

## **Community Television Network and Public Access in Ann Arbor**

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This report is also available at <http://matth.org/ctn>. Responses to this report sent to the author may be posted online.

### *Abstract*

Community Television Network broadcasts public, educational, and governmental programming to Ann Arbor residents via cable TV. Its current functions, which include providing media tools and education to residents and broadcasting civic information, provide the community with relevant and important information. The Network faces challenges centered around changes in the nature of media consumption and production. This report recommends a number of policy and institutional goals that could help the organization adapt to these changes, including an increased focus on consumer-level digital equipment, online distribution, and public guidance.

### **About the Author**

Matthew Hampel is a student at the University of Michigan. His research interests focus around problems of information sharing and the role of digital technologies, with a special focus on civic information. He manages Arborwiki.org, a volunteer-created collection of information about Ann Arbor and other places in Washtenaw County.

### **Disclosure**

The author has performed contract work for John Hieftje, Mayor of Ann Arbor (-present) and Ron Suarez, who served as the City Council representative to the Cable Communications Commission. The Ann Arbor District Library hosts Arborwiki, an online civic project that the author manages. The hosting was arranged by Eli Neiburger.

### **Changes**

*Revision 1.02 - 30 December*

- Public release information added

*Revision 1.02 - 19 December*

- Combined recommendation to dissolve Cable Communications Commission with

- Minor typos fixed

*Revision 1.01 - 19 December*

-Minor edits for style

-Additions to copyright discussion

*Revision 1 - 5 December 2008*

## Summary

Ann Arbor's Community Television Network (CTN) is a city-run organization that provides public, educational, and governmental programming to the Ann Arbor area. It operates four cable channels that provide information serving several local needs: channel 16, Government, broadcasting local government & civic meetings; Public Access (17), with materials from any citizen or non-profit operating in Ann Arbor; Education (18), informational programming; and CitiTV (19), billed as a presence for local news and entertainment. Run out of the City's Communications Office, CTN's mission is to "build community through media." The Cable Communications Commission, a formal advisory body, meets monthly to discuss issues related to CTN and local cable TV.

The Community Television Network produces valuable programs that serve important community interests. As an educational organization, it has top-notch media production experts, high-quality video equipment, and a set of television production training programs that are accessible to the general public. As a steward of the public record, it documents an impressive number of local government meetings.

In the last decade, a number of social and technical changes have converged to present a challenge of distribution for CTN and the Cable Commission. The funding model of Community Access Television and regulatory powers of municipalities across Michigan have been overthrown by the State legislature. The nature of media consumption and production has changed significantly since the late 1990s. While the civic content and educational themes the organization promotes remain relevant to the community, several factors have prevented the organization from adapting, and CTN has no long-range plan or clearly articulated short-term goals. To ensure the continued circulation of local news, production of important civic records, and media education, several changes to the distribution and media access programs of CTN are recommended:

- **Promote community uses of CTN media by creating a full-featured online video distribution system.**
- **Use third-party video providers as precision tools, not as generic video distribution systems.**
- **Release media under a less restrictive license.**
- **Explore providing lower-quality consumer hardware to engage a wider population of media creators.**
- **Work with local educational institutions to produce a series of short, creative classes that introduce new media concepts.**
- **Carefully investigate the future roles of broadcast television.**

- **Consult with City officials, staff, and local experts to develop a strong long-range plan that will direct CTN's actions both online and offline.**
- **Replace the Cable Communications Commission with a citizen's advisory board that provides the City as a whole with expert advice on all matters relating to information technology and digital government.**

## **I. Background**

CTN, one of the first Community Access Television stations in the nation, was formed in 1973 as the joint effort of a number of local media advocacy groups.<sup>1</sup> The Network currently broadcasts on four Comcast channels free of charge, a privilege guaranteed by the Public, Educational, and Governmental stipulations set out in the Cable Communications Act of 1984: "A franchising authority may in its request for proposals require as part of a franchise ... that channel capacity be designated for public, educational, or governmental use..." (47.U.S.C. 531 Sec.611.b)<sup>2</sup> The Act is intended to ensure that Cable providers, who use public land to run cable to subscribers, broadcast locally relevant content in addition to commercially lucrative programming.

Cable operators must pay a franchise fee, currently 5% of 12-month gross revenues, to access local right-of-ways. Franchise fees are passed through to subscribers. CTN is funded completely by franchise fees, which are expected to total around \$1.4 million in the 2009 Fiscal Year.<sup>3</sup>

Before 2007, these fees were negotiated by individual municipalities and cable operators. The Uniform Video Services Local Franchise Act (Michigan Act 480 of 2006) consolidated the negotiation of franchise agreements and additional PEG fees at the State level, ostensibly to encourage competition and reduce overhead for cable operators who would otherwise have to negotiate with many communities separately.<sup>4</sup> Fees continue to be paid to local governments,<sup>5</sup> but local cable commission members and City staff are concerned that a cash-strapped State government could redirect the funds.

The move to centralized franchising also removes the ability of local governments to monitor consumer complaints and negotiate additional services from cable operators. Some communities had negotiated for in-kind equipment and services instead of demanding additional PEG fees. Under the Uniform Franchise Act, cable operators are allowed to stop providing these services. Ann Arbor is not affected by this change, as CTN owns and operates its own equipment and facilities.

Legislation to add a 2% PEG fee on top of the current franchise fees was introduced in both the Michigan House and Senate in 2007. Both bills were referred to subcommittees; 2007 HB 5047 to the House Energy and Technology Committee,<sup>6</sup> 2007 SB 636 to the Senate Committee on Energy Policy and Public Utilities.<sup>7</sup> Neither committee has returned its respective bill, and the matter remains unresolved.

In 2007, Comcast attempted to move PEG channels from around the state into the 900 range, which would have required consumers to note the change as well as buy a digital converter box.<sup>8</sup> The U.S. District Court, Eastern District of Michigan, blocked the move in early 2008, with the option to revisit the issue if presented with different arguments.<sup>9</sup>

## **II. Community Television Network**

### *1. Function & Structure*

CTN provides several core services that promote democratic discourse and media-creation literacy. The organization offers media production space and high-end equipment to City residents. Its staff provides Ann Arbor residents with expert guidance on all stages of media creation, from conceptualization to post-production and broadcast. The organization also records and broadcast dozens of local governmental meetings each month.

