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January 23, 2015

The Honorable Fred Upton
2183 Rayburn House Office Building
Washington, DC 20515

The Honorable Greg Walden
2185 Rayburn House Office Building
Washington, DC 20515

*Re: Regulation of the Market for Video Content and Distribution – Response
to White Paper #6*

Dear Chairman Upton and Chairman Walden:

I am pleased to send you this letter on behalf of the Colorado Communications and Utility Alliance (CCUA), the Washington Association of Telecommunications Officers and Advisors (WATOA), and the Alliance for Community Media - Northwest Region (ACMNWR).

CCUA was formed as a Colorado non-profit corporation in 2012, and is the successor entity to the Greater Metro Telecommunications Consortium.¹ It is the Colorado chapter of the National Association of Telecommunications Officers and Advisors (NATOA). Its members have been working together since 1992 to protect the interests of their communities in all matters related to local telecommunications issues. The CCUA undertakes education and advocacy in areas such as telecommunications law and policy, cable franchising and regulation, zoning of wireless communications facilities, broadband network deployment, public safety communications, rights-of-way management, and operation of government access channels.

WATOA is a professional organization of individuals and organizations serving citizens in the development, regulation, and administration of cable television and other telecommunication systems.² Its purposes include sharing information about cable and telecommunications issues and activities affecting local governments; improving the administration of cable TV franchises; providing technical assistance to members;

¹ The members of CCUA are Adams County, Arapahoe County, Arvada, Aurora, Boulder, Brighton, Broomfield, Castle Rock, Centennial, Cherry Hills Village, Columbine Valley, Commerce City, Dacono, Delta, Denver, Douglas County, Durango, Edgewater, Englewood, Erie, Federal Heights, Frederick, Glendale, Golden, Grand Junction, Greenwood Village, Lafayette, Lakewood, Littleton, Lone Tree, Louisville, Mead, Montrose, Northglenn, Parker, Sheridan, Thornton, Westminster, and Wheat Ridge, Colorado.

² WATOA's local government members are Bellingham, Bremerton, Ellensburg, Everett, Kent, King County, Kirkland, Longview, Pasco, Richland, Seattle, Tacoma, University Place, Vancouver and West Richland, Washington. Its regional and PEG programming members are KLTW – Longview, Pierce County TV – the Rainier Communications Commission, Mid-Valley TV Toppenish, Washington, and the Metropolitan Area Communications Commission (Beaverton, OR).

providing a forum for the open and balanced discussion and debate of telecommunications issues; and communicating with other professional organizations for the overall improvement of telecommunications services to the public. WATOA is the Washington state chapter of NATOA.

ACMNWR represents and advocates on behalf of all media creators and providers including videographers, musicians, graphic designers, Public, Educational and Governmental (PEG) cable TV access organizations, community media centers, and access producers throughout Alaska, Alberta, British Columbia, Idaho, Montana, Oregon, Utah, Washington, and Wyoming. ACMNWR is a region of the national Alliance for Community Media, a nonprofit, national membership organization founded in 1976.

The House Energy and Commerce Committee's latest white paper (number six) focuses on the regulation of the market for video content and distribution and it poses questions and seeks comment from interested parties. This letter will address a number of issues to which CCUA, WATOA and ACMNWR can speak with authority.

PRELIMINARY ISSUES

We would like to first clarify a statement made in the white paper. In discussing potential barriers to competition, the white paper says "Franchising authorities regulate cable rates unless the cable system is subject to effective competition as defined under the law." This is not entirely accurate. If a cable system is not subject to effective competition, a franchising authority does not regulate cable rates unless it chooses to do so. If a franchising authority chooses to regulate rates, it is only permitted by federal law to regulate rates for the basic tier of service, which comprises a small percentage of the cable services offered in our communities. In addition, most jurisdictions are in fact subject to effective competition, since the threshold for finding effective competition is so low. As a result, very few franchising authorities regulate cable rates, and those that do only regulate a very small part of the services provided. We do not mean to advocate for rate regulation – quite the contrary. We only wish to point out that rate regulation is not really a barrier to cable competition, nor does it significantly impact cable service provision where there is no wireline based competitor to the incumbent cable operator, because rate regulation occurs so infrequently. None of our Colorado and Washington jurisdictions regulate basic cable rates.

ADDRESSING SPECIFIC WHITE PAPER QUESTIONS

Our intent is to address those questions directly related to localism and PEG programming. We will respond first to questions 2b and 3, and then provide some suggestions to that part of the Committee's questions in 1d related to actions that can be taken to promote localism. It is important to note that we start from this foundational premise: private sector content providers and communications network owners are most often for-profit entities whose ultimate goal is to generate revenue. There is nothing wrong with this – it is simply a fact. It is also a fact that these entities use public assets in order to run their businesses. Broadcasters and satellite companies use licensed spectrum. Cable operators, telephone companies and other wireline based broadband

providers use public rights-of-way to locate their network infrastructure. There are a variety of federal, state and local legal provisions that provide mechanisms for these entities to provide consideration for these public assets through public interest obligations.

It is appropriate, in an era of convergence, to explore ways to create revised public interest obligations that make sense in a new technological environment. Indeed, in today's environment, one can say that we no longer have "cable companies" and "telephone companies." We have broadband companies, and we see voice, video and data as applications delivered over broadband networks. We discuss one way to address these public interest obligations in our response to question 1d below.

As Congress considers ways to "level the playing field" in addressing how new technologies are governed, it is important that Congress not eliminate public interest benefits to local communities. Doing so would result in a government subsidy to the broadband network operators and content providers, and a dramatic reduction in the important local content that is being produced and provided to Americans today through a variety of media, as a result of the creativity of their local governments, educational institutions, and their community media centers, as well as the private sector partners that help facilitate production of this local content.

White Paper #6, Question 2. Cable services are governed largely by the 1992 Cable Act³, a law passed when cable represented a near monopoly in subscription video.

b. Cable systems are required to provide access to their distribution platform in a variety of ways, including program access, leased access channels, and PEG channels. Are these provisions warranted in the era of the Internet?

Feedback: The partnership between cable operators, franchising authorities and PEG Access organizations enabled by the Cable Acts, beginning in 1984 has led to beneficial and important local access cable programming, as well as allowed for the expansion of such programming into new media, as new technologies have developed. Over the years, many of our jurisdictions have used their access channels on their cable systems to provide programming on a variety of topics – city council meetings, local news shows (especially beneficial in smaller rural communities and suburban communities whose local news is not generally covered by the broadcast networks), magazine style shows addressing local issues (such as arts, parks and recreation, tourism, public health and public safety), educational programming, high school sports, and public affairs programming (including interview programs with state and federal elected officials about issues of importance within their districts).

³ Cable services are actually governed by the Cable Act of 1984, which, as the Committee correctly implies, was amended in 1992. It was further amended in the Telecommunications Act of 1996.

These efforts to enhance and expand PEG programming continue today. Moreover, these efforts are not limited to content on cable channels. Our member jurisdictions and organizations have been actively involved in expanding our programming to include web-streaming and social media.

What follows below is just a sampling of the kinds of important programming that our communities and PEG access organizations are providing for local residents and businesses – both on cable channels and on-line.

- ***Spokane, Washington***

The city of Spokane operates CityCable 5, a local government access channel on Comcast Cable. Its live productions cover City Council, Planning Commission, Park Board, Police Ombudsman Commission and Use of Force Commission. These meetings provide real time unedited information to the citizens of Spokane. In addition the city replays various board meetings that are provided from outside agencies such as the Spokane County Commissioners, Spokane Transit Authority and Spokane Regional Board of Health.

Locally produced programs include a weekly City Media Briefing, Monthly Council Connection (live hour long talk show hosted by Council Members with citizen call in) Spokane Insight (monthly ½ hour city information program), Leaders and Lectures (monthly lecture series), Walk in the Park (bi-monthly City Parks & Recreation program) and Second Alarm (bi-monthly Spokane Fire Department information program).

Spokane is focused on transparency of local government by providing citizens numerous options for obtaining information on what is going on in local government. It provides a live stream all of the City boards and commissions as well as the Council Connection program. All of its locally produced programs are used on the city's nationally recognized YouTube Channel (<http://www.governmentvideo.com/article/government-video-web-channel-salute-spokane-washington/114792>), VIMEO channels or used in short form social media or included in city blogs. Spokane's current You Tube channel has 40,458 total views, 110 subscribers, and 348 videos. The city has 162 videos available through Vimeo.

