from an existing satellite downlink for public safety personnel, such as the Fire and Emergency Training Network (FETN). The Community College indicated that they have collaborated with the CMC in the past on the production of certain career development videos. Additionally, the Community College would like to develop a professional communications course focused around video production, leveraging the CMC facility and staff for its development and ongoing support.

A particular type of existing production opportunity for the CMC at the Community College includes the broadcasting and recording of public meetings within the Community College theater, including debates between local political candidates.

Many of these concepts require, or are most suitable, for distribution over the Internet or internal IP networks. The Community College does not currently stream video content, but has begun to deploy videoconferencing hardware to facilitate meetings and distance

learning over their internal network and the I-Net fiber optics, which is currently activated to provide high-speed connectivity to the Public Schools network and the other members of the CCPN.

6.2.10 Town of New Windsor

CTC staff met with the Town Council, including Mayor Sam Pierce, during a Town Council meeting.

The Town's primary desire for support from the CMC is for the broadcast and playback of their public meetings held in the new Fire Station. They currently do not have the camera systems, audio acquisition, or video transmission hardware necessary to televise via the CMC. The Fire Station is not connected by PEG fiber, but is within a few hundred yards of the Town Hall, which is connected.

The Town has limited internal communications requirements and capabilities, but leverages a local technology firm and member of the Carroll Technology Council, InfoPathways, for website development and computer support.

6.2.11 Town of Mount Airy

CTC staff met with Mayor Frank Johnson and the Town Administrator, Monika Weierbach.

As a growing community, the Town understands they have an ever increasing responsibility to communicate with the public more effectively via electronic communications media. The Town currently televises Council meetings over the PEG fiber connectivity to the CMC, and has investigated web development and hosting services to improve their web presence. The Town hopes to provide more interactive services and updated information through their website, including video of Council meeting.

6.2.12 City of Taneytown

CTC staff met with Mayor James McCarron, James Schumacker, City Manager, and Nancy McCormick, Director of Economic Development.

Taneytown believes that the majority of its residents have Internet access, and thus desire reaching their residents more effectively via this medium. They have plans to update their website to a more modern style with advanced "e-government" capabilities, including online building permit applications, job applications, service requests for street light and pothole repairs, and utility payments. They developed a Request for Information (RFI) for web development and hosting services to identify the range of services available to them.

Taneytown would like to explore other options for reaching the public, particularly in an emergency situation. They are currently able to modify the bulletin board messages on the Town and Community Channel via remote access provided by the CMC. They are interested in having the capability to leverage a reverse-911 or e-mail-based community notification systems to notify their residents of specific issues affecting Taneytown.

Along the lines of emergency planning, the City uses its police station as an Emergency Operations Center (EOC). They are currently planning to construct fiber optic cable between the City Hall and the Police Station during an upcoming streetscape enhancement project. Furthermore, they are interested in establishing an alternate EOC outside of their downtown area, and would be interested in considering the CMC for this purpose provided that preferential or guaranteed availability could be provided in an emergency situation.

6.2.13 Town of Manchester

CTC staff met with Mayor Chris D'Amario, Councilman Dave Richardson, and Kelly Baldwin, Town Office Director.

Manchester currently televises its Council meetings live via its PEG fiber connectivity to the CMC. Their desire for additional services from the CMC includes more local programming in the form of coverage of community events and issues.

They are interested in providing free Internet access via WiFi within their town, and would like to implement security cameras with archived and live access capabilities. In both cases, they would be interested in exploring the CMC as a provider or partner in these types of initiatives.

7 Community Media Center Strategies: Case Studies

This Section of the Report presents a number of case studies of existing community media center initiatives. As part of these case studies, CTC offers information on new “visions” that address PEG in the future. CTC cautions against understanding these experiences as “best practices.” PEG rebranding efforts are still in their infancy and there is limited empirical data on which to rely for purposes of understanding how business plans will work. In addition, there are dramatic differences in circumstances between different PEG areas across the US. PEG is all about localism and local needs so the final CMC strategic plan must be based on the unique needs of the County.