Two distinct units at CTN provide its core services. The government team, with four full-time producers and a manager, is responsible for recording and broadcasting local civic meetings. The public access team helps Ann Arbor residents produce and broadcast cable TV programs. Three staff members (a manager, training & facility coordinator, and programmer) on that team organize the public and educational channels.<sup>10</sup> The explicit division between government and public access programming was made in 2005 to streamline service; before, staff were split as needed between the two functions.<sup>11</sup>

Oversight of the Network is integrated into the organization structure of the City of Ann Arbor. The Network's operations are managed by Ralph Salmeron, who reports to Lisa Wondrash, manager of the City's Communications Division. The Communications Division reports to the City Administrator. The Cable Communications Commission is also expected to have a small amount of influence, detailed below. In practice, the day-to-day operations and long-term guidance of CTN are managed by Salmeron.

### *2. Facilities and Equipment*

CTN operates a production and broadcast studio in southern Ann Arbor. In August 2007, the City Council approved a 10-year lease of the current space.<sup>12</sup> Residents of Ann Arbor can use the Network's equipment and studios free of charge for noncommercial purposes. Commercial uses are not allowed. The equipment available for use by staff and trained residents includes high-quality cameras, studio lighting, a large green-screen studio, a hotline booth, and four editing stations. The studio has three professional-grade cameras. Four "prosumer"<sup>13</sup> Canon GL2 MiniDV camcorders and other equipment is available for residents to borrow.<sup>14</sup>

Each of CTN's editing booths contains a Macrovison AVIO editing station. A large portion of CTN's current clientele "haven't grown up with computers," says Salmeron, and the AVIO stations were selected because they presented an interface that would appear less foreign. Salmeron describes the stations as "pretty basic," and although the stations were new in 2008, he expects the Network will upgrade to Final Cut Pro or AVID editing tools in 2009.<sup>15</sup> CTN staff producers edit using AVID Composer, a recent upgrade.<sup>16</sup>

### *3. Media education*

The Network requires that residents who want to use its equipment and facilities attend a 1-hour introductory class. After the class, which includes a short history of CTN, examples of the tools and space it provides, and an overview of Public Access TV, residents can enroll in a number of free courses on digital editing, camcorders, and filming in a studio. Each class is scheduled across successive weeknights, an important accommodation for residents who work during the day. The organization also organizes classes for peer groups, usually non-profits.<sup>17</sup> CTN makes a specific effort to keep the media production classes accessible to people of all ages, and many of its clients are over 30.<sup>18</sup> For example, a local chapter of the Grey Panthers, a senior-citizen's activist group, organized a peer-group session in late 2008.<sup>19</sup> Over 225 people participate in CTN training programs each year.<sup>20</sup>

These classes, which are kept small (generally between 6-9 participants), teach universal media production skills. Topics covered in the video production class, for example, include everything from the planning process through budgeting, subjects, locations, microphones, camera angles, lighting, and editing. Comprehensive training manuals with full-color photos are available on CTN's website.<sup>21</sup>

### *4. Programming*

Programming comes to CTN via several avenues. Some is selected by producers from nationally available public-access programming. Residents or local organizations who want to produce a message for broadcast without attending training sessions have five options. Press releases from non-profits appear on a bulletin board that scrolls on CTN channels overnight. Short 5-minute segments can be taped at CTN twice a month; these segments are edited into a 30 minute piece that airs for at least three weeks. A longer-format 30-minute talk show, "Access Ann Arbor," allows organizations to host multiple panelists and present a longer narrative. Both shows are taped and produced by CTN staff and require no training. Residents who are trained on CTN equipment can produce their own programs for broadcast. CTN also accepts programs in VHS and DVD formats.<sup>22</sup> No programs have commercial content of any kind.

Content from the University of Michigan, Ann Arbor District Library, and Ann Arbor Public Schools appears on channel 18. Foreign language instruction, Board of Education meetings, and recorded Library presentations air frequently. Channel 19, CitiTV, hosts four regular programs produced by CTN staff: a local interview session, a senior-focused program, a "news magazine," and a show featuring City Council members.

The Ann Arbor District Library (AADL) has a partnership with CTN that allows them to air 10 hours of programming weekly, and Library staff

were certified to broadcast on CTN in a special training session. Programming from the Library includes lectures, presentations, and demonstrations from academics, artists, writers, and public figures. The AADL streams its video directly to CTN via a fiber connection, discussed below in *Online*.

CTN channels 17, 18, and 19 generally “premiere” between 15 and 40 new programs each month.<sup>23</sup> The number varies as High School classes produce programs, sports programs are aired, or the number of civic activities changes. The Network’s remote truck allows staff to broadcast community events, including high school sports. CTN staff produce recordings at several annual events, including the Ann Arbor Art Fairs and Top of the Park celebrations.

Each month, CTN staff record and broadcast up to 100 local government meetings, creating the most comprehensive record of local proceedings. Network cameras are installed in City Hall and other buildings, and CTN staff bring mobile cameras and other equipment as necessary. Many meetings are broadcast live and rerun multiple times. Meetings recorded include City Council, Board of Education, Planning Commission, Liquor Board, and others.

In election years, the Michigan League of Women Voters works with CTN to produce a series of debates between candidates for local, state, and federal offices. These programs offer the candidates an opportunity to discuss in-depth issues that larger broadcast networks generally do not allocate time to. The debates are broadcast repeatedly in the months leading up to primaries and general elections.<sup>24</sup>

No one claims to have a clear idea of how many people actively watch CTN. Wondrash says no comprehensive numbers are available, and City has not found a cost-effective way to survey consumers.<sup>25</sup> CTN conducted a phone survey in the early 1990s. More recently, a voluntary survey asked CTN’s clients to identify needs and concerns. The City of Ann Arbor’s 2007 Citizen Survey reported that 16% of responding residents relied on CTN government coverage as a (non-exclusive) way to get news.<sup>26</sup>

### *5. Online*

CTN is taking some steps to stream content from two of its channels online. The Network’s website has a “Video on Demand” tab that links Google Video, as well as a growing collection of videos presented through PEG Central, a third-party hosted video streaming service.<sup>27</sup> Content from the CitiTV channel, including political debates and moderated panels, has appeared online. As of November 2008, City meetings were being uploaded to PEG Central.





Before moving to its current video service, CTN staff attempted to use Google Video to stream videos online. Encoding the footage from its archived format took a significant amount of time. Since the resulting video files were large, uploads to Google would time out, requiring a new attempt at uploading and more wasted time.<sup>28</sup> No staff time was spent chaptering the videos or otherwise dividing them up into smaller logical segments.