- ***Durango, Colorado***

The City of Durango provides critically important access television content in Southwest Colorado. Located in La Plata County, this area is an “orphan community,” in that it is not within any Colorado direct market area for broadcast television. Most over the air television and “local” cable broadcast network programming is from Albuquerque. For years Durango's government access television operation has worked to keep local residents up to date on not only local government events (such as city council and other meetings) but also providing local interest programming and exposure

for local entities. Durango reaches city residents via its cable channel on Charter Communications' cable system.

The city's status as an orphan community creates a problem in delivering emergency information to local residents in a timely fashion. It is difficult to rely on Albuquerque media to broadcast information in emergencies unless the emergency is extremely large. Durango has developed a workflow to air information about power and water outages, wildfires and flooding over its cable channel as well as on the web, on its city buses and hopefully soon directly to the homes of all residents in Durango and La Plata County.

In addition to its programming on the cable system, Durango streams the government produced programming 24/7 and promotes the cable channel programming through social media. The city has begun sending some of its programming to monitors on Durango Transit buses. It has entered into an agreement with the Southwest Colorado Television Translator Association to carry Durango's live programming to areas of Southwest La Plata County, Montezuma County and portions of Dolores County that cannot receive the programming over their cable systems (or where no cable system is available). Durango is a regional center of commerce and travel in Southwest Colorado, and its efforts to make local programming available to the broader region are indicative of that fact.

- ***Arvada, Colorado***

The city of Arvada produces thirteen different types of programming:

A-Files - magazine format show takes a closer look at our community, from events to people and places that make this community what it is today.

Artscentric - showcases the creative world of the Arvada Center through Theater, Galleries and Education.

Arvada Insights - hosted by the Mayor of Arvada, the mayor and his guests provide the insights on the latest projects, developments and activities that are taking place in the city.

Arvada Attic - showcases items, places and events in the City of Arvada history.

City Beat - profiles city departments or items of interest within the department.

Council Connection - is hosted by one of our City Council members, highlighting a community event, project or city issue.

Eco Diary - shows you the efforts that the city is undertaking, to make sure that all Arvadans are moving in the right direction to go GREEN!

Jefferson County Insights - Brings you a closer look at what is happening in the county, from your county commissioners to all the programs that are available to county residents (the city produces this for Jefferson County as the county has no cable channel this programming is shared with other cities in the county like Lakewood, Wheat Ridge and Golden)

Making the Grade - showcases the educational world of Arvada through the eyes of staff, students and administrators in Jefferson County Public Schools.

PARK'n IT - find out more about the wonderful city parks and what they have to offer.

Profiles - takes a closer look at City Employees that are making a difference not only at city hall but also in the Arvada community.

Silver Linings - takes a closer look at seniors in the Arvada community and programs like Silver Sneakers that can help them.

Veteran's Voice - takes a look back in time with Arvada's veterans as we sit down with them to hear their story, their voice.

These programs provide a significant amount of valuable information to city residents. In 2014 the city produced 99 original program segments. Production, shooting and editing over 8 segments per month reflects a major commitment of city resources.

In addition to this monthly programming, the city's government channel broadcasts all City Council meetings and Planning Commission meetings live, and replays them throughout the week. The Arvada Chamber of Commerce holds a monthly breakfast meeting that is also covered by the city channel. Each month the Chamber brings in a variety of interesting speakers, like an economist with an outlook on the coming year to the Mayor's "State of the City" speech.

Arvada also provides its content on demand through the city's website and on YouTube. At present, the city has over 850 videos on YouTube with over 2.2 million hits. The city also streams its channel live on the Internet, and has created applications to stream program content to smartphones and tablets.

- ***Rainier Communications Commission (RCC), Pierce County, Washington***

The RCC, through its programming arm, Pierce County TV (PCTV), is unique as a cooperative among the County of Pierce and six major municipalities. PCTV provides coverage of its members' Council meetings and other selected activities. PCTV also produces a weekly newscast focusing on local government programs and activities. In 2014, "Pierce County News" was honored, for a second year, as the nation's top newscast by NATOA.

Quarterly, PCTV produces the magazine program, "Rainier County," focusing on community events, historical topics and unique individuals. Each month, "Pierce County Talks" dips a little deeper into current affairs through stories and interviews with the newsmakers.

PCTV also produces programs from regional activities such as the Tacoma-Pierce County Economic Outlook, Annual Police Memorial, JBLM celebrations, South Sound Regional Council and others. In 2014, PCTV produced a 90-minute special highlighting Washington high school marching bands performing in the "Sunset Festival of Bands" in Sumner, Washington. In 2015, PCTV is a major video partner for coverage of the U.S. Open at Chambers Bay golf course.

In addition to high definition programming on three cable systems, PCTV provides Video On Demand access to all productions on its website and the PCTV mobile app for smart phones and tablets. PCTV maintains a You Tube channel (in excess of one million unique "hits") and utilizes social media. Every story and program is also made available to its members and production partners for use on their individual websites, social media and other promotional platforms.

- ***Thornton, Colorado***

Thornton broadcasts city council meetings, and produces a show called Thornton360 twice a month. Thornton360 recaps the latest council meeting and keeps residents informed about important local news, issues and events happening in the community, much of which is never covered by other local news outlets in Denver.

In addition to airing this program on the City's PEG cable channel, this local programming is available on demand through Thornton's webpage. It is also aired as part of Thornton's 24/7 live stream. To raise awareness of each new episode, the city promotes the link to the programming on its Facebook and Twitter pages.

- ***Greenwood Village, Colorado***

A smaller suburban city with a programming budget of less than \$50,000 per year, Greenwood Village produces approximately thirty original programs annually. Last year Greenwood Village introduced seven new programs that can be viewed on the city's cable channel GVTV 8, its website, and You Tube channel. The following programming is offered:

Village Showcase - Hosted by the Mayor, showcases events and highlights important topics in the community.

Beyond the Green - People, places, and projects related to parks, trails and open space are featured.

Over 50 and Loving It! - introduces issues, events, and people that are taking 50+ to a new level.

Safety Matters in GV - Learn about important safety issues hosted by the Police Department.

GV Business Connections - An inside look at the business community of Greenwood Village.

GV Kids, Ink! News - Hosted by youth news reporters, this program features youth activities and events.

The Village Insider - A glimpse of the employees at City Hall and the Village programs and projects that are making a difference in the lives of citizens.

With a major interstate highway in Greenwood Village, the city also video streams the Greenwood Village traffic camera feeds, as well as some Colorado Department of Transportation traffic camera feeds during the morning and afternoon rush hours.

- **Denver, Colorado**

One example of the crucial role PEG programming plays is in election coverage. Commercial media have primarily a commercial interest in the elections attending to only those who can pay the toll for media access, or pay attention to the highest profile candidates. In Denver, the community has supported access to the ballot and candidates with a PEG effort that provides thorough coverage. Denver Decides is a community effort led by the League of Women Voters and Neighborhood Organizations and supported by Denver's government access entity. Every Denver Election Division certified candidate gets a complimentary 2-minute "Candidate Introduction," where each person makes his or her pitch for office. Candidate forums are also organized for each contested race. They are usually held in the community and recorded for the channel.

Additionally, ballot issues are debated and an overview Ballot Preview program is created that includes all the election process, registration, and balloting information. All videos are made available in the month prior to Election Day as scheduled on the government access channel. They are also made available through the Denver Decides website and organized into all the ballot categories where the videos are accessible on-demand as streaming video. This effort covers all elections including races for Congress, Statewide offices and State House and Senate offices, all Municipal offices, and School Board, depending on the election cycle.

A completely different genre of programming is the government access channel's "Denver Loft Sessions." This program highlights local talent and features local Denver and regional area performing artists. The program supports the local cultural community and fosters economic development. Bands (sometimes poets) performing original material are invited to the Denver TV studio to record a 25-minute set of music. They are also interviewed to let the larger community get to know something about the members and their work. Groups or artists perform for the exposure and promotion. In return, they receive a broadcast quality high definition video of the final edited program as well as links that are used on websites and social media outlets. Denver also posts the programs to the channel website and uses a program Facebook page to share information about the performances and to promote the program. This program is distributed in throughout the Denver metro area and available to PEG channels statewide.

One other example demonstrates how PEG programs are instrumental in informing and promoting the many amenities and rich culture of the community to residents and visitors. Denver's "Dtown" program takes a monthly thematic approach, choosing eight related topics and assembles each into a fun and fast look at an aspect of the community. A host guides viewers through the list as the show's tour progresses. Upon completion, the show as a whole and each separate item is made available to view as a stand-alone program that is shared for local engagement and tourist information. The full program is a scheduled cablecast and the segments are shown interstitially throughout the week's program schedule. The programs and segments are shared online and the program hosts a Facebook page for additional outreach.

