

# Vermont Telecommunications Plan

SEPTEMBER 2004



Department of  
Public Service

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Come to a Public Hearing to update the *Vermont Telecommunications Plan*

Sponsored by the Vermont Department of Public Service

May 2, 2002  
6:15-9:15 p.m.

over the network of Vermont Interactive Television

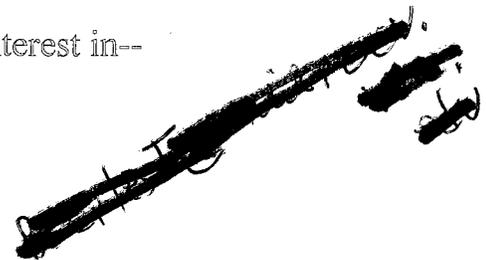
We are holding a public hearing to present a work plan and gather input on topics to examine in the 2003 revision of the *Vermont Telecommunications Plan*.

*Man Lorange*  
*Center*  
*from*  
*Billy*

Who should attend?

This is a general hearing. Come if you are a user of or have an interest in--

- telephone
- cable
- the Internet and other data telecommunications
- payphones
- cellular and wireless
- any other form of telecommunications.



What will be the format of the hearing?

The Department will give a presentation on its proposed work plan that will last approximately 15 minutes. Those who wish to speak will be then be given 5 minutes each to make remarks. Time permitting, speakers will be allowed to make additional remarks, and the evening will conclude with a moderated discussion among sites regarding issues raised during the hearing.

Call (802) 828-2811 or e-mail [vtdps@psd.state.vt.us](mailto:vtdps@psd.state.vt.us) to reserve time on the speaker list, or sign up at the door.

Why is the Department preparing a telecommunications plan?

## Preface

This edition of the *Vermont Telecommunications Plan* is a milestone in a process that began more than two years ago. It is a process that has tapped the knowledge, opinion, ideas, and critical thinking of hundreds of people who represent themselves or one of a wide range of organizations. Although this draft represents the voice of the Public Service Department (PSD) and not any particular participant in the input process, the contributions of all who assisted the PSD to date have been invaluable. It has been up to the PSD to use the information and analysis available to it to come up with a document that addresses the public interest as a whole. This document is a successor to a "Public Comment Draft" issued in March of 2004 and a "Final Draft" issued in June 2004. Both of these drafts were revised after consideration of comments received by the PSD at six public hearings held in April and July, and various written comments. This edition of the *Vermont Telecommunications Plan* is the fourth, following editions released in 1992, 1996, and 2000 and therefore "v. 4.0" has been added to the title at the bottom of each page. This document supplants the 2000 edition as the official, adopted version of the *Vermont Telecommunications Plan*.

The *Plan* as written is not intended to be an exhaustive list of all possible policies or desirable actions with regard to telecommunications in Vermont. Changes in circumstances, unforeseen events, and other contingencies may require actions by the State and others that are different from those envisioned by the *Plan*. Nevertheless, the *Plan* does represent a serious effort to identify and prepare guidance for dealing with important issues that will affect the provision and use of telecommunications in Vermont in the future.

established annually at a level that assures the legislature's E 9-1-1 appropriations are fully funded.

- ▶ USF funding for state E 9-1-1 costs should be limited to those cost elements directly related to providing the E 9-1-1 service.
  - The E 9-1-1 Board should have primary responsibility for verifying state USF funds released for E 9-1-1 are consistent with that purpose. When allocating funds to other agencies for E 9-1-1, the legislature should provide for accountability mechanisms (such as quarterly itemized accounts) that enable verification by the E 9-1-1 Board.
- ▶ VoIP providers that allow customers to call telephone numbers should support all the capabilities of enhanced 9-1-1 provided to customers of traditional telephone service.
- ▶ Vermont's E 9-1-1 tandem vendor in the future should be prepared to support calls from large numbers of different area codes associated with Vermont locations.