A general theme among the community media centers that were analyzed was the need to reposition the centers as an essential service for all stakeholders. This involves redefining and “revising” the role the center plays in the world of multiple providers, digital convergence, and declining revenue sources. Essential service is defined as becoming a critical communication source for marketing initiatives, economic development programs, public information, and routine and emergency notifications. The centers see the need to “rebrand” themselves as the place residents and businesses turn to first to obtain information. Service is also redefined as becoming a “go to” location for training on video and IP-based applications. Some of the more progressive centers are positioning themselves as a community resource for IT technical support.

Rebranding and revising are not without costs. New equipment, additional technical support staff, and training for new applications is costly. Most of the centers evaluated below that are considering such initiatives recognize the need to do more with less. Doing more with less involves forming partnerships with other non-profits and recruiting and retaining volunteer support.

7.1 The District of Columbia

The District of Columbia Office of Cable Television and Telecommunications (OCTT) oversees two channels. The separate Public Access Corporation of the District of Columbia oversees two additional channels. OCTT is funded through franchise fees and the general fund. The Public Access Corporation is a membership-based organization but receives funding from the cable subscribers as a direct pass through. They operate in a multi-provider environment under two cable television franchise agreements. In 2005, DC adopted a Strategic Plan that listed seven goals. Four of these goals specifically target enhancing PEG programming services.

1. Increase the number of original television programs from 17 to 18 so that viewers have access to timely information regarding all aspects of District life.

2. To increase citizen access, OCTT will increase the number of programs and publications available in Spanish and other non-English languages by at least 10 percent annually.
3. To increase access to OCTT services, OCTT will increase the number of web based interactive services from five to six.
4. OCTT will ensure that District cable operators correct OCTT-identified system failures or irregularities within two business days.
5. Increase the number of television services, programs, and other projects produced for other District government agencies by five percent annually.
6. OCTT will ensure consistent cable service by monitoring cable company compliance adherence to their contractual obligations as well as the applicable provisions in federal and District law.
7. In cases where cable network exists at the building, OCTT will ensure that District government installations or repairs are completed within seven business days of the request.¹⁷

Services offered by the DC Public Access Corporation include production; editing; dubbing services; access to digital studios; editing suites; and meeting space facilities. The Corporation offers fee-based training courses that permit members to produce their own shows.

Production services range from inexpensive, flat-rate packages for members to produce programming to more sophisticated services such as Staff assistance with on-location events, documentaries and editing of member produced programming.

Training courses include fee-based courses that focus on maximizing the impact of your message; and technical classes that instruct members on topics such as in-field production tasks; editing, script-writing, and studio production skills.

The video bulletin board is a valuable free service for members wishing to post a message on a community event. The bulletin board is telecast between 11am and 11pm seven days a week.¹⁸

¹⁷ "Strategic Business Plan FY 2004–2005," Office of Cable Television and Telecommunications, <http://www.dc.gov/strategic-plan/octt.shtm>, accessed December 17, 2007

¹⁸ District of Columbia Office of Cable Television and Telecommunications (OCTT), <http://www.octt.dc.gov/main.shtm>, accessed December 17, 2007

7.2 Fairfax County Public Schools

Fairfax County Public Schools (FCPS) operate an innovative Educational enterprise that not only offers multimedia programming over various media within the local public schools but also uses satellite distribution to sell programming nationally as a revenue source.

FCPS operates three cable TV channels funded through franchise fees from Cox, Comcast, and Verizon. FCPS provides programming services for approximately 164,000 students and more than 21,000 employees. Through the Teleproductions department, FCPS-produced programming reaches more than a million residents. Over satellite, FCPS provides instructional programs for more than 15 million students across the country. FCPS Teleproductions also delivers programming across the nation through Internet streaming.