- **Northglenn, Colorado**

Local access programming also promotes our nation's heritage and local celebrations, providing unique, local perspectives on how America celebrates. An example is Northglenn's program on its Independence Day celebration, which includes the participation of Northglenn's House member, Hon. Ed Perlmutter. (<https://www.youtube.com/watch?v=xGRryMNovms>).

- **Lafayette, Colorado**

In addition to live broadcasts of city council and planning commission meetings and airing of political debates and issues forums, Lafayette's original programming content includes historical society presentations, library programs, current issues show hosted by the City Administrator, energy conservation and composting, and public safety issues. The city uses its access channel to provide information on municipal employment opportunities and recruitment for city boards and commissions. Lafayette also provides its citizens a vehicle to watch programming from other sources such as the Colorado Department of Transportation, Regional Transportation District, League of Women Voters and Boulder County. The city also video streams its live broadcasts through its website, and makes its video archives available on demand.

It is important to note that none of our existing PEG operations are even close to fully funded by our cable operators or other private entities. In addition to the provision of PEG channels and some capital support for PEG equipment, our jurisdictions spend considerable amounts of general fund revenue each year for PEG equipment and operations. In many communities, it would not be possible to continue our local programming efforts without the support from our partners in the cable industry. Indeed, in states that have adopted state franchise legislation that has eliminated requirements for PEG access support, many public and non-profit programming has been eliminated.

It is easy to refer generally to local barriers or problems that some have reported between the cable industry and local government. In fact, while we certainly do not always agree, our communities have developed and maintain mostly positive and mutually respectful and beneficial relationships with our cable operators. We believe that you will not find cable operators in Washington or Colorado arguing for changes in the law due to widespread problems they experience in our states. Any changes in the law recognizing the delivery of programming over a variety of new technologies must also recognize some mechanism to continue the public interest obligation of the industry to local communities, so that this kind of programming will continue to be available.

One might also suggest that since so many access providers are offering content over the Internet, cable PEG access requirements are no longer necessary. This would be wrong for at least two reasons. First, the ability for localities to provide access over the Internet is based in part, on the ability to leverage to benefits from cable's public interest obligations. Without the PEG support provided by the cable industry, PEG access content could not continue to be provided by jurisdictions and PEG organizations nationwide over the Internet. Indeed, the elimination of PEG obligations through state franchise laws has proved this point. PEG operations in these states have been eliminated or dramatically reduced. Congress should be clear in understanding this point. Any elimination of support for traditional cable PEG access content that is not made up in some other manner, will critically damage the ability of localities to provide local content going forward – over any delivery system, including the Internet.

Second, with the expanding variety of technology and media choices today, government's role is to make our information more available and more transparent to our citizens *in whatever format they choose to access it*. Many people today may prefer to view local programming over the Internet. However, a significant percentage of our communities still watch television regularly and enjoy watching local content on their access channels. This is especially true of our senior citizens. The government should not be in a position of choosing which delivery system is "better." Rather, we should be promoting ways to deliver local content over as many platforms as we possibly can.

White Paper #6, Question 3. Satellite television providers are currently regulated under law and regulation specific to their technology, despite the fact that they compete directly with cable. What changes can be made in the Communications Act (and other statutes) to reduce disparate treatment of competing technologies?

Feedback. While it is true that cable operators often pay franchise fees and satellite providers do not, this different regulatory treatment is neither unreasonable nor unfair. There are different technologies used to deliver similar services, but the costs to use one or the other are based upon commercial choices made by each company. A cable operator may pay a franchise fee as compensation for the use of public rights-of-way, which is one of its many costs of doing business. At the same time, it does not incur satellite related costs necessarily incurred to deliver programming via satellite. When considering government regulations on different delivery systems, one must focus on the basis, justification and reasonableness of the compensation imposed upon a particular kind of network.

Cable operators pay franchise fees in part, as consideration for the use of public property. Cable operators also provide capacity on their networks for public, educational and government access programming – programming which is not available on satellite systems. Yet satellite companies also use public property through the use of licensed spectrum. We are starting to see creative partnerships with satellite companies utilizing over the top capabilities to offer a wider variety of programming options.⁴ In other words, satellite companies are starting to seek ways to deliver their programming in part, over networks that use the same public rights-of-way as cable and wireline broadband network operators. As we discuss below, Congress can promote localism, *and* create a more level playing field, if changes to the law include a requirement that as part of its compensation for the use of licensed spectrum, and its ability to expand its business offerings through the leveraging of wireline networks, satellite companies make available local PEG programming on their delivery systems.

White Paper #6, Question 1. Broadcasters face a host of regulations based on their status as a “public trustee.”

d. What other mechanisms could promote both localism and competition?

Feedback: As mentioned earlier, our communication networks are becoming broadband networks, not “cable,” “telephone,” or other kinds of networks.

NATOA addressed this issue in its “Blueprint for Localism in Communications”:

The convergence of communications technologies led by Internet Protocol and exponential growth of computing power is fundamentally transforming the communications industry. This transformation is taking place at a time of increasing industry consolidation and the concentration of political and economic power in the hands of a few incumbent providers. That in turn has led to deregulatory measures, laws and regulations that have the potential to be harmful to the interests of the public and local communities. At stake is local government’s ability to ensure provision of important public benefits such as local consumer

⁴ <http://about.dish.com/press-release/products-and-services/sling-tv-launch-live-over-top-service-20-month-watch-tvs-tablets>. (Last viewed January 21, 2015).

protection, support for multiple voices in media through Public, Education and Government (“PEG”) programming, and regulation and compensation for the private use of public property, to name just a few.⁵

We believe that the challenge for Congress, and for its constituents, is to develop a new statutory framework for broadband communications, which recognizes that entities using public assets continue to hold public interest obligations. Rather than leveling the playing field by eliminating public interest obligations, Congress should recognize the value and importance of this local programming, the fact that it cannot continue to exist without some level of support from the industries that benefit from the use of public assets to run their business, and must ensure that local programming can continue to be made available, regardless of the delivery platform. Whether a network operator uses public rights-of-way or licensed spectrum to deliver content to end users, each should be required to provide some support dedicated to the delivery of locally produced access-programming content over these networks. Because local needs differ from community to community, it should be left to the local network owners and the local jurisdictions to determine the form of the support – perhaps within a federal framework similar (but not identical) to the framework that creates the federal–local regulatory framework for cable. Just as cable operators do today, satellite providers should be required to provide access on their networks for this same local content, and to participate in a reasonable amount, in the local entities’ costs incurred in the development and delivery of that content.

While the network operators should provide this support, they must also be able to require the content providers that utilize their networks to contribute a fair share of meeting these public interest obligations as well. In this way, localities and public access organizations will continue to shoulder the majority of the costs of providing and delivering local content. We will make great strides however in the promotion of localism, by ensuring that access programming is available on all delivery platforms, and that both network operators and content providers riding on those networks make reasonable contributions to local efforts to develop and deliver this programming.

This will not be a simple task. However, if a foundational feature of any new legislation is the recognition of the value and importance of local programming, that goal can drive the parties to a successful statutory result. The Congress, State and local governments, PEG access providers, broadband network operators, content providers, and the public, must take the time and make the necessary effort to come together, address the hurdles and opportunities, and develop this new partnership for 21st century public interest obligations.

Very truly yours,

A solid black rectangular box redacting the signature of Kenneth S. Fellman.

Kenneth S. Fellman

⁵<https://www.natoa.org/policyadvocacy/documents/NATOA'S%20Blueprint%20for%20Localism%20in%200Communications%209-15-2013.pdf> (Last viewed January 22, 2015).

cc: Members of Congress (via U.S. Mail)

Hon. Patty Murray	Hon. Michael Bennet
Hon. Maria Cantwell	Hon. Cory Gardner
Hon. Suzan Delbene	Hon. Diana DeGette
Hon. Rick Larsen	Hon. Jared Polis
Hon. Jaime Herrera Beutler	Hon. Scott Tipton
Hon. Dan Newhouse	Hon. Ken Buck
Hon. Cathy McMorris Rodgers	Hon. Doug Lamborn
Hon. Derek Kilmer	Hon. Mike Coffman
Hon. Jim McDermott	Hon. Ed Perlmutter
Hon. David Reichert	
Hon. Adam Smith	
Hon. Danny Heck	

Colorado Communications and Utility Alliance

[REDACTED]

Washington Association of Telecommunications Officers and Advisors

[REDACTED]

Alliance for Community Media – North West Region

[REDACTED]

National Association of Telecommunications Officers and Advisors

[REDACTED]

Alliance for Community Media

[REDACTED]



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Tuesday, January 20, 2015

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2183 Rayburn House Office Building
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Re: Regulation of the Market for Video Content and Distribution - Response to White Paper #6

Dear Representatives Upton and Walden:

As the executive director of a PEG access facility, I am writing to explain why public, education and government television is vital to our communities. What we offer cannot be duplicated by any other entity or organization. Our PEG facility is the personification of localism and free speech. Not only do we provide a voice for regular citizens and nonprofit organizations to tell their stories, we provide services to educators and their students as well as government agencies; services that no one else is willing or able to provide.