#### **Strategies/Action Plans**

- ▶ The E 9-1-1 Board and Vermont's wireless carriers should work together to develop standard informational materials about the capabilities and limitations of wireless E 9-1-1 and to distribute them at the time of purchase. The materials should also encourage customers to upgrade old handsets to ones that are *Wireless E 9-1-1 Phase II* capable.
- ▶ The E 9-1-1 Board should create a position dedicated to enforcing compliance with Vermont E 9-1-1 laws and rules.

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## **CABLE AND SATELLITE VIDEO PROGRAMMING**

Cable has evolved from a platform for enhancing reception of broadcast TV signals to a multi-function communications platform. Although the portion of the plan that follows deals primarily with cable in its role as a video delivery system, cable infrastructure is also important to Vermont's future because of its ability to deliver high-speed data and voice.

Satellite TV is also a very significant platform for the delivery of video programming to Vermonters, as about one in three Vermonters subscribe to a satellite video programming service. Many Vermonters now have a choice of cable or satellite TV. Unlike cable TV service, satellite TV providers receive their authorization to provide service from the FCC, not the state. Many satellite viewers in Vermont can now receive local broadcast TV stations via their dish, although satellite viewers still receive less local programming than do cable subscribers.

#### **CABLE LINE EXTENSION POLICY**

Vermont has a long-standing line extension policy that merits continued support with some modification. Essentially, cable companies are required to extend lines into unserved areas where there is a reasonable expectation they will be able to cover the costs of doing so, based on a formula that includes the costs of construction, penetration levels, and average revenue per customer. Cable companies are also expected to annually count houses in unserved areas and

proactively build areas with qualifying density. This policy has been important to spur the delivery not only of cable TV but broadband Internet services in rural Vermont. Recent changes in the cable marketplace deserve to be reflected in the formula. One increased challenge to cable companies building into new areas is the prevalence of satellite dishes, which reduce the number of likely subscribers. (Recent cable CPGs have included line extension formulas that account for satellite.) On the other hand, while cable once was a predominantly residential service, cable's data services are now more appealing to businesses. Therefore, it is now appropriate to count businesses as potential subscribers as well as households.

Technology is also opening up new possibilities in how house counts are conducted. Electronic maps promise to make the process of counting houses easier and its results more useful. On the one hand, recent electronic filings by Adelpia of house count surveys and areas served by cable, as well as steps taken by the PSD to digitize house count maps, were instrumental in creating the maps of cable TV and cable modem service that appear in this plan and elsewhere. On the other hand, the annual requirement on cable operators to survey unserved areas is time-consuming and expensive. Towns and the E 9-1-1 Board collect most of the information needed for house count surveys—road location and the location of residences and businesses—and make it publicly available in a GIS format. GIS can not only store the results of cable company house counts but it can be used to identify areas of very low density, eliminating the need to frequently ride out and survey these areas.

**Strategies/Action Plans**

- ▶ The PSB should adjust future line extension formulas in rule and CPGs to account for satellite dish subscribership and businesses subscribing to cable video or data services.
- ▶ The PSB and PSD should evaluate the effectiveness of using GIS map models to reduce the need for cable companies to physically ride out unserved areas to count houses and businesses.
- ▶ The PSB and PSD should require larger cable companies (at least) to report house count surveys and areas served in a GIS-compatible electronic format.

**CABLE CPG STANDARDS**

Vermont has recently seen a string of cable refranchising proceedings. The next several years will see a number of small company refranchising proceedings and, as shown in Figure 8.1 and Table 8.3, a new round of towns in which Adelpia franchises will expire. (Adelpia has a number of operating companies in Vermont, which hold a number of distinct franchises, but not all of which expire at the same time.) While there are a large number of specific criteria for cable franchise renewal in state and federal law, it is worth stressing here a pair of broad priorities. First, part of the importance of cable infrastructure is its ability to deliver local content to Vermonters. Vermont's geography does not favor local broadcasting. Cable provides a medium that can deliver Vermont-specific commercial and non-commercial content to Vermont households at a time when public discourse and local commercial communication depend on this outlet as much as ever. Furthermore, cable operators have discretion in what program-