FCPS Teleproductions produces more than 100 half-hour shows per year. Programs range from promotional spots and PSAs to School Board meetings to student specials--including theater awards programs, a holiday concert, and a spring choral festival. The School District exemplifies the meaning of engaging your audience and has developed programming that targets a set of viewers beyond the Schools to a national audience.

In 2005, FCPS Teleproductions offered more than 15 million students a unique, close-up view of the International Space Station (ISS) by using the cable system, a national satellite link, and a phone bridge provided by the NASA.

The "smart" campaign, a newer initiative, is designed to inform viewers about Fairfax County Public Schools (FCPS) new initiatives through a series of public service announcements (PSAs). The District has successfully collaborated with many agencies to produce high-quality programming. Some of these agencies are Kurtis Productions – Chicago, Smithsonian Institution, Virginia Quality Education in Science and Technology, United States Geological Survey, National Science Foundation and the National Institute for Citizen Education and the Law.

Video and audiocassette copies of programs are available for purchase and the District also permits viewers to request a replay of programming by dedicating a section of the broadcast day to replay requests. Visitors to the online Fairfax video store can view a clip of a video before purchase.

FCPS is currently developing a strategic plan for the future that prepares their already highly successful program for the next generation of viewers.¹⁹

¹⁹ Fairfax Public Schools Video, <http://fcps.edu/cable.htm>, accessed December 17, 2007

7.3 Henrico County

CTC reviewed the PEG operations in Henrico County in the hope that this community has embarked on a strategic planning process of interest to Carroll County. Henrico County is an interesting analogue to Carroll County, given its rural/suburban mix and status as an “outer suburban” area of the Washington, DC metropolitan area. Unfortunately, however, we discovered that the County’s PEG operations are less extensive than those of Carroll County and do not appear to be evolving based on new technologies.

The Public Relations and Media Services Department oversees HCTV Channel 17. Funding for the station comes from the County. Internal clients are assisted with video production and audio-visual presentation needs. Programming is limited to activities or programs specifically offered or sponsored by Henrico County. The station received a “new look” in 2003. The 12 Henrico County employees produce full-length programming in addition to news about public meetings, road closures, county services, and programs.

The performance measures listed in the 2007 budget list 1,400 video shoots, 1,900 bulletin board messages, 2,100 DVD/VHS Duplication requests, and 2,000 photos. The County’s clients are all internal; no programming is produced for non county agencies. The station is positioning itself as the “go to” channel for any information on the county so they offer a wide variety of programming. They do not have any external clients so they focus their resources on Henrico County information. There are no fee-based services.²⁰

7.4 Grand Rapids Community Media Center

The Grand Rapids Community Media Center (CMC) has been a pioneer in creative and innovative approaches to PEG—the first access center in the US to offer consulting services, wireless access, and broader services to the public. The CMC is a non-profit that provides office, studio facilities and fund development to the Center and its related affiliates.

The majority of funding is provided through a contract with the City of Grand Rapids; although membership fees, class fees, grants and donations make a sizeable contribution to the budget. The funding provided by the City is restricted to funding the operations of GRTV only. Grand Rapids has very successfully transitioned from a traditional local programming content provider to a provider of additional services such as a radio station, IT applications and ISP provider center, training facility and public media advocate. Of interesting note is the Center’s recent ability to overcome the challenges of a 20 percent

²⁰ Henrico County Channel 17, <http://www.henricotoday.com/pr/index.html>, accessed December 17, 2007

of annual budget funding gap brought on by a change in Michigan cable franchising rules. They used other service revenue to keep service cuts to GRTV to a minimum.

The Center operates a Mobile Media Lab. The Lab is funded through contributions by communities surrounding Grand Rapids. The lab brings digital technology and training to classrooms or community organizations. In addition, media literacy classes and customized youth training programs are available. In addition to GRTV, the Center also operates LiveWire, a nonprofit educational television station. This public service, access channel features programming, including commercial-free satellite downlinks requested by Grand Rapids area non-profit organizations.