Our media center operates public, education and government channels serving **Fresno, Clovis and many other communities in California's great Central Valley**, and provides the following programming 24/7/365 on the Comcast cable channels below and through AT&T U-verse's channel 99:

- Channel 93 – arts, entertainment, issues, cultural diversity and more
- Channel 94 – youth, education, sports, concerts and plays
- Channel 96 – civic engagement through live and re-played city council and planning commission meetings, public forums and conferences

Our organization has been in existence for less than 3 years, yet to date our **community has created over 1,200 programs** and **we've covered over 200 government meetings**. This programming is not only viewable on television, but is also streamed live on the internet and can be seen any time through video on demand.

Each year we cover all of the local election races within our service area to help inform

our viewers. We partner with the **League of Women Voters and other organizations** to produce election forums and debates that are played multiple times prior to Election Day and made available online through video on demand.

Youth education and career preparedness is of paramount importance to us. Not only do we broadcast hundreds of hours of locally produced educational programs, we train high school students to use our professional broadcast equipment. In 2014, students utilized our mobile production vehicle to produce live broadcasts of high school football, basketball and rugby games. These students are learning highly technical job skills in real-world situations, which would be denied them without PEG access. In 2015, we will place \$60,000 in video equipment in local high schools and train teachers to effectively pass on that knowledge to their students.

Many of our nearly 500 members are socio-economically challenged. They rely on our organization to provide the training and access to equipment at little to no cost so they can tell their unique stories and make a difference in their community. Our membership is over 60% minority. If our resources were not available to these people, they would continue to be deprived of the ability to put a positive spotlight on their community's lives and activities.

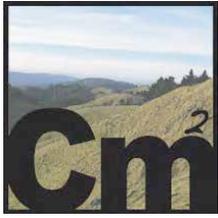
Beyond the services we provide to our cities and the equipment and training we provide to individuals, nonprofits, educators, and students, our PEG channels have the ability to enlighten and enrich over 100,000 households throughout the great Central Valley of California.

I urge you to do whatever it takes to insure that PEG channels and services can continue to fulfill their vital role in supporting localism in ways that big media cannot.

Sincerely,

Jerry Lee
Executive Director
Community Media Access Collaborative
1555 Van Ness Avenue
Fresno, CA 93721

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January 23, 2015

To the members of the House Energy and Commerce Committee,

I am writing in response to the statement in one of your white papers:
"Cable systems are required to provide access to their distribution platform in a variety of ways, including program access, leased access channels, and PEG channels. Are these provisions warranted in the era of the Internet?"

Our non-profit organization, the Community Media Center of Marin provides PEG service for the 250,000 residents of Marin County. We operate the public, educational and governmental channels and a media center open for use to all residents and organizations of Marin County. We currently have 15 employees and provide low-cost training to hundreds of residents each year in addition to providing non-profits, municipalities and schools low cost or free production services.

The work we do daily includes:

- Providing low cost training and free access to media production equipment that our users would not otherwise be able to afford. We estimate the value of our in-kind service to the community at more than \$700,000 per year - nearly equal to our annual operating budget. This would not be possible without the PEG provisions of cable video franchising.
- We install the council chamber video equipment and provide the necessary production services for ten local municipalities, the County of Marin and numerous governmental agencies. These local meetings are carried live and via tape and provide an invaluable service to residents and the municipalities in making government more transparent and participatory. Our experience is that residents watch these meetings online only as a last resort - and prefer to watch the meetings on cable TV. This also would not be possible without the PEG provisions of cable video franchising.

- We provide invaluable youth programs that provide real hands on training to area youth in all aspects of media production. These skill sets and professional experiences not available from their schools. Again, this also would not be possible without the PEG provisions of cable video franchising.
- Our programming frequently provides the only local coverage of issues impacting the residents of Marin County. This is not uncommon for smaller cities living in the shadow of large cities, nor for rural communities. On most any day, our channels provide the only evidence of media localism out of the hundreds of cable channels available. This would not exist without the PEG provisions of cable video franchising.

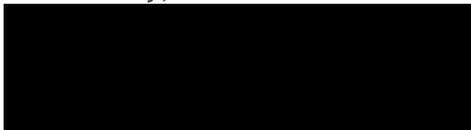
In closing, Yes, we consider PEG provisions to be warranted in the 'era of the internet' - in fact now more than ever. Incidentally, that argument about the internet having superseded the need for PEG is a line from the Cable Industry playbook and has been disproved many times over.

Rather than question the value of truly local media that is making a difference in the communities they serve, we feel the Energy and Commerce committee should be looking into ways that can strengthen and grow these efforts:

- Let's begin by removing the capital only restriction in the Cable Act concerning the use of PEG fees - an issue only made worse by AT&T's successful efforts to destroy local cable video franchising in 20 states.
- And let's require AT&T to actually provide 'real' cable channels for PEG as required by the Cable Act. For years they have relegated PEG to a streaming ghetto under U-verse's Channel 99 that is in violation of the Cable Act (yes a FCC complaint has languished for years now).
- Finally, let's put an end to the corporate media concentration in the U.S. by stopping the Comcast/Time Warner and AT&T/Direct TV mergers. These mergers harm subscribers and content providers alike and only solidify the in-balance of power of these corporations have over our State and Federal legislative bodies.

There's more that is possible of course, much more, but only when we ask the right questions.

Sincerely,



Michael Eisenmenger
Executive Director

#CommActUpdate: Modernizing the Communications Act
Regulation of the Market for Video Content and Distribution
Comments of Competitive Carriers Association

Competitive Carriers Association (“CCA”) submits these comments in response to the Energy and Commerce Committee’s (“Committee”) White Paper on Regulation of the Market for Video Content and Distribution (“Sixth Paper”). CCA is the nation’s leading association for competitive wireless providers and stakeholders across the United States. CCA’s membership includes more than 100 competitive wireless providers ranging from small, rural carriers serving fewer than 5,000 customers to regional and national providers serving millions of customers. CCA also represents almost 200 Associate Members consisting of small businesses, vendors, and suppliers that service carriers of all sizes. Together, CCA’s members represent a broad range of entities with a shared goal of a competitive wireless market as a critical driver of the U.S. economy, and participate in an industry that plays a growing role in providing consumers with access to video.

Consumer Demand for Mobile Video means Demand for More Spectrum

The Sixth Paper appropriately begins by reviewing the role of spectrum in offering video services. As networks have evolved, including the introduction of cable, direct broadcast satellite, telephone video networks, and over-the-top (“OTT”) video, declining numbers of consumers receive video through over-the-air broadcasts. Several recent studies find that approximately 10 percent of households receive video over-the-air only. As the Committee explores updates to the Communications Act, policymakers should revisit spectrum policy and

ensure that the public interest continues to be served by broadcast licensees’ “exclusive access to, and profit from, the scarce public resource of spectrum.”

Spectrum is a finite, taxpayer-owned resource subject to government distribution and administration—and the lifeblood of the wireless industry. The “public trustee” model encouraged the development of the broadcasting industry as a way to serve public affairs needs. The economic and social needs of consumers continue to evolve rendering this model outdated as a primary source of information. Americans consume content through a variety of platforms, especially over mobile networks, where Cisco estimates a growth of 14-fold between 2013 and 2018 (*see Attachment A*).

Congress has recognized opportunities to repurpose spectrum to increase jobs and expand economic growth, such as providing the Federal Communications Commission (“FCC”) with incentive auction authority through the Spectrum Act. Because additional spectrum cannot be created, policymakers should also consider eliminating outdated regulations that entice retaining finite spectrum resources when new more efficient technologies and other incentives would otherwise encourage relinquishing spectrum. For example, provisions in the Spectrum Act that support over-the-air broadcaster channel sharing, or providing broadcasters with access to video distribution even if surrendering spectrum, should be commended and further explored. Repurposing underutilized spectrum for mobile broadband purposes allows consumers to continue to have access to information and video content – the goal of the original public trustee model – on their device of choice and with additional and evolving capabilities.

The Future of Video is Mobile

While updating the Communications Act to better reflect today's technological landscape surrounding video, policymakers should also take into consideration how multiple pathways to deliver video content will enhance video competition. Wireless is the fastest growing platform delivering video content. Where possible, spectrum should be repurposed for mobile use to support this consumer trend. The explosion of video streaming is changing how we view content. As Commissioner Jessica Rosenworcel tweeted earlier this month, 34 percent of television viewing by millennials takes place online. Furthermore, Flurry Analytics research demonstrates that consumers now spend more time on mobile devices than television screens (*see Attachment B*).