**Table 8.3:**  
**Cable franchise expirations in the next 5 years**

Franchise expires	Company	Towns
2004	Opticable	Readsboro
2005	North Country Cable	Bakersfield, Berkshire, Montgomery
2007	Adelphia	Andover, Arlington, Athens, Baltimore, Barnard, Benson, Bridgewater, Castleton, Cavendish, Chester, Chittenden, Dorset, Fair Haven, Goshen, Grafton, Hubbardton, Ira, Jamaica, Landgrove, Londondery, Ludlow, Manchester, Middletown Springs, Mount Holly, Peru, Pittsfield, Pittsford, Plymouth, Poultney, Reading, Rupert, Sandgate, Sherburne, Shrewsbury, Springfield, Stratton, Sudbury, Sunderland, Tinmouth, Wardsboro, Weathersfield, West Haven, Weston, Windham, Windsor, Winhall, Woodstock, Addison, Avery's Gore, Barton, Bridport, Brighton (Isl. Pond), Bristol, Brownington, Charleston, Charlotte, Coventry, Derby, Ferdinand, Ferrisburg, Glover, Hinesburg, Holland, Huntington, Irasburg, Jay, Lewis, Lincoln, Lowell, Monkton, Morgan, New Haven, Newark, Newport City, Newport Town, Ripton, Sheffield, Shelburne, Starksboro, Sutton, Troy, Vergennes, Waltham, Warner's Grant, Warren's Gore, Westfield, Westmore, Jericho, Richmond, Underhill
2008	Adelphia	Belvidere, Cambridge, Craftsbury, Eden, Elmore, Fairfax, Fairfield, Greensboro, Hardwick, Hartford (White River Junction), Hartland, Highgate, Johnson, Morristown, Norwich, Pomfret, Sharon, Sheldon, St. Albans City, St. Albans Town, Stannard, Stowe, Strafford, Swanton, Thetford, Walden, Waterville, West Windsor, Wheelock, Wolcott, Brattleboro, Brookline, Dummerston, Guilford, Halifax, Marlboro, Rockingham, Vernon, Westminster

ming appears on their systems; the programming that is available to the greatest number should inform, educate, reflect community voices, and promote important public conversations. In short, it should serve the public interest. Second, the cable network is an important asset to the community and it deserves ongoing investment and periodic upgrades to reflect industry norms. Without this investment Vermont risks losing an important communications conduit.

Furthermore, cable infrastructure can now be a means of delivering various

forms of communications service, not only cable TV. The ability to deliver voice and data as well as video over cable is desirable. While these other services may not always be appropriate subjects to address directly through a CPG for cable services, the state in its franchising role should consider how the terms of a CPG may affect the delivery of these other services to Vermonters.

#### Policies

- ▶ Cable CPG obligations should take into account important public policy objectives, among them encouraging cable operators to make investments in their system and offer new video, voice, and data services.
- ▶ To meet community needs, cable companies should provide as strong a public interest

**Table 8.4:**  
**Cable franchises with no expiration dates**

Company	Towns
Adelphia	Colchester, Fairfax, Georgia, Milton, Westford
Duncan Cable	Wilmington
North Valley Cable Systems	Bolton, Williamstown
Olsen's TV and Radio Repair	East Corinth
Smugglers' Notch Cable TV	Cambridge
Stowe Cablevision	Stowe
Trans-video	Berlin, Northfield
Waitsfield Cable	Buel's Gore, Duxbury, Fayston, Moretown, Waitsfield, Warren

programming base as possible in its basic tier.

- ▶ Cable companies should carry a strong component of local content.
  - Cable systems should carry local digital broadcast content as it becomes available.
- ▶ All but the smallest cable systems should be made capable of two-way transmission in digital format.