The PEG Central service, which hosts and streams videos from vendor-managed servers, is provided by Leightronix, the manufacturer of the video processing hardware that CTN uses in other stages of its production processes.<sup>29</sup> The streaming video service is free for a year; after that mark, it will cost \$249 per month to host 500 hours of streaming video.<sup>30</sup> Salmeron estimates that 500 hours of will equal approximately 13 months of meeting footage.<sup>31</sup>

The Leightronix equipment that facilitates streaming consists of two units each containing two digital encoders. Each unit is configured to output video streams in two formats. A lower-quality encoding is used to create files for web streaming, which are automatically uploaded via File Transfer Protocol (FTP) to PEG Central. High-quality files are kept by CTN for playback. CTN hopes to add a new 32 Terabyte storage device in the near future; however, City IT staff need to configure the hardware, and they are indefinitely occupied with critical projects.<sup>32</sup>

PEG Central provides only basic streaming video functionality. Videos are presented in a flat list, with the option to show only videos in certain “folders,” such as “Environment” or “Election 2008.” Individual videos list creator, producer, and length of shows, but the video’s containing folder is not displayed, making the discovery of related videos difficult. The video player offers standard volume, play/pause, fast-forward/rewind, and full-screen controls. The interface can be used to jump to desired time-codes.

There is no function to comment on videos. There is no opportunity to associate additional information -- such as meta tags, keywords, rankings, or narrative -- with the videos. This means that users, be they the general public or designated archivists, cannot easily describe the contents of videos. Viewers cannot easily get a digital copy of the video files, preventing them from watching the content on mobile devices such as iPods, sharing them on external websites, or using them in multimedia projects. CTN has no current plans to provide downloadable videos.<sup>33</sup>

The current streaming system is not free from technical issues. Many videos begin with a DVD player splash screen and end with screens showing metadata being entered into an administrative console. Others end with minutes of solid splash-screen, which is used as filler to create clips with standard lengths (30 or 60 minutes), a hold-over from cable broadcast.

The online streaming video service has not been highly publicized. Salmeron says that CTN is waiting until late 2008 or early 2009 to make a wider announcement to provide time for the system to stabilize and for bugs to be worked out.<sup>34</sup> Indeed, the link to the video on demand system is inconspicuous on CTN's section of the City website, and does not appear on the pages of individual city groups, such as City Council. The content on the actual streaming video homepage is also not easily discoverable -- as of late 2008, it displayed only a list of the most recent videos and a search field, with no indication of the range of material available.

Little if any opportunity for public commentary on the choice of video services or policy was provided. Wondrash said the selection of Leightronix was a convenience; if CTN wanted to use a different service, it would have needed new format transcoders.<sup>35</sup> This doesn't seem to be the case, as the Leightronix system can output in multiple standard formats.<sup>36</sup> The boxes are, however, tethered to the PEG Central upload system, and a new workflow would need to be developed if a different streaming service was used.

## *6. Copyright*

CTN retains copyright to all programs it produces, including recordings of local government meetings. "CTN can only make copies of programs of which it holds copyright" reads the *Request a Program Copy* section of the CTN website,<sup>37</sup> and titlecards for meeting recordings include a copyright notice. This statement specifically includes City of Ann Arbor meetings as well as Ann Arbor Board of Education meetings.

Wondrash and Salmeron say that the City has not yet considered offering videos under any other license.<sup>38</sup> No discussions appear to have occurred at the legislative level; the Mayor deferred the question to CTN and the City attorney.<sup>39</sup>

## *7. Budget*

The Code of the City of Ann Arbor stipulates that franchise fees received be "... directed to the cost of franchise administration,<sup>40</sup> operation of PEG access television, and communications and media operations of the City."<sup>41</sup> The code was amended in 2005 to allow the fees to be used for "community and media operations," in addition to PEG channels.<sup>42</sup> Mayor John Hieftje and Wondrash confirmed that franchise fees fund only the communications department.<sup>43,44</sup>

The large majority of the \$1.4 Million annual CTN budget goes towards labor costs -- \$623,485 was requested for the fiscal year 2009 budget, a small increase from \$622,384 in the 2008 budget. Fringe benefits and insurance ranked second. Only \$17,700 was requested for materials and supplies, down from \$32,700 in 2008.<sup>45</sup> In Fiscal Year 2007<sup>46</sup>, CTN spent at least \$24,000 on new equipment and related materials. Around \$180,000 was used for city support costs, which include IT staff time and other administrative costs.<sup>47</sup>

<i>Fund Name</i>	<i>Actual FY 2006</i>	<i>Actual FY 2007</i>	<i>Budget FY 2008</i>	<i>Forecasted FY 2008</i>	<i>Request FY 2009</i>
Personnel Services	\$529,653	\$528,354	\$622,384	\$622,384	\$623,485
Payroll fringes / insurance	\$183,344	\$232,511	\$274,372	\$274,372	\$298,791
Other services	\$167,366	\$141,590	\$233,060	\$232,485	\$210,990
Materials & supplies	\$18,820	\$13,220	\$32,125	\$32,700	\$17,700
Other charges	\$118,294	\$194,375	\$187,424	\$187,424	\$176,921
Pass throughs	\$40,000	\$10,000	-	-	-
Capital outlay	\$148,868	\$51,873	\$175,000	\$175,000	\$155,000
<i>Total</i>	\$1206345	\$1225923	\$1524365	\$1524365	\$1482887

### *8. Planning*

Little formal description of CTN's future plans exists. Some goal setting is done in the City's annual budget:

#### *Service Unit Goals, Communications Office*

- A. Increase by 5 percent (743 total) information [pieces] distributed to internal and external

audiences about Ann Arbor municipal news, innovative programs, awards and services from July 1, 2008 to June 30, 2009.

B. Develop and assist in the implementation of new technology resources to improve communications to citizens and employees and enhance understanding of city initiatives from July 1, 2008 to June 30, 2009.

#### *Service Unit Measures/Scoreboards*

A. Track the number of information pieces distributed monthly (information pieces include print/online newsletters, news releases, events, public information meetings, CTN public access and government produced programs, website pages, etc.

B. Track status of technology resource projects and implementation completion each month. These new resources include MOSS Intranet and integrating new media ideas into CTN's production delivery services.

*(rewritten from City of Ann Arbor Budget, Fiscal Year 2009)*

Wondrash says a "communication" can be a letter, flyer, message, press release, information packet, CTN government program, or some other piece produced by the Division. An "increase by 5 percent ... information [pieces] distributed" refers to the Communication Division's total annual production of documents. No proportion of this 5 percent increase is specifically assigned to CTN. Point A in the Service Unit Measures/Scorecards, the tracking of information pieces, also cannot be realistically used a metric for the Network's performance, as City staff recognize there is no feasible way to measure CTN viewership.<sup>48</sup> These budget goals appear to have little impact on the functioning of CTN.