The CMC also operates a noncommercial, educational radio station. The station is funded through listener contributions, class fees, grants, a promotional concert series, and fundraising events. Members have the opportunity to create their own radio show, participate in non-profit showcases, and distribute Public Service Announcements.

GrandNet is the CMC's Application and Internet Service Provider Division. Non-profit organizations contract for IT solutions including web design and hosting, database development and personalized training for staff. Website and database hosting are located on servers at the CMC and are monitored 24 hours a day, seven days a week. They have created websites for dozens of non-profit organizations. GrandNet is funded through donations, grants, user fees, and consulting services.

The Center operates the Grand Rapids Institute for Information Democracy (GRIID), an organization established to improve media literacy. GRIID is funded through donations, grants, user fees, and consulting services.

Unique to Grand Rapids is the ability to rent out space in the historic Wealthy Theatre location. The 400-seat theatre is fully restored and has plenty of parking. The lobby, dance studio and meeting rooms are also available for rental at reduced pricing for non-profits.²¹

7.5 *Montgomery Community Television, Inc.*

Montgomery Community Television (MCT) is an independent non-profit organization. The primary source of revenue is from the County. They have two cable stations, Access Montgomery, for programming produced by County residents and another channel dedicated to County programming. Their current focus is on restructuring existing services and developing new initiatives. A Strategic Plan was adopted by the County Board in 2006.

²¹ Grand Rapids, Michigan Television, http://www.ci.grand-rapids.mi.us/index.pl?page_id=2560 accessed December 17, 2007

Under the Strategic Plan, MCT will undertake the following new initiatives:

1. A community awareness campaign, to get residents more involved, will include print, video, web media, and a speaker's bureau.
2. A public interest campaign, an information campaign that focuses on enabling PEG access.
3. Non-profit collaboration, to develop strategies to work with non-profit organizations to transfer technology and increase organizational capacity.
4. Training, to provide more options, to remove barriers such as requirement of field certification prerequisite for studio training, and to refocus higher level classes to provide training for intense hobbyist or those individuals leaning toward a career in a video-related field.
5. Digital training, to develop digital content workshops including web design, DVD authoring, graphics, editing, and so on.
6. Production facilitation, to develop new programming including sports-focused coverage; oral histories of local residents; and a new magazine format show emphasizing regional perspective matters. These programs would be used as a training opportunity for individuals wishing to become involved in video production. In the future, lower tech studio environment (record only) could be built at satellite sites.
7. Production services, providing support for agencies and marketing services to non-profits, political candidates, and government departments seeking communications support.
8. Expanding distribution to digital media; expanding the website to include a community web portal component; and streaming audio and video versions of the channel as well as promotion clips of current programming.
9. Expanding the video bulletin board to include a community calendar. Add a sports video program and an increase volunteerism portal to the accessmontgomery web site.²²

²² Montgomery Community Television, Inc. <http://www.mct-tv.org/home2.html>, accessed December 17, 2007

7.6 North Suburban Access Corporation

North Suburban Access Corporation (NSAC) is a non-profit corporation governed by a board of directors representing each of the 10 member cities. They promote programming by and for the community and manage the access channels and facilities. Funding is based on contributions from member municipalities as well as a scholarship/internship program funded through a franchise agreement with Comcast.

Residents and non residents are permitted to take fee-based classes and produce programming for broadcast. Classes include traditional camcorder and editing courses as well as advanced graphic design courses and scaffolding certification courses. Non-residents pay higher fees. Although there is no fee to use the equipment or facilities; they can only be used to produce programming for CTV15. The community bulletin board is available for use by any non-profit organization in the 10-city membership area.²³

7.7 Portland Community Media

Portland Community Media (PCM) in Oregon was, to our knowledge, the first major access center in the US to engage in a “revisioning and rebranding” process in response to regulatory and technical change. PCM is a non-profit tax exempt charitable organization. The television center is funded through a contract with the services with the City of Portland. Using multiple communication avenues they are working to make stakeholders aware of the services available. PCM programs six cable channels 15 hours a day, seven days a week with local, state, and national noncommercial programs. They carry coverage of the Portland City Council, Multnomah County Board, Metro Council, and Oregon State Legislature and transmits programming on Channel 11 (the Community Access Network) to more than 370,000 cable subscribers in five counties in two states - Multnomah, Washington, Columbia, and Clackamas counties in Oregon, and Clark County, Washington.