### PEG ACCESS

Public, Educational, and Governmental (PEG) access is recognized by Vermont state law as an important component of cable systems. These cable stations provide an outlet for community members and organizations to produce non-commercial programming and present programming of interest to their neighbors. They allow citizens to monitor government meetings and officials even when they cannot attend in person and they give local educators a conduit in the community. Over the course of the last 15 years, the number of locally-organized PEG Access Management Organizations (AMOs) has grown substantially. (See Table 8.5.) The survey conducted for this plan shows that the public continues to support the concept of PEG access by a considerable margin. Furthermore, a significant number of cable subscribers are regular viewers of PEG programming. Although the amount of reported PEG viewership is not overwhelming, very large levels of viewership for any individual cable channel, including commercial channels, are the exception, not the rule, in a digital cable environment of hundreds of channels. The levels of reported PEG viewership are respectable.

That increase in channels and cable system capacity has sparked a debate about the proper level of cable capacity to reserve for PEG access. PEG systems in larger communities are filling multiple channels with programming. The nature of the way cable channels are programmed has evolved. To accommodate the wider selection of channels viewers face and the practice of “channel surfing,” cable networks are more likely to repeat programs in multiple time slots, sometimes on multiple channels. Increases in cable system capacity reduce the scarcity of channels as a reason not to expand successful, thriving PEG operations when expansion could better serve the community. At the same time, increases in cable system capacity alone are not sufficient reason to increase the capacity dedicated to PEG. There must be important community needs that increased capacity will meet, and the state in its franchising authority role should consider how capacity allocations will impact other important public policy objectives, among them encouraging cable operators to make investments in their systems and offer new video, voice, and data services.

The capabilities of a PEG access operation are not measured merely by the number of channels it uses. The ability of PEG stations to originate live programming from a variety of locations around the community adds value to the PEG programming experience. Local government meetings and candidate forums are examples of how PEG programming, and especially live PEG programming, contributes to democracy in the community. Furthermore, PEG access can serve the public by being more than just a place to play tapes. When

## SECTION 8 • REGULATORY POLICY

PEG access includes facilities and training for members of the community to learn video production, it contributes to media literacy in the community.

Changes in video technology affect PEG as well. Video is going digital. To utilize the attributes of digital television, the PEG facilities need upgraded digital tools. To meet future cable-related community needs public access must be able to utilize the attributes of digital video. Analog videotape cassette recorders and editing decks are outdated. Video recording is moving to digital storage media like PC hard drives and DVDs. The recording, editing, and playback equipment of a PEG access station should reflect this digital sea change. Fortunately, this need not necessarily require large new capital expenditures on PEG equipment. The price of digital video quality has followed the same declining cost curve of computers and electronics generally. Furthermore, digital video is more readily transferred back and forth between cable TV and Internet platforms. PEG groups that are able to explore new Internet video platforms and offer access to third party producers who wish to produce video directly for the Web, would provide a valuable side benefit to communities (although cable-based funding sources may not support all such activities if they do not have a tie to PEG access on the cable platform).

### Policies

- ▶ Community needs and the demand for PEG access services, balanced by cost, should drive considerations of the appropriate number of PEG channels and other PEG capabilities. Indicators of community demand for PEG access services include but are not necessarily limited to:
  - viewership (both the number of people watching and the size and interest level of a “core” viewership),
  - hours of locally sponsored and produced programming,
  - number of PEG access programming hours regularly filled with programming and information of local interest, and
  - levels of expressed community interest in video production training.
- ▶ Live origination of local programming from key community sites as well as PEG studio locations is an important public benefit of PEG access.

**Table 8.5:**  
**Vermont access management organizations**

Started	AMO	Current Number of Channels
1976	Brattleboro	2
1984	Burlington (P)	1
1984	Montpelier	3
1984	Rutland	3
1985	Middlebury	1
1989	Barre	2
1990	Burlington (G)	1
1990	Newport	1
1992	Burlington (E)	1
1992	Shelburne (E)	1
1992	Lyndon/St. Johnsbury	1
1993	Bennington	3
1993	Norwich/Hartford (P)	1
1994	Colchester	2
1994	Richmond	1
1995	Bellows Falls	3
1996	Manchester	3
1999	Springfield	2
1999	St. Albans	1
2000	Windsor	1
2001	Ludlow	1
2001	Waitsfield/Warren	1
2002	Stowe	1
2003	Bristol	1
2003	Shelburne (PG)	2
2003	Woodstock	1
2004	Norwich/Hartford (E)	1
2004	Hardwick	start up
2004	Hyde Park	start up

(P)=Public Access Station, (E)=Educational Access Station, (G)=Government Access Station. All other entries are combined P, E, and G stations.