The Network has no roadmap, published future goals, long-range plan, or other guiding document. Salmeron states that there is a "rough outline" of a plan for web streaming, and there are plans for some near-future equipment purchases.<sup>49</sup>

#### *9. The Cable Commission*

The Ann Arbor Cable Communications Commission was formed to "provide a consistent and formal opportunity for public involvement and perspective regarding cable communications."<sup>50</sup> Before statewide

consolidation, it was also responsible for negotiating and administering local franchise agreements.<sup>51</sup> Its by-laws give it specific responsibility for making recommendations to CTN about operations, policies, schedules, capital improvements.<sup>52</sup>

The board has 5 voting members and two non-voting City Council representatives. Council representatives on the Cable Commission do not have a vote. Members are appointed by the Mayor and serve for 5 year terms. They have diverse backgrounds: some are highly involved in local public service and government, others have rich backgrounds in digital media and technology, and others in business.

The Commission's theoretical influence on CTN stems from its recommendation of the Network's annual budget to City Council, but it has no authority to hire or fire staff or compel policy changes. There is "no disagreement about most of the budget," according to Bray, as the majority is commanded by non-negotiable administrative and staff costs.<sup>53</sup>

### **III. Discussion**

#### *1. Broadcast privileges*

The shift to state-wide franchise control may endanger CTN's broadcasting privileges. Federal law mandates the provision of PEG channels, but if the cable provider were to compress and move the channels to a high number, many of CTN's viewers would be technologically cut off. In the past, local control of franchises could have prevented this move, but the shift to State control has removed this protection, and CTN's hold on its channels has become tenuous.

CTN has a strong historical broadcast tradition that remains rooted in cable TV. When the Network started in 1973 and continuing through the late 1990s, there was no a way for individuals to access traditional broadcast mediums. With the rise of the Internet, this is no longer the case. Signals of the changing nature of media consumption have been popularized in the mass media for over a decade.<sup>54</sup> Locally, Wireless Washtenaw, a plan to blanket the county in a municipal wireless network, has been in the public consciousness for over four years.

#### *2. Facilities and Equipment*

Production facilities are focused on "technical excellence," says former Cable Commission chair Tom Bray.<sup>55</sup> For the first several decades of its existence, CTN allowed residents to produce content that would otherwise have required prohibitively expensive equipment and years of training. Now, the cost and complexity of video and audio equipment has decreased dramatically.<sup>56</sup> Formerly difficult editing jobs can be completed on software

included free with desktop and laptop computers. Professional-quality equipment is no longer necessary to produce high-quality media, and CTN recognizes this.<sup>57</sup> However, the organization has done little to adapt to this change in media.

The production facilities that CTN offers -- large studios suited to significant productions and equipment that remains out of the reach of many -- remain an important community asset. But CTN has shown little effort to embrace media producers who do not need or want the space and technically challenging equipment, focusing its support on clients who want to access a single level of production quality.

### *3. Media education*

All subjects interviewed for this paper who were familiar with the training programs praised them for their depth and breadth of content. The classes provide valuable inroads for anyone interested in broadcast and production, and no other public organization in Ann Arbor provides similar training. Both the Ann Arbor District Library and Community Education & Recreation (a division of the Ann Arbor Public Schools) offer classes on modern computing equipment -- but neither have sessions on video tools. The Neutral Zone, the local teen center, offers summer video production classes and a weekly after-school program, but not spot classes on specific subjects.

The training programs face challenges tied directly to CTN's equipment and broadcast orientation. One end goal of the programs is to certify residents in CTN equipment and procedures, but many residents already have their own tools, or don't need the quality that CTN offers. Users of popular consumer tools could apply the skills taught, but their needs are often different. This focus on may alienate a significant segment of the population from CTN's extensive expertise.

### *4. Programming*

The programming provided on CTN's public, education, and government channels has significant social value. The effective time-shifting of the civic record gives citizens who would not otherwise be able to participate in local government the opportunity to stay informed. A fundamental community service, meeting recordings are a cornerstone of CTN's local access efforts. With the decline of local print news, accessing this media will become more and more important to the Ann Arbor community. Without CTN's efforts, this content would otherwise not be available to the wider community.

With a lack of usable statistics, it is difficult to evaluate the other broadcast programs. Anecdotally, viewership is small, and CTN does not spend a significant amount of resources promoting its shows.

### 5. *CTN Online*

Providing CTN materials online has several community benefits. Most importantly, it allows on-demand access to materials. With online video, interested parties, including schools, news organizations, and involved citizens can view specific programming at times of their choosing. Random access between and inside videos means viewers no longer need to rely on CTN's fixed schedule,<sup>58</sup> rely on personal video recorders, or be forced to watch through hours of unwanted content to catch a relevant political point.

Online access also makes possible a number of creative content uses. Video files can be shared quickly and incorporated into multimedia projects, including reporting. Finally, digital video can be freed from the television. Files can be created for use on iPods, cell phones, laptops, and other mobile devices. All make the process of becoming informed about local issues simpler and more convenient.

Wider population studies show a significant rise in the use of online video. A 2008 consumer survey in the United Kingdom suggests that nearly 48% of the population have watched video or TV over the Internet, the majority of them using on-demand services.<sup>59</sup> A 2007 report from the Pew Internet and American Life Project found that 57% of Internet users have watched videos online.<sup>60</sup> Another Pew study suggests estimates that the average daily visits video sharing sites doubled from 2006 to 2007.<sup>61</sup>

CTN's tradition of Cable broadcast continues to weigh heavily on its online forays, and a number of factors make its current program less than ideal. The basic use of Google Video and PEG Central indicates that, while some efforts have been made to provide video online, the process has been undertaken with little consideration. In August 2007, Several Commissioners volunteered to form an ad-hoc committee to "explore internet programming", but the initiative was not mentioned at following meetings.<sup>62</sup> In May 2008, Commissioner Bray requested that CTN outline a web streaming plan; this doesn't appear to have occurred.<sup>63</sup> Wondrash framed the use of PEG Central as a first step into online media,<sup>64</sup> but no one interviewed for this report was able to identify any planning documents that were guiding the process.

#### *Feasible streaming video resources*

Simply moving content online with little concern for the platform will not allow for many possible benefits, including platform neutrality, or providing files that can be played on many systems, and annotation, the ability to describe videos in detail. A diverse range of websites use innovative techniques to make online videos more user-friendly, but no single best practice exists. Instead, a large number of complementary and competing systems create a large, complex market. Issues involving labor, distribution,

metadata, and archiving will need to be considered as CTN moves forward.