Most importantly for purposes of this Report, Portland Community Media is transitioning from viewing cable television as a sole distribution means to a multi-platform distribution platform. Services offered include web design, animation design, media literacy, computer-based editing, studio production, and camcorder production. In the summer, they host a media camp for fifty at-risk youth. They also supply teleconferencing opportunities. Through contractual arrangements, non-profit and community-based organizations benefit from low-cost professional produced programming. PCM has produced programming for clients including Portland Business Alliance, Oregon Zoo, Portland State University, and Portland Parks and Recreation. These productions are a revenue source for PCM. They also broadcast satellite-delivered national programming

²³ North Suburban Access Corporation, <http://www.ctv15.org>, accessed December 17, 2007

such as Classic Arts Showcase, Democracy NOW!, and international programs in numerous native languages.²⁴

7.8 Bay Area Video Coalition and National Alliance for Media Arts and Culture

The Bay Area Video Coalition is a non-profit that works throughout its region to train corporations and non-profits in media arts, provides media services at subsidized rates to independent film-makers, teaches and mentors low-income youth to create media, and incubates creative media projects. The National Alliance for Media Arts and Culture (NAMAC) promotes the work of independent producers as a vital alternative to traditional media work. They list their mission as to strengthen the influence of media arts organizations, making them an integral part of the community; and to integrate media into all levels of education and advocate media literacy as an educational goal.

Though BAVC does not have a strategic plan of the sort envisioned here, BAVC and NAMAC, as well as four other San Francisco organizations (the Films Arts Foundation, the Independent Television Service, KQED, and the National Asian American Telecommunications Associations) studied the long-term future of independent media. Supported by a grant from the Rockefeller Foundation, the Tides Foundation, and the San Francisco Foundation they contracted with Global Business Networks to assist with the process. The result was a comprehensive report titled “Deep Focus,” by Andrew Blau.

Some of the areas discussed in the report included potential new funding streams including forming alliances and developing a business plan for Internet distribution; creating a cultural innovation targeting the next generation; becoming more active in key public policy debates; and exploring every possibility to promote independent as a vital source of information.

The report suggests that with more motion media products and distribution platforms, producers will need to find ways to lower risk for traditional sponsors while at the same time attracting new support sources. This may mean dividing the production process into segments to permit sponsors to support portions of the process and lower their capital outlay. Media Centers and independent media producers need to develop a business plan. Some of the reports findings are identified below.

1. The range of places and devices where people will receive motion media is growing and will continue to grow, especially at home or through mobile devices designed for personal use.

²⁴ Portland Community Media, http://pcmtv.org/pcm_profile.php, accessed December 17, 2007

2. Over the next ten years, broadband internet access will become widely available, becoming a standard way to deliver all kinds of digital media.
3. The costs for all the technology associated with media production, distribution and presentation will continue to fall when capability is held constant.
4. Competition for audience attention will further intensify because of the growing abundance of media products.
5. Trusted guides to the overwhelming number of media choices -- from recognized expert interpreters to word-of-mouth recommendations -- will become ever more important for individuals making choices, yet the number of possible guides will also grow significantly.
6. Computer and video gaming will grow more popular as a platform for political, social, and artistic expression.²⁵

²⁵ Andrew Blau, "Deep Focus, A Report on the Future of Independent Media," National Alliance of Media Arts and Culture, 2004.