Source: Vermont Access Network

- ▶ Local video production training of community members to produce PEG access programming provides an important public benefit.
- ▶ PEG facilities should include the ability to digitally record, edit, and encode video and audio.
- ▶ While “cutting edge” video production and cablecasting of PEG access programming should not be required, PEG facilities and channels should be capable of producing and delivering content with high-quality production values in line with changes in technology, viewer expectations, and a reasonable level of PEG funding.
- ▶ While increases in channel capacity and system bandwidth should not lead automatically to larger “set asides” for PEG access, cable operators with the ability to deliver more cable content should be prepared to accommodate more PEG access content, if there is a demonstrable community need.
- ▶ PEG access entities should not be discouraged from repeating programming at a frequency comparable to that found on commercial cable stations.
- ▶ PEG access CPG obligations should bear some relation to the size of the cable system.

#### **Strategies/Action Plans:**

- ▶ PSB Rule 8.451 is now outdated; terminology specified in the rule should be upgraded to reflect the change from analog video to digital video platforms. The PSB should add the following terms to the definition when next revising Rule 8.400: digital cameras, digital storage media, analog/digital converters, and digital non-linear editing platforms.

#### **STATE-WIDE INTERCONNECT**

The PSB’s April 2000 order in Docket 6101, the franchising of many Adelfia systems, breathed life into a concept that PEG access entities and the PSD had supported. This concept, a statewide PEG access network, promises to add value to the existing level of PEG programming. Such a network could improve the Vermont-based programming available to Vermont cable subscribers in a number of ways including:

- ▶ Allowing locally-produced PEG programming of special quality or state-wide interest to be shown statewide;
- ▶ Allowing live access to legislative proceedings, testimony, and other important state government meetings and events, like a Vermont version of C-SPAN;
- ▶ Providing a broader audience for educational programming.

The 2003 franchising of Charter Communications’ Vermont system was the first non-Adelfia system to have a franchise condition related to a statewide PEG network. The condition required Charter to interconnect with Adelfia for the purpose of sharing statewide PEG network programming. With Adelfia and Charter participating, the concept would progress further toward being a true statewide network.

Although there have been some discussions and planning, more than one third of the way through the first franchise that called for the statewide network, this important public benefit has not yet been realized. It is time for all parties involved—PEG access groups, cable companies, and the state in its role as franchising authority and facilitator of access to government by the public—to work with renewed effort to make real the vision. One step that would move the development of the network forward would be the designation of an access management organization (AMO) to work with Adelphia, Charter, and other cable companies and to lead in the implementation and management of the network. This AMO may or may not be an entirely new organization. Other possibilities could include adding statewide responsibilities to an existing local AMO or formalizing a consortium of local AMOs.

### **Policies**

- ▶ All cable system operators neighboring another cable system operator in the same or an adjacent town are encouraged to interconnect for the purposes of sharing programming and other communication over their network; all new cable franchises should include such interconnection as a CPG condition unless good cause exists not to.