CTN has chosen to use PEG Central, a digital video service that positions itself as a provider of solutions to community television networks. The service is tied to Leightronix video encoding hardware. By using a tailored service like PEG Central, as opposed to a single or a range of free video services, CTN retains more control over how its videos are archived.

However, in using a tailored service, CTN also misses some significant advantages of other commercial solutions. It is unable to capitalize on market improvements made by the field of free streaming video providers such as YouTube, Vimeo, and other “generic hosts.” All innovate rapidly, competing to introduce new features for finding and sharing content. PEG Central, with a solid government contract, has little incentive to innovate or improve its service. And, as shown above, its functionality is limited.

The ability to find videos may also suffer when the videos are hosted only by a tailored service. Allowing the videos to spread across multiple services creates many entry points into CTN, as well as offering searchers multiple opportunities to find the content.

Advertising displayed by generic hosts may be a problem. Nearly all generic hosts run advertising or other content alongside videos, and some add pre- and post-roll ads, both of which are potentially unacceptable to the non-commercial CTN. Hosting the videos on YouTube, for example, displays a list “related videos” that are selected by an algorithm, not the original artist. This may create confusing juxtapositions between official proceedings and 3rd party videos.

Several free generic hosts offer powerful video applications: YouTube, Vimeo, blip.tv, veoh, Revver, Google Videos, dotSUB, and Brightcove, among others, are potential distribution channels. Each has features that are suited to different applications. Some offer the ability to add notes and subtitles to videos at arbitrary timecodes, allowing for the chaptering, translation, and annotation of videos. An overlapping set of providers allows for the streaming of high-quality footage. Nearly all allow videos to be embedded on external websites, such as blogs or newspapers.

Using generic hosts to distribute video on a large scale will prove problematic for CTN. Even if an automated process were created to post video, it would need supervision and maintenance. A proposal for combining the stability of secure storage with the capabilities of generic hosts will be discussed under *Recommendations*, below.

Associating City content, such as meetings or proceedings, with the wide range of content available through general streaming video providers may also present a public-relations risk. Politicians uncomfortable with the Internet may worry about small mistakes being easily available to opponents and memorialized indefinitely. Public officials have, of course, chosen to be in



the spotlight and will adapt to the new level of information accessibility, but initial political resistance may slow or complicate the adoption of the most effective technologies.<sup>65</sup>

### *6. Copyright*

Copyright is a serious barrier to providing full access to CTN's media. The footer of each PEG Central page reads "© Copyright 2008, LEIGHTRONIX, INC," but Salmeron states that CTN has not given away any content rights by using the service.<sup>66</sup> The copyright notice may prove ambiguous to some users.

The City's lack of consideration of copyright issues appears to be product of an institution that is only beginning to approach content distribution on the Internet. For content broadcast over cable TV, the issue simply did not arise, and no external pressure forced its consideration. As CTN moves video online, it will face situations where users will want to repurpose footage for many uses, not all of which will fall under fair-use provisions.

### *7. Budget & Planning*

The Network's funding is totally dependent two factors: franchise fees provided by the State and the attitude of City Council. The Council understands that it is a "valuable resource," say Hieftje and Cable Commissioner Barbara Clarke -- but both warn that it can be preempted and its funds used for other services.<sup>67,68</sup> Municipalities are not required to target franchise fees to PEG operations, and a significant budget deficit or a lack of political support could lead the City Council to divert funding away from CTN. Operating as a non-core service, this fluid foundation may spell an uncertain future for the organization. If challenged, the Network will need to present a strong claim of community importance and continued relevancy to protect its funding. Unfortunately, it has no document that describes its future goals and articulates its continued relevance.

### *9. Cable Communications Commission*

Current and former Cable Commissioners agree that that the group's influence on CTN is loose. Former Commissioner Mike Mouradian says that the Network is free to set its own policies and priorities.<sup>69</sup> No-one interviewed for this report could identify an instance in the last several years where the Commission directly influenced CTN's operation.<sup>70</sup>

The Commission has recommended a number of strategic changes to CTN. Commission members have argued for a switch away from expensive digital editing stations to cheaper consumer-grade computers, with high-quality editing software. During his tenure, Mouradian evangelized the power

of desktop video editing and consumer-grade cameras in the early 2000s by editing a short documentary. Outgoing City Council member Ron Suarez, a digital media producer and entrepreneur by profession, echoes his sentiments. He would often bring his digital camera to Commission meetings to demonstrate its utility and usability.<sup>71</sup> Bray and Suarez repeatedly identified new opportunities for the CTN to provide video online.

At least three Commission members have left the board in the last two years frustrated by a lack of change or innovation. Mouradian was “happy” to retire after spending a number of years persuading CTN management that channel 19, CitiTV, would provide significant community benefit. Bray, who joined the Commission in 2003, resigned in August 2008 because “there was nothing ... left to do.”<sup>72</sup> Councilman Suarez was also not able to effect any change.<sup>73</sup>

Combined with an impotence to influence over local franchises, the Commission has an atmosphere of irrelevance that is reflected in meeting attendance. While scheduled to meet monthly, the Commission missed seven of its 12 sessions between October 2007 and 2008, and no new information was posted online between August 26th and October 26, 2008.<sup>74</sup> The October meeting was canceled for lack of a quorum.<sup>75</sup> The group, which has raised important concerns regarding the future of CTN, has been marginalized by itself and the City, leaving the network free to operate without direct public pressure.

## **IV. Recommendations**

### *1. Facilities and Equipment*

**Continue to focus on providing prosumer level hardware, but explore providing lower-quality consumer hardware to engage a different segment of users.**

In concentrating solely on higher-end, studio-based production using complicated equipment, CTN misses creative segments of the population, including youth and users who might be put off by the professional equipment. This wider population segment is defined by users who want to create content using simpler tools, such as consumer-quality point-and-shoot video cameras, and CTN does not offer recording or editing equipment for them.

While this low-cost equipment is within the financial reach of many, there are significant reasons why CTN should provide it. The most inexpensive cameras are an impossible cost for residents on fixed and low incomes. As the more expensive equipment already does for some clients, simpler equipment could provide a “hook” to engage new users. Its decreased size and functionality could encourage media creation by users intimidated

by larger, more complicated tools. The low cost of equipment would also allow CTN to experiment with novel uses and different systems, and more cameras could be lent for extended periods of time.