As consumers increasingly access video content using mobile devices, the demand for data capacity continues to skyrocket. Video and mobile are inextricably linked as the lines between the different types of data Americans consume continue to blur. To this end, establishing a competitive framework for the mobile industry enhances competition for video distribution, and is critical to an update to the Communications Act.

Over-the-Top Video Services Are Dependent on Mobile Networks

The dominance of smartphones not only provides consumers with access to video content through the mobile broadband connection, but also has enabled a new way for video providers to bring apps and services to the market, such as Watch ESPN and HBO Go. Wireless carriers continue to invest in infrastructure, which in turn enables OTT services to run on their networks by optimizing mobile data for their consumers. In fact, as the OTT market continues

to evolve, wireless carriers and OTT providers are working together to provide a better, more streamlined customer experience.

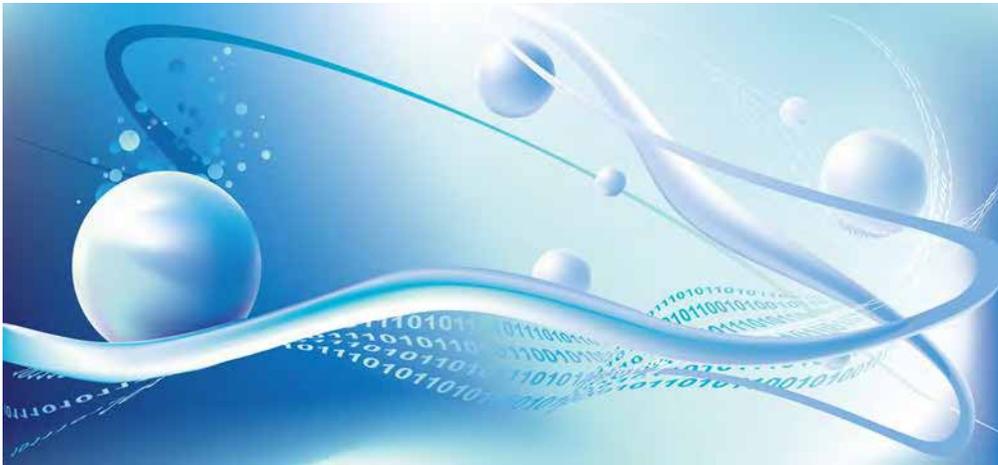
Policymakers should take into account how some OTT services are dependent on wireless networks, while ensuring that consumers remain able to access the video content of their choice using the carrier that best suits their needs.

Conclusion

As consumers continue to move to mobile technologies, not just to view video content, but for all aspects of daily life, a competitive framework for the mobile industry is critical to a Communications Act update. This growth and consumer demand requires access to finite spectrum resources, and spectral demands will only increase as video content continues to migrate to mobile platforms. To meet these realities and to drive new innovations and economic growth, Congress should continue to provide the FCC with flexible tools to incentivize efficient use of spectrum, and where possible to repurpose spectrum for mobile use. The future of video is mobile, and updates to the Communications Act should reflect this consumer choice. CCA looks forward to working with the Committee as it continues its revision of the Communications Act.

ATTACHMENT A

Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2013–2018



February 5, 2014

The Cisco® Visual Networking Index (VNI) Global Mobile Data Traffic Forecast Update is part of the comprehensive Cisco VNI Forecast, an ongoing initiative to track and forecast the impact of visual networking applications on global networks. This paper presents some of Cisco's major global mobile data traffic projections and growth trends.

Executive Summary

The Mobile Network in 2013

Global mobile data traffic grew 81 percent in 2013. Global mobile data traffic reached 1.5 exabytes per month at the end of 2013, up from 820 petabytes per month at the end of 2012.

Last year's mobile data traffic was nearly 18 times the size of the entire global Internet in 2000. One exabyte of traffic traversed the global Internet in 2000, and in 2013 mobile networks carried nearly 18 exabytes of traffic.

Mobile video traffic exceeded 50 percent for the first time in 2012. Mobile video traffic was 53 percent of traffic by the end of 2013.

Over half a billion (526 million) mobile devices and connections were added in 2013. Global mobile devices and connections in 2013 grew to 7 billion, up from 6.5 billion in 2012. Smartphones accounted for 77 percent of that growth, with 406 million net additions in 2013.

Globally, smart devices represented 21 percent of the total mobile devices and connections in 2013, they accounted for 88 percent of the mobile data traffic. **In 2013, on an average, a smart device generated 29 times more traffic than a non-smart device.**

Mobile network connection speeds more than doubled in 2013. Globally, the average mobile network downstream speed in 2013 was 1,387 kilobits per second (Kbps), up from 526 Kbps in 2012.

In 2013, a fourth-generation (4G) connection generated 14.5 times more traffic on average than a non-4G connection. Although 4G connections represent only 2.9 percent of mobile connections today, they already account for 30 percent of mobile data traffic.

The top 1 percent of mobile data subscribers generated 10 percent of mobile data traffic, down from 52 percent at the beginning of 2010. According to a mobile data usage study conducted by Cisco, mobile data traffic has evened out over the last year and is now lower than the 1:20 ratio that has been true of fixed networks for several years.

Average smartphone usage grew 50 percent in 2013. The average amount of traffic per smartphone in 2013 was 529 MB per month, up from 353 MB per month in 2012.

Smartphones represented only 27 percent of total global handsets in use in 2013, but represented 95 percent of total global handset traffic. In 2013, the typical smartphone generated 48 times more mobile data traffic (529 MB per month) than the typical basic-feature cell phone (which generated only 11 MB per month of mobile data traffic).

Globally, there were nearly 22 million wearable devices (a sub-segment of M2M category) in 2013 generating 1.7 petabytes of monthly traffic.

Globally, 45 percent of total mobile data traffic was offloaded onto the fixed network through Wi-Fi or femtocell in 2013. In 2013, 1.2 exabytes of mobile data traffic were offloaded onto the fixed network each month. Without offload, mobile data traffic would have grown 98 percent rather than 81 percent in 2013.

Per-user iOS mobile devices (smartphones and tablets) data usage marginally surpassed that of Android mobile devices data usage. By the end of 2013, average iOS consumption exceeded average Android consumption in North America and Western Europe.

In 2013, 18 percent of mobile devices were potentially IPv6-capable. This estimate is based on network connection speed and OS capability.

In 2013, the number of mobile-connected tablets increased 2.2-fold to 92 million, and each tablet generated 2.6 times more traffic than the average smartphone. In 2013, mobile data traffic per tablet was 1,374 MB per month, compared to 529 MB per month per smartphone.

There were 149 million laptops on the mobile network in 2013, and each laptop generated 4.6 times more traffic than the average smartphone. Mobile data traffic per laptop was 2.45 GB per month in 2013, up 17 percent from 2.1 GB per month in 2012.

Average nonsmartphone usage increased 39 percent to 10.8 MB per month in 2013, compared to 7.8 MB per month in 2012. Basic handsets still make up the vast majority of handsets on the network (73 percent).

The Mobile Network Through 2018

Mobile data traffic will reach the following milestones within the next five years.

- Monthly global mobile data traffic will surpass 15 exabytes by 2018.
- The number of mobile-connected devices will exceed the world's population by 2014.
- The average mobile connection speed will surpass 2 Mbps by 2016.
- Due to increased usage on smartphones, smartphones will reach 66 percent of mobile data traffic by 2018.
- Monthly mobile tablet traffic will surpass 2.5 exabyte per month by 2018.
- Tablets will exceed 15 percent of global mobile data traffic by 2016.
- 4G traffic will be more than half of the total mobile traffic by 2018.
- There will be more traffic offloaded from cellular networks (on to Wi-Fi) than remain on cellular networks by 2018.

Global mobile data traffic will increase nearly 11-fold between 2013 and 2018. Mobile data traffic will grow at a compound annual growth rate (CAGR) of 61 percent from 2013 to 2018, reaching 15.9 exabytes per month by 2018.

By the end of 2014, the number of mobile-connected devices will exceed the number of people on earth, and by 2018 there will be nearly 1.4 mobile devices per capita. There will be over 10 billion mobile-connected devices by 2018, including machine-to-machine (M2M) modules—exceeding the world's population at that time (7.6 billion).

Mobile network connection speeds will increase two-fold by 2018. The average mobile network connection speed (1,387 Kbps in 2013) will exceed 2.5 megabits per second (Mbps) by 2018.