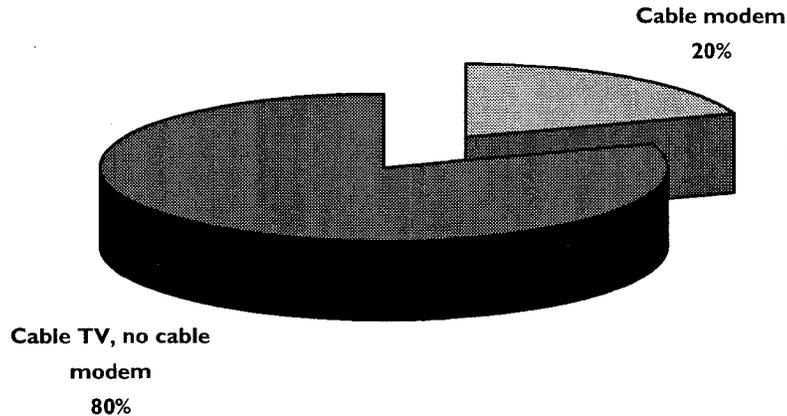
### **Strategies/Action Plans**

- ▶ The PSB and PSD should work toward designation of a statewide PEG AMO to manage the statewide interconnected PEG access network.
  - The statewide AMO should be charged with identifying a location for a studio facility if needed, either a new facility or a facility shared with an existing local AMO.
  - The statewide network should provide the ability to (1) receive programming from all Adelphia and Charter local PEG studios and remote origination points, the statewide AMO studio location, and video feeds as available from VIT, UVM, and ILN, as well as state building locations; and (2) deliver live video feeds and stored digital video files to interconnected local PEG access organizations for broadcast.
  - The statewide AMO should be charged with working with Adelphia Cable, Charter Communications, and other cable companies that elect to participate in the network to establish interconnection facilities, video switching between local PEG systems, and digital video storage.

### **CABLE TARIFFS**

Hefty annual cable rate increases exceeding the rate of inflation have become a subject of regular media and congressional attention. While cable companies have accompanied such increases over time with system upgrades, new services, and more channels, consumers are justifiably upset by increases that cost more and more, asking consumers to buy more and more services that they may or may not wish to buy. Nevertheless, state authority in this area is severely constrained. While state law provides the PSB extensive authority to regulate cable rates, federal law pre-empts it and the state currently may not challenge the rates of its cable companies. State law requires cable companies to file tariffs, but the effect of federal law ensures that these are not more than informational tariffs. These filing requirements, while not ultimately determining cable rates,

**Figure 4.33:**  
**Cable modem take rates among cable customers**



### **PUBLIC ACCESS TELEVISION**

The residential survey asked respondents, both cable subscribers and non-cable subscribers, a series of questions regarding Public, Educational, and Governmental (PEG) access television. The survey asked about viewership, interest in and opinions about PEG access and related issues. Researchers presented respondents with televisions in their households (98.3%) the following statement: "Public access television channels, sometimes called PEG access channels, are designated cable TV channels used exclusively for transmitting television programs produced by the public, educators, and local or other government." Almost two thirds (62.7%) noted having watched a public access channel at some point in their lives, while 36.0% had not.

Respondents were asked for the number of hours per week they watched public access channels in the past year. Table 4.57 depicts the results as collected for all respondents with a TV and for cable TV subscribers. About one-third of cable subscribers reported watching at least an hour of PEG access per week on average.

Respondents were asked for their opinion about the importance of having public access channels at all, and the importance of having enough channels to accommodate all the programs the public might want to place on them. Almost two thirds (61.7%) of respondents with television said it was very (32.0%) or some-

what (29.7%) important to have PEG access channels, while one third (33.0%) said it was of little importance (18.3%) or unimportant. Respondents were also asked, "If the public wants to air more programs than it is possible with the capacity of the current PEG channels, how important would it be for the cable company to provide additional PEG channels?" One half (49.5%) of respondents with television indicated it was very (20.1%) or moderately (29.4%) important for the cable company to provide additional PEG channels. More than one third (39.8%) said it was of little importance

**Table 4.56:**  
**Ever watched a public access channel?**

	Percent among all respondents with a TV	Percent among households with cable
Yes	62.7	72.9
No	36.0	25.6
Don't Know	1.3	1.5