### *2. Media Education*

**Work with local educational institutions to produce a series of short, creative classes that introduce new media concepts.**

There is little compelling reason for residents who simply want to learn how to have fun creating media to take CTN's classes. Understanding the technology and its affordances at a basic level would be more valuable and appealing for these amateur media artists, and the organization does not offer programs that explain the modern tools available. Adding shorter classes that cover the principles of creating well-produced video on devices that many have access to would be a natural fit with CTN's media-literacy mission. Newer technologies that are easy to use, such as the Flip Video digital camcorder and simpler iMovie editing software, might prove just as teachable to the older populations that CTN makes an effort to reach.

Creating new classes would also give CTN greater immediate relevance and presence in the community, providing a stronger base of support should its funding be challenged. Shorter classes on consumer equipment could easily be moved to locations outside of CTN's studios, including schools and community centers.

CTN should also consider expanding the breadth of its programs to include other creative media-related classes. In October 2008, for example, the Ann Arbor District Library held a four-hour, multilingual class for teens on writing a telenovella.<sup>76</sup> The Network could also provide expert knowledge on media and consumer literacy, as well as training sessions on how to access and understand the civic meetings it broadcasts. These programs could take advantage of Ann Arbor's many local media experts and visiting artists, such as producers, writers, directors, and others.

### *3. Streaming Video*

**Use third-party video providers as precision tools, not as generic video distribution systems.**

Spending hundreds of hours uploading hundreds of videos to multiple websites is not a valuable use of staff time. These generic hosts are generally not engineered to accept many large files through an automated workflow. As free services, few offer service or archiving guarantees. Most third-party services are better suited to the distribution of individual episodes or sharing of smaller clips by individual viewers. However, CTN staff can make effective use of these services to share highlights or take advantage of specific technical functionality -- such as allowing user comments -- that their generic video streaming solution does not allow. Use of third-party services should

be targeted at situations when those features are especially helpful. For example, video of a City Council meeting concerning a neighborhood with a significant non-English speaking population could be uploaded to dotSUB, a service that allows users to provide translations.<sup>77</sup> A weekly highlights clip could be distributed on YouTube, where it might find a wider audience.

**Promote community uses of CTN media by creating a full-featured video distribution system.**

By providing a single, high-quality source of footage under a less restrictive copyright license (see *Copyright*, below), CTN would allow third parties such as students, and entrepreneurs to build parallel collections using sophisticated tools, as well as allow individuals to share video clips on third party providers of their choice.

For example, University of Michigan School of Information and Public Policy students could create a new interface to the videos. An algorithm could access the City's media files and display them with metadata created by a third-party system. This metadata might be citizen commentary, links to related legislation, or some other information. This type of access would keep the original videos secure while providing an layer of annotation. None of the extra risk -- or work -- of creating these services would lie with CTN.

There are several ways to achieve this separation between original content source and distribution format. The University of Michigan has created an effective asset management system using Ancept Media Server, a product offered by IBM and other vendors. It accepts a wide range of media files, and allows users to export them on-the-fly in a number of different formats (video and audio) and qualities. The system has rudimentary voice-recognition and can create partial transcripts. Authorized users can add detailed descriptive information in standard formats, which can be exported at any time. Ancept also tracks the history of each file, recording all changes that were made to its state.

A more pragmatic approach to video archiving has been taken by the Ann Arbor District Library. In contrast to CTN, the Library has created a video-production workflow that emphasizes web streaming. All of the Library's recent programming is recorded digitally and is available online in multiple formats, including audio, podcast, larger-format video. Files are distributed under a Creative Commons license, which allows anyone to download the footage and redistribute or edit it for noncommercial purposes.<sup>78</sup>

The Library streams its programming to CTN from digital files stored on a Macintosh computer. No more complex equipment is used. Because these video files are standardized, they can be accessed without human intervention. Automated scripts transcode the video into different formats as needed. The laptop can automatically queue and play the desired shows

without occupying significant staff time. The library is considering creating a Web interface that could allow Library patrons to vote online for the programs they want to have rebroadcast at specific times.<sup>79</sup>

The hardware required to provide the streaming video to CTN and online cost the Library around \$4,000. Free open-source software is used to perform the processing and streaming, significantly lowering capital costs. However, the Library has a systems administrator dedicated to configuring and maintaining all Library servers.<sup>80</sup> CTN does not have this staff capability or tradition in-house, and due to budget constraints, the City's IT staff focuses its resources on key services.<sup>81</sup> These constraints will be addressed under *Cable Communications Commission*, below.

#### *4. Copyright*

##### **Release media under a less restrictive license.**

Distributing the media under a less restrictive license would serve civic principles on several levels. First, it would allow citizens basic, legal access to valuable information about local government. Second, it would clearly signal organizations and individuals -- journalists, students, politician -- that City encourages enhancements, additions, and reuse of its content by the wider community. Finally, using an open license would provide a model for other municipalities to follow.

The City has a number of avenues open for licensing the content produced by its staff members, and open licenses can take many forms. The freest option is a complete dedication of the work to the public domain. Other options allow for more granularity of control. The Creative Commons family of licenses, which can be customized with specific restrictions, are tailored specifically for multimedia content. For example, the Ann Arbor District Library requires restricts the reuse and remixing its videos to noncommercial purposes and requires a clear credit.<sup>82</sup>

At least two PEG providers -- Davis Media Access (DMA) in Davis, California, and CATV in Vermont and New Hampshire -- offer content through a Creative Commons License. These communities also allow citizen contributors to use a less restrictive license. Davis Media adopted a Creative Commons model for content it produces beginning in 2007. Station manager Jeff Shaw says that the switch came naturally to the organization, whose staff "have been following intellectual property issues for years".<sup>83</sup> Citizen-producers at DMA are free to license their content in any way they wish.

Shifting all CTN productions to an open licensing model and requesting volunteer producers to do the same should be a carefully considered decision made with community feedback. However, making City footage available under an open license would be simpler both in principle and in practice.

The meetings are public records of public proceedings, and should be treated as such. There is little, if anything, to be gained by keeping the information closed. The City cannot reasonably expect to sell recordings for any profit. CTN is avowedly nonprofit, and does not air any advertisements. And the market for the materials is miniscule. The costs of providing the information in an open format are not significant. The only change necessary is on CTN documents and websites.

#### *5. Broadcast & future plans*

**Consult with City officials, staff and local experts to develop a strong long-range plan that will direct CTN's actions both online and offline.**

Cable television has achieved wide penetration in Ann Arbor, and remains a valuable distribution mechanism, especially for less technically-oriented viewers. However, many of the programs are better suited to at-will and deep access. In contrast to entertainment programs, recordings of meetings are well suited to this type of access, as viewers interested in specific discussions points can watch at their leisure and skip irrelevant footage. In addition, the accessibility of CTN's channels remains under threat from a move to the "digital wasteland" that consumers will have difficulty navigating to. CTN should clearly articulate how it plans to adapt to these and other changes in community media use.