By 2018, 4G will be 15 percent of connections, but 51 percent of total traffic. By 2018, a 4G connection will generate 6 times more traffic on average than a non-4G connection.

By 2018, over half of all devices connected to the mobile network will be “smart” devices. Globally, 54 percent of mobile devices will be smart devices by 2018, up from 21 percent in 2013. The vast majority of mobile data traffic (96 percent) will originate from these smart devices by 2018, up from 88 percent in 2013.

By 2018, 48 percent of all global mobile devices could potentially be capable of connecting to an IPv6 mobile network. Over 4.9 billion devices will be IPv6-capable by 2018.

Over two-thirds of the world's mobile data traffic will be video by 2018. Mobile video will increase 14-fold between 2013 and 2018, accounting for 69 percent of total mobile data traffic by the end of the forecast period.

By 2018, mobile-connected tablets will generate nearly double the traffic generated by the entire global mobile network in 2013. The amount of mobile data traffic generated by tablets by 2018 (2.9 exabytes per month) will be 1.9 times higher than the total amount of global mobile data traffic in 2013 (1.5 exabytes per month).

The average smartphone will generate 2.7 GB of traffic per month by 2018, a 5-fold increase over the 2013 average of 529 MB per month. By 2018, aggregate smartphone traffic will be 11 times greater than it is today, with a CAGR of 63 percent.

By 2018, more than half of all traffic from mobile-connected devices (almost 17 exabytes) will be offloaded to the fixed network by means of Wi-Fi devices and femtocells each month. Without Wi-Fi and femtocell offload, total mobile data traffic would grow at a CAGR of 65 percent between 2013 and 2018 (12-fold growth), instead of the projected CAGR of 61 percent (11-fold growth).

The Middle East and Africa will have the strongest mobile data traffic growth of any region at 70 percent CAGR. This region will be followed by Central & Eastern Europe at 68 percent and Asia Pacific at 67 percent.

Appendix A summarizes the details and methodology of the VNI forecast.

2013 Year in Review

Global mobile data traffic grew 81 percent in 2013, a rebound over the 2012 slowdown in mobile traffic. Growth rates varied widely by region. All of the emerging market regions experienced a doubling of mobile data traffic in 2013. (Middle East and Africa grew 107 percent, Latin America grew 105 percent, and Central and Eastern Europe grew 99 percent.) Mobile data traffic grew 86 percent in Asia Pacific, 77 percent in North America, and 57 percent in Western Europe.

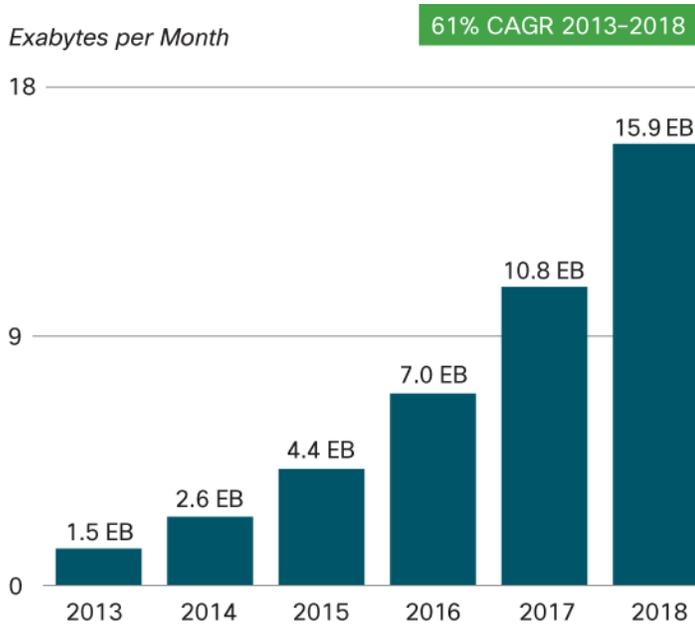
Table 1. Examples of Mobile Data Traffic Growth in 2013

Region	Mobile Traffic Growth Examples
Korea	As reported by Korean regulator KCC, mobile data traffic on 2G, 3G, and 4G networks increased approximately 70% between 3Q 2012 and 3Q 2013.
China	Mobile data traffic of China's top 3 mobile operators grew 90% in 2012 and 72% from mid-2012 to mid-2013.
Japan	Mobile data traffic grew 92% in 2012 and 66% from 3Q 2012 to 3Q 2013, according to Japan's Ministry of Internal Affairs and Communications.
India	Bharti Airtel reported mobile data traffic growth of 112% between 3Q 2012 and 3Q 2013. Reliance Communications reported mobile data traffic growth of 116% between 3Q 2012 and 3Q 2013.
Australia	As reported by Australian regulator ACMA, mobile data traffic grew 47% from mid-2012 to mid-2013.
Italy	As reported by Italian regulator AGCOM, mobile traffic in Italy in 3Q13 was up 34% year-over-year.
France	As reported by French regulator ARCEP, mobile traffic in France was up 60% from 2Q 2013 to 2Q 2012.
Germany	As reported by German regulator BNA, mobile traffic in Germany grew 40% in 2012.
Sweden	As reported by Swedish regulator PTS, mobile traffic in Sweden grew 69 percent from mid-2012 to mid-2013.
Russia	Vimpelcom reported mobile data traffic growth of 106% from 3Q 2012 to 3Q 2013.
Other	Vodafone's year-over-year global mobile traffic growth was 60% from 1Q FY12 to 1Q FY13. Vodafone's European traffic grew 35% during fiscal year 2012–2013, up from 18% the previous fiscal year.

Global Mobile Data Traffic, 2013 to 2018

Overall mobile data traffic is expected to grow to 15.9 exabytes per month by 2018, nearly an 11-fold increase over 2013. Mobile data traffic will grow at a CAGR of 61 percent from 2013 to 2018 (Figure 1).

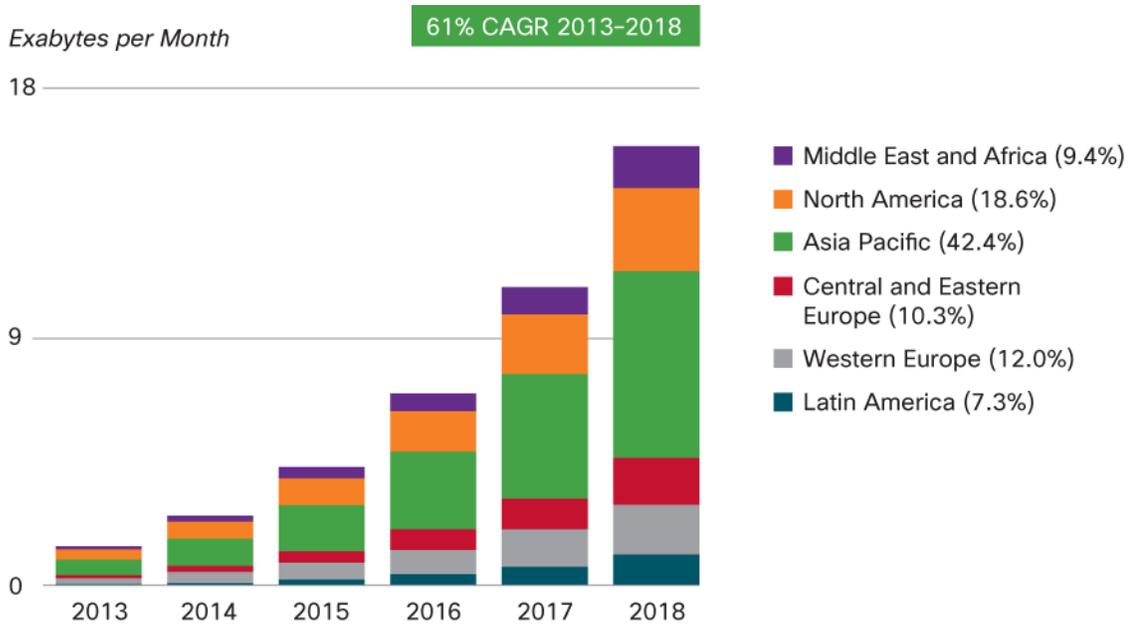
Figure 1. Cisco Forecasts 15.9 Exabytes per Month of Mobile Data Traffic by 2018



Source: Cisco VNI Mobile, 2014

The Asia Pacific and North America regions will account for almost two-thirds of global mobile traffic by 2018, as shown in Figure 2. Middle East and Africa will experience the highest CAGR of 70 percent, increasing 14-fold over the forecast period. Central and Eastern Europe will have the second highest CAGR of 68 percent, increasing 13-fold over the forecast period. The emerging market regions of Asia Pacific and Latin America will have CAGRs of 67 percent and 66 percent respectively.