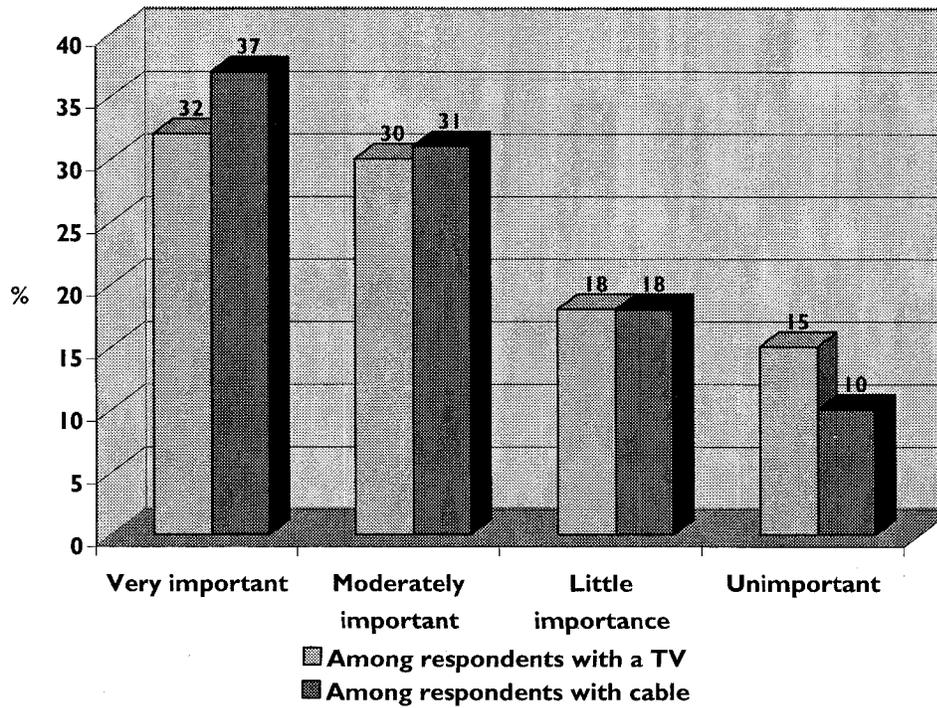
**Table 4.57:**  
**Number of hours per week watched public access channels in the past year**

	Among all respondents with a TV		Among households with cable	
	Percent	Cumulative	Percent	Cumulative
10+ hours/week	2.0	2.0	2.5	2.5
5-10 hours/week	3.8	5.8	4.5	7.0
3 - 5 hours/week	6.9	12.7	9.0	16.1
1 - 2 hours/week	15.0	27.7	18.6	34.7
< 1 hour/week	22.8	50.5	28.6	63.3
0 hours	46.4		32.2	
Don't Know	3.0		4.5	

(15.7%) or unimportant (24.1%). Figures 4.34 and 4.35 show that there is very little difference in the way that cable subscribers and non-cable subscribers answered these questions, other than slightly higher support for PEG channels among cable subscribers. More than two-thirds of cable subscribers (67.4%)—who pay for PEG access directly or indirectly through their cable bill—thought PEG channels were very or moderately important. Cable subscribers were more evenly split on the question of whether or not the number of PEG channels should expand to accommodate more PEG programming if needed. About half (50.3%) thought more channels would be very or moderately important. About two-fifths (39.7%) thought it would be unimportant or of only a little importance. About one in ten didn't know or were not sure.

On a related issue, the survey asked respondents about their interest in a Vermont version of "C-SPAN," which broadcasts sessions of the Congress. Almost two thirds (63.2%) of respondents with televisions would watch live television broadcasts from the Statehouse regularly (9.9%) or occasionally (53.3%), while 33.2% said they would never watch it. A few respondents (3.6%) did not know or were unsure. This figure has remained stable over time. A similar question in the 1995 and 1999 surveys indicated that those who would watch regularly or occasionally stood then at 58% and 63%, respectively.

**Figure 4.34:**  
**How important is it to have PEG access channels?**



**Figure 4.35:**  
**How important is it to provide additional PEG channels for more programming?**