This report cannot only present an initial picture of the issues CTN will face and some of the effective paths for change. To create a comprehensive plan that covers distribution, education, and civic access, the City will need to consider the resources it has available internally as well as the political and administrative hurdles it may face.

#### *6. Communications Commission*

**Replace the Cable Communications Commission with a citizen's advisory board that would provide the City expert advice on all matters relating to information technology and digital government.**

The Cable Communications Commission no longer has any significant duties or audience, and should be dissolved. Any token functions still necessary to maintain the City's franchise arrangements can be performed by a smaller, .

Larger issues frame the importance and possibilities of CTN's position in Ann Arbor. Mayor Hieftje identifies the ability to get information to citizens as a growing problem for the City and a key function of the Network.<sup>84</sup> Subscription rates for the weekday Ann Arbor News have fallen significantly in the last two years.<sup>85</sup> The City only has permission to use email addresses for specific messages and mass mailings are both unreliable and expensive. There is no other efficient way of sending notices to citizens. The Network is

an important way to “bring our material to the people,” says Hieftje,<sup>86</sup> but the City is losing its ability to communicate with its constituents.

The range of these issues, some of which extend far beyond CTN’s mission, show that the City has broader challenges to tackle. The Cable Commission no longer has the power to address them, nor should it. Reliable access to government in a digital age requires significant consideration. A host of complex and related issues exist -- including broadband access, media literacy, and the dissemination of government information. The City should devote resources to investigating the range of appropriate and effective information dissemination methods.

City staff simply do not have time or the technical background to ponder all aspects of digital government, and speculation on the part of any government is not optimal. Instead, the City should create a wide-ranging advisory commission of enthusiastic local experts who could provide articulate, pragmatic advice and take definitive steps to guide the City’s digital policies. A mediator between citizen needs, technological possibilities, and political bodies, the new commission would present a uniquely valuable view of the field.

Any new group should have actual powers, as well as be expected to make significant policy contributions. For example, providing the group with a token portion of the City budget and the ability to raise funds would greatly improve its effectiveness. If formed as a semi-external group, it would have the independence to act quickly and directly that City staff may lack.

The reward for participants cannot be financial; the City simply wouldn’t be able to pay a fair market rate for high-tech professionals. The commission must be given some acknowledgment. The best tool for attracting and keeping motivated, expert participants may prove to be giving them the power to change the City for the better. Any commission the City considers must be effective, not just a formal stamp or a producer of documents.

The group might direct its funds at small projects, low-hanging fruit, as well as quick injections that could push forward valuable initiatives. For example, as the City IT department is overburdened with regular duties, the advisory group could fund a one-time development of storage capacity for CTN. Or it could expend the time necessary to recruit University students and collect grant funding to create a video management system tailored to archive government records, a project that could both benefit the City and gain national attention. It would also provide long-term vision, acting as a force against persuasive vendors and fads, providing analysis and advice on industry best practices.

The board would serve in an oversight role that would save time and move the City forward by making a significant contribution to Ann Arbor’s high-tech agenda. Its application to the issues surrounding CTN and local

access would provide both the external pressure and expertise that can propel the organization forward.



- <sup>1</sup> *History of CTN - 1970s*. [http://www.a2gov.org/government/city\\_administration/communicationsoffice/ctn/history/Pages/History1970s.aspx](http://www.a2gov.org/government/city_administration/communicationsoffice/ctn/history/Pages/History1970s.aspx) Accessed 5 December 2008.
- <sup>2</sup> *The Cable Communications Act of 1984*, Public Law 98-549. (October 30, 1984). The relevant portion of the version cited can be found at <http://publicaccess.org/cableact.html>
- <sup>3</sup> City of Ann Arbor Budget, FY 2009
- <sup>4</sup> A private 2007 report from the law firm Howard & Howard suggests that this change has not improved local broadband access. Jon D Kreucher (Attorney, Howard & Howard), phone conversation with the author, 28 October 2008.
- <sup>5</sup> Michigan Act 480 of 2006, Sec. 6(1)
- <sup>6</sup> Michigan HB 5047. (25 July 2007) [http://www.legislature.mi.gov/\(S\(yzw3scvykqopqbz0qi2ehlbx\)\)/mileg.aspx?page=getobject&objectname=2007-hb-5047](http://www.legislature.mi.gov/(S(yzw3scvykqopqbz0qi2ehlbx))/mileg.aspx?page=getobject&objectname=2007-hb-5047)
- <sup>7</sup> Michigan SB 636. <http://www.michiganlegislature.org/mileg.asp?page=getObject&objName=2007-SB-0636>
- <sup>8</sup> Ann Arbor District Library, "Comcast To Change CTN Service," <http://www.aadl.org/node/9404>, accessed 26 November 2008.
- <sup>9</sup> U.S. Judge Blocks Comcast's PEG Move, <http://dtv.broadcastnewsroom.com/articles/viewarticle.jsp?id=279212>
- <sup>10</sup> Salmeron interview.
- <sup>11</sup> Lisa Wondrash (Communications Unit Manager, City of Ann Arbor), phone interview with the author, 23 October 2008.
- <sup>12</sup> August 2007 Cable Communications Commission meeting packet
- <sup>13</sup> Prosumer, a term used for equipment that is higher than consumer grade but less than professional; see ex. <http://reviews.washingtonpost.com/category/slr-cameras.htm>. The Canon GL2 retailed online for around \$3,000 in November 2008.
- <sup>14</sup> Salmeron interview.
- <sup>15</sup> Id.
- <sup>16</sup> Id.
- <sup>17</sup> Lucy Ann Visovatti (Assistant Manager, Public & Educational Access, CTN), email to author, 3 December 2008.
- <sup>18</sup> Salmeron interview.
- <sup>19</sup> Visovatti email, 3 December 2008.
- <sup>20</sup> Salmeron email, 4 December 2008.