Carroll County Community Media Center
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	Production	Training	Web Design/ Hosting	Animation Design	Tele-conferencing	IT Support/ Assistance	Equipment Studio	Community Bulletin Board	Radio Station	Meeting Space Rental
District of Columbia PEG Membership-based/receives support from DC Gov. ²⁶	Produces fee-based programs for non-profits	To use equipment a fee-based class is required. Also offers a range of more advanced fee-based classes for members.					DCTV programs are telecast as digital server-based files. Final Cut Express, Adobe Photoshop CS run on Mac-based systems.	Free community service. No appeals for funds or commercial advertising. Messages may run for up to two months.		
Fairfax County Public Schools, VA ²⁷	Yes, for internal clients	Yes, for members of the District.	Yes, member schools only	Yes, member schools only	Yes, member schools only	Yes, member schools only	Yes, AVID – based editing system	Yes, member schools only		
Grand Rapids MI. Membership –based; however majority of funding is from a contract with City. ²⁸	Produces fee-based programs for local non-profits.	Hands on video production training and media literacy workshops. Also offer a range of IT training options.	Yes. Have contracts with local non-profits for web site design and hosting.	Yes		Fee-based database development, email and mailing lists, IT consulting services.	In addition to video equipment; non-profit members may rent projectors, PA systems and microphones.		Yes, offers services that assist with on-air underwriting, and interview shows.	The public can rent space at the Wealthy Theatre. It has a 400 set auditorium and other meeting rooms.

²⁶ District of Columbia Office of Cable Television and Telecommunications (OCTT), <http://www.octt.dc.gov/main.shtm>, accessed December 17, 2007

²⁷ Fairfax Public Schools Video, <http://fcps.edu/cable.htm>, accessed December 17, 2007

²⁸ Grand Rapids, Michigan Television, http://www.ci-grand-rapids.mi.us/index.pl?page_id=2560 accessed December 17, 2007

Carroll County Community Media Center
 Strategic Technology Plan
 January 2008

	Production	Training	Web Design/ Hosting	Animation Design	Tele-conferencing	IT Support/ Assistance	Equipment Studio	Community Bulletin Board	Radio Station	Meeting Space Rental
Henrico County, VA, Center is a Division of Public Relations Department ²⁹	Internal clients only	Staff assists internal clients with video production and AV related tasks	No	No	No	No	12 employees are responsible for media support including AV.	Only County-sponsored event and programs.	Yes	No
Portland, Oregon. A non-profit that receives funding from the City of Portland. ³⁰	Yes, non profit agencies only and community-based organizations. They have contracts with local and State organizations.	In addition to traditional media education classes such as camcorder production and computer-based editing; Portland also provides specialized video	No	Yes	Yes	No	No charge access to portable video-equipment, studios, a remote production truck, editing computers and access to a satellite from program acquisition.	Yes, community members and non profit organizations.	No	No

²⁹ Henrico County Channel 17, <http://www.henricotoday.com/pr/index.html>, accessed December 17, 2007

³⁰ Portland Community Media, http://pcmtv.org/pcm_profile.php, accessed December 17, 2007

Carroll County Community Media Center
 Strategic Technology Plan
 January 2008

	Production	Training	Web Design/ Hosting	Animation Design	Tele-conferencing	IT Support/ Assistance	Equipment Studio	Community Bulletin Board	Radio Station	Meeting Space Rental
		training projects for schools and runs a summer media camp for at-risk kids.								
Montgomery County PEG Network, MD Membership-based but receives County funding. ³¹	Yes, non profit agencies only. They have contracts with local as well as national organizations.	Classes range from orientation to field service courses to editing classes.	No	No	No	No	Studios and equipment, including six editing sites are available for use by residents and organizations	Yes, a new initiative	Yes	Yes
North Suburban Communications Commission, MN ³²	Yes	Classes range from orientation to field service courses to editing classes.	Provides graphic design classes	No	No	No	Studios and equipment, editing sites are available for use by residents and organizations	Yes	No	No

³¹ Montgomery Community Television, Inc. [http:// www.mct-tv.org/home2.html](http://www.mct-tv.org/home2.html), accessed December 17, 2007

³² North Suburban Access Corporation, <http://www.ctv15.org>, accessed December 17, 2007