Figure 2. Global Mobile Data Traffic Forecast by Region



Figures in parentheses refer to regional share in 2018.

Source: Cisco VNI Mobile, 2014

Top Global Mobile Networking Trends

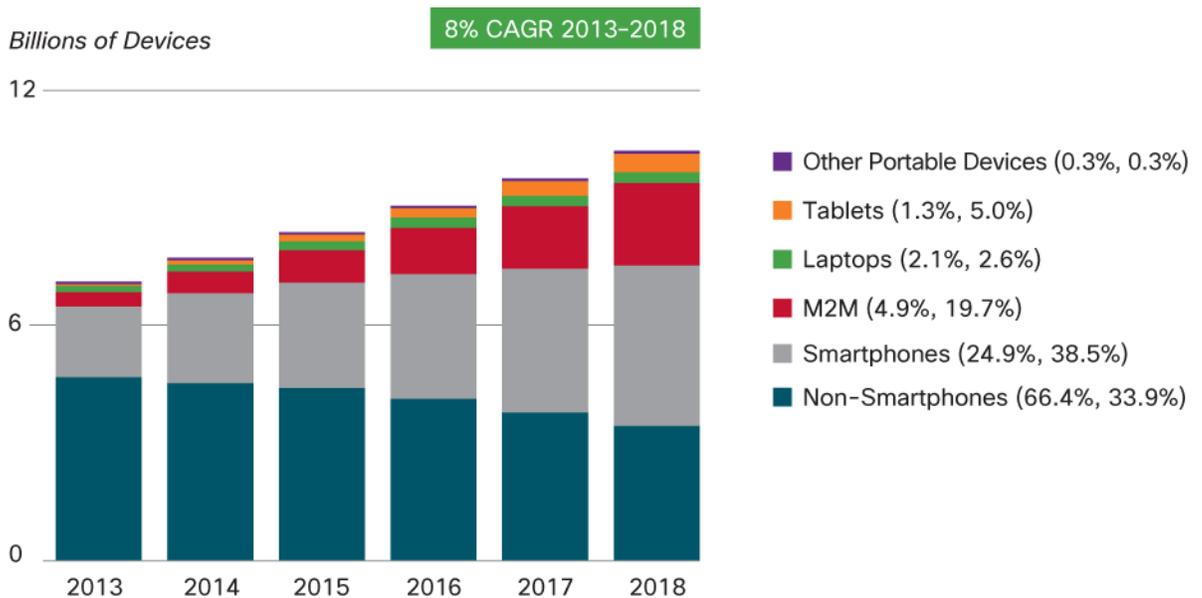
The sections that follow identify nine major trends contributing to the growth of mobile data traffic.

1. Transitioning to Smarter Mobile Devices
2. Measuring Internet of Everything Adoption—Emerging Wearable Devices
3. Analyzing Mobile Applications—Video Dominance
4. Profiling Bandwidth Consumption by Device
5. Assessing Mobile Traffic/Offload by Access Type (2G, 3G, and 4G)
6. Comparing Mobile Network Speeds
7. Reviewing Tiered Pricing—Managing Top Mobile Users
8. Adopting IPv6—Beyond an Emerging Protocol
9. Defining Mobile “Prime Time”—Peak vs. Average Usage

Trend 1: Transitioning to Smarter Mobile Devices

The increasing number of wireless devices that are accessing mobile networks worldwide is one of the primary contributors to global mobile traffic growth. Each year several new devices in different form factors and increased capabilities and intelligence are being introduced in the market. Over half a billion (526 million) mobile devices and connections were added in 2013. Global mobile devices and connections grew, in 2013, to 7 billion, up from 6.5 billion in 2012. Globally, mobile devices and connections will grow to 10.2 billion by 2018 at a CAGR of 8 percent (Figure 3). By 2018, there will be 8.2 billion handheld or personal mobile-ready devices and 2 billion machine-to-machine connections (e.g., GPS systems in cars, asset tracking systems in shipping and manufacturing sectors, or medical applications making patient records and health status more readily available, et al). Regionally, North America and Western Europe are going to have the fastest growth in mobile devices and connections with 12 percent and 10 percent CAGR from 2013 to 2018 respectively.

Figure 3. Global Mobile Devices and Connections Growth



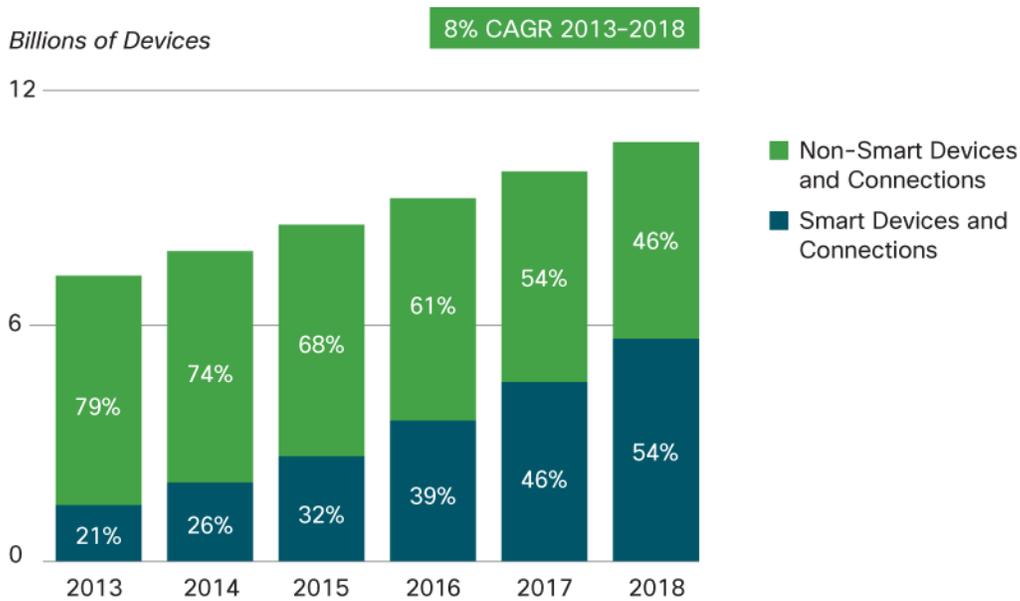
Figures in parentheses refer to device or connections share in 2013, 2018.

Source: Cisco VNI Mobile, 2014

We see a rapid decline in the share of nonsmartphones from more than 66 percent in 2013 (4.7 billion) to less than 34 percent by 2018 (3.5 billion). The most noticeable growth is going to occur in tablets, followed by machine-to-machine connections (M2M), both growing nearly six-fold over the forecast period. Tablets are going to grow at 41 percent CAGR from 2013 to 2018, and the M2M category is going to grow at 43 percent CAGR during the same period.

While there is an overall growth in the number of mobile devices and connections, there is also a visible shift in the device mix. Throughout the forecast period, we see that the device mix is getting smarter with an increasing number of devices with higher computing resources, network connection capabilities that create a growing demand for more capable and intelligent networks. We define smart devices and connections as those having advanced computing and multimedia capabilities with a minimum of 3G connectivity. As mentioned previously, 526 million mobile devices and connections were added in 2013, and smartphones accounted for 77 percent of that growth at 406 million net adds. The share of smart devices and connections as a percentage of the total will increase from 21 percent in 2013 to more than half, at 54 percent, by 2018, growing 3.8 fold during the forecast period (Figure 4).

Figure 4. Global Growth of Smart Mobile Devices and Connections



Percentages refer to device or connections share.
 Source: Cisco VNI Mobile, 2014

Although it is a global phenomenon, some regions are ahead in this device mix conversion. North America will have over 90 percent of its installed base converted to smart devices and connections, followed by Western Europe with 83 percent smart devices and connections (Table 2).