- <sup>21</sup> *Classes (Television Production Workshops)*, accessed 4 December 2008. [http://www.a2gov.org/GOVERNMENT/CITY\\_ADMINISTRATION/COMMUNICATIONSOFFICE/CTN/Pages/Classes.aspx](http://www.a2gov.org/GOVERNMENT/CITY_ADMINISTRATION/COMMUNICATIONSOFFICE/CTN/Pages/Classes.aspx)
- <sup>22</sup> Visovatti, email, 27 October 2008.
- <sup>23</sup> Cable Communications Commission. Various published agendas and minutes, 2007-2008. Averaged figures.
- <sup>24</sup> An in-depth look at the production process of one debate is available at <http://annarborchronicle.com/2008/10/14/standby-with-the-music-in-5-4-3/>
- <sup>25</sup> Wondrash, interview
- <sup>26</sup> [http://www.a2gov.org/government/city\\_administration/communicationsoffice/Pages/CityofAnnArbor2007CitizenSurvey.aspx](http://www.a2gov.org/government/city_administration/communicationsoffice/Pages/CityofAnnArbor2007CitizenSurvey.aspx)
- <sup>27</sup> <http://a2citiv.pegcentral.com/> Accessed 5 December 2008.
- <sup>28</sup> Salmeron, interview
- <sup>29</sup> Salmeron, interview.
- <sup>30</sup> Salmeron, email, 4 December 2008.
- <sup>31</sup> Id.
- <sup>32</sup> The current project is upgrading the City's phone system. Salmeron, interview
- <sup>33</sup> Wondrash, email, 27 October 2008.
- <sup>34</sup> Salmeron interview.
- <sup>35</sup> Wondrash, phone interview.
- <sup>36</sup> Salmeron, interview.
- <sup>37</sup> *Request a Program Copy* [http://www.a2gov.org/government/city\\_administration/communicationsoffice/ctn/Pages/RequestProgramCopy.aspx](http://www.a2gov.org/government/city_administration/communicationsoffice/ctn/Pages/RequestProgramCopy.aspx) Accessed 5 December 2008.
- <sup>38</sup> Wondrash, phone interview.
- <sup>39</sup> Hieftje interview.
- <sup>40</sup> When the City directly negotiated fees, a staff member was tasked with administering the contract; in 2008, the clause is no longer relevant. Mouradian, personal interview.
- <sup>41</sup> Code of the City of Ann Arbor, Chapter 32, Sec. 2:111 (7)
- <sup>42</sup> City of Ann Arbor Ordinance No. 7-05
- <sup>43</sup> John Hieftje (Mayor, City of Ann Arbor), interview with the author, 10 October 2008.
- <sup>44</sup> Wondrash, phone interview.

- <sup>45</sup> Redrawn from City of Ann Arbor. *Adopted FY 2009 Budget*, 95.
- <sup>46</sup> 2007 data was examined because it did not include significant one-time costs associated with CTN's Summer 2008 move.
- <sup>47</sup> Wondrash, email to author, 21 November 2008.
- <sup>48</sup> Wondrash, phone interview
- <sup>49</sup> Salmeron interview.
- <sup>50</sup> CTN informational binder
- <sup>51</sup> *Id.*
- <sup>52</sup> Ann Arbor Cable Communications Commission By-Laws. Adopted 29 October 1987, revised 19 February 1991. Printed January 2007. Note: the By-Laws include reference to the "regulation of cable grantee," a function performed by the State as of 2006.
- <sup>53</sup> Bray, personal interview
- <sup>54</sup> Amazon, eBay, and other major Internet corporations began in 1995 and before.
- <sup>55</sup> Bray, personal interview, 20 Nov. Bray, who is a Managing Producer Media Resources at the University of Michigan's Digital Media Commons, "helps folks think through media matters," and is an expert in event producing and audio and video processing.
- <sup>56</sup> Some of CTN's clients do indeed buy their own cameras after becoming "hooked" on the production process. Salmeron interview.
- <sup>57</sup> Salmeron interview.
- <sup>58</sup> Schedules are provided as downloadable PDFs from the CTN website. There is little graphical indication of order in the CTN schedule. A small amount of effort spent on the design of CTN schedules, as well as their promotion through the City, could attract new viewers. The Ann Arbor District Library, for example, produces well-designed brochures and announces programs through its blogs, Twitter, online calendar, and RSS.
- <sup>59</sup> [http://www.redback.com/Redback/Home/News&Events/PressReleases/YouGov\\_Survey\\_05\\_19\\_08.html](http://www.redback.com/Redback/Home/News&Events/PressReleases/YouGov_Survey_05_19_08.html)
- <sup>60</sup> *Online Video: 57% of internet users have watched videos online and most of them share what they find with others.* [http://www.pewinternet.org/PPF/r/219/report\\_display.asp](http://www.pewinternet.org/PPF/r/219/report_display.asp) Accessed 3 December 2008.
- <sup>61</sup> *Increased Use of Video-sharing Sites* [http://www.pewinternet.org/PPF/r/232/report\\_display.asp](http://www.pewinternet.org/PPF/r/232/report_display.asp) Accessed 3 December 2008.
- <sup>62</sup> Cable Commission meeting minutes, August 2007
- <sup>63</sup> Cable Commission meeting minutes, 27 May 2008
- <sup>64</sup> Wondrash, interview.

<sup>65</sup> The opposite may also occur; if all groups want to be represented online immediately, CTN may have trouble finding the time any money to fulfill all obligations. This situation would be positive, though, and would indicate significant community support for the new distribution mechanism.

<sup>66</sup> Salmeron, interview.

<sup>67</sup> Hieftje, interview.

<sup>68</sup> Clarke, interview.

<sup>69</sup> Mouradian, personal interview

<sup>70</sup> The Commission did push for web streaming of video, but its unclear how much impact its arguments had on CTN.

<sup>71</sup> Suarez, personal communications

<sup>72</sup> Bray interview.

<sup>73</sup> Suarez interview.

<sup>74</sup> [http://www.a2gov.org/GOVERNMENT/CITY\\_ADMINISTRATION/COMMUNICATIONSOFFICE/CTN/CABLECOMMISSION/Pages/Meetings.aspx](http://www.a2gov.org/GOVERNMENT/CITY_ADMINISTRATION/COMMUNICATIONSOFFICE/CTN/CABLECOMMISSION/Pages/Meetings.aspx), accessed 24 October 2008.

<sup>75</sup> Suarez, personal communications.

<sup>76</sup> *Drama! Jealousy & Ugly Betty Stylings! Telenovela Writing Workshop!*, <http://www.aadl.org/node/11914>, accessed 3 December 2008.

<sup>77</sup> <http://dotsub.com/>

<sup>78</sup> <http://aadl.tv>

<sup>79</sup> Neiburger interview.

<sup>80</sup> Id.

<sup>81</sup> Salmeron interview.

<sup>82</sup> <http://aadl.tv>. Accessed 25 November 2008.

<sup>83</sup> Jeff Shaw (Production Manager, Davis Media Access). Email interview, 3 November 2008

<sup>84</sup> Hieftje, interview.

<sup>85</sup> Id.

<sup>86</sup> Id.