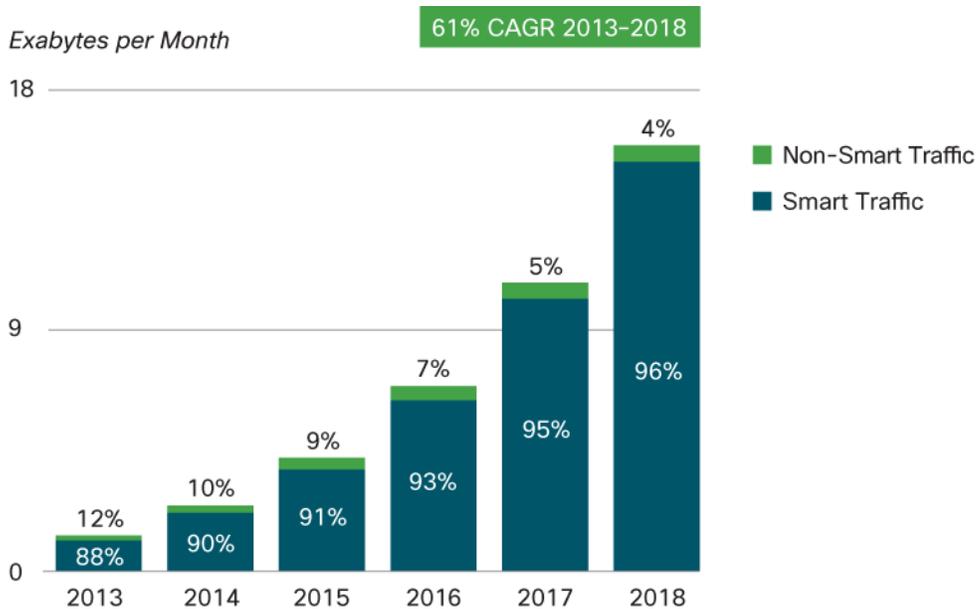
Table 2. Regional Share of Smart Devices and Connections (Percent of the Regional Total)

Region	2013	2018
North America	65%	93%
Western Europe	45%	83%
Central and Eastern Europe	15%	61%
Latin America	14%	55%
Asia Pacific	17%	47%
Middle East and Africa	10%	36%

Source: Cisco VNI Mobile, 2014

Figure 5 shows the impact of mobile smart devices and connections growth on global traffic. Globally, smart traffic is going to grow from 88 percent of the total global mobile traffic to 96 percent by 2018. This is significantly higher than the ratio of smart devices and connections (54% by 2018), because on average a smart device generates much higher traffic than a nonsmart device.

Figure 5. Effect of Smart Mobile Devices and Connections Growth on Traffic



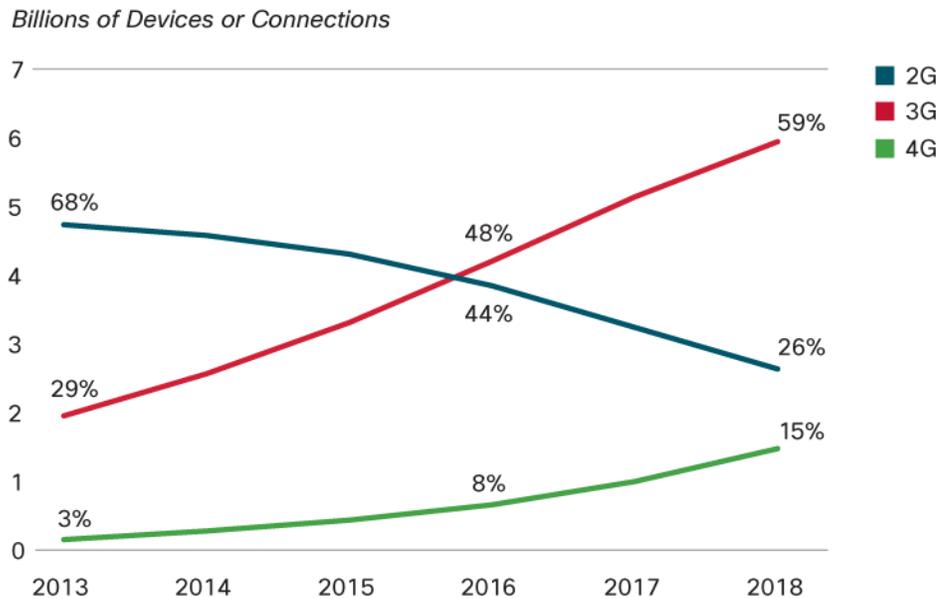
Percentages refer to device or connections share.
Source: Cisco VNI Mobile, 2014

Mobile devices and connections are not only getting smarter in their computing capabilities but are also evolving from lower-generation network connectivity (2G) to higher-generation network connectivity (3G, 3.5G, and 4G or LTE). When device capabilities are combined with faster, higher bandwidth and more intelligent networks, it leads to wide adoption of advanced multimedia applications that contribute to increased mobile and Wi-Fi traffic.

The explosion of mobile applications and phenomenal adoption of mobile connectivity by end users, on the one hand, and the need for optimized bandwidth management and network monetization, on the other hand, is fueling the growth of global 4G deployments and adoption. Service providers around the world are busy rolling out 4G networks to help them meet the growing end-user demand for more bandwidth, higher security, and faster connectivity on the move (Appendix B).

Globally, the relative share of 3G and 3.5G-capable devices and connections will surpass 2G-capable devices and connections by 2016 (48 percent and 44 percent relative share). By 2018, 15 percent of all global devices and connections will be 4G capable (Figure 6). The global mobile 4G connections will grow from 203 million in 2013 to 1.5 billion by 2018 at a CAGR of 50 percent.

Figure 6. Global Mobile Devices and Connections by 2G, 3G, and 4G



Source: Cisco VNI Mobile, 2014

In addition to transition from 2G to 3G, 4G deployment is also a global phenomenon. In fact, by 2018, North America will have the majority (51 percent) of its mobile devices and connections with 4G capability, surpassing 3G-capable devices and connections. Western Europe (24 percent) will have the second highest ratio of 4G connections by 2018 (Appendix B). Among countries, Japan will have over 56 percent of the country's total connections on 4G by 2018, with Korea having 54 percent of all its connections on 4G by 2018. The United States is going to lead the world in terms of its share of the total global 4G connections with 23 percent of global 4G connections.

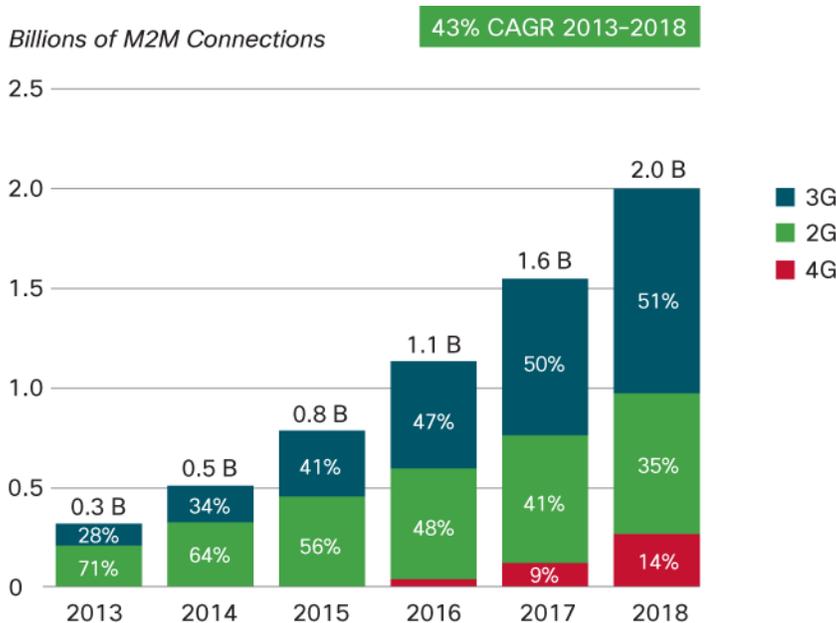
The growth in 4G, with its higher bandwidth, lower latency, and increased security, will help regions bridge the gap between their mobile and fixed network performance. This will lead to even higher adoption of mobile technologies by end users, making access to any content on any device from anywhere more of a reality.

Trend 2: Measuring Internet of Everything Adoption—Emerging Wearable Devices

The phenomenal growth in smarter end-user devices and M2M connections is a clear indicator of the growth of the Internet of everything (IoE), which is bringing together people, processes, data, and things to make networked connections more relevant and valuable. In this section, we will focus on the continued growth of M2M connections and the emerging trend of wearable devices. Both M2M and wearable devices are making computing and connectivity very pervasive in our day-to-day lives.

M2M connections—such as home and office security and automation, smart metering and utilities, maintenance, building automation, automotive, healthcare and consumer electronics, and more—are being used across a broad spectrum of industries, as well as in the consumer segment. As real-time information monitoring helps companies deploy new video-based security systems, while also helping hospitals and healthcare professionals remotely monitor the progress of their patients, bandwidth-intensive M2M connections are becoming more prevalent. Globally, M2M connections will grow from 341 million in 2013 to over 2 billion by 2018, a 43 percent CAGR. M2M capabilities similar to end-user mobile devices are migrating from 2G to 3G and 4G technologies. In 2013, 71 percent of global mobile M2M connections were connected using 2G connectivity, while 28 percent used 3G, and less than 0.5 percent used 4G. By 2018, only 35 percent of M2M modules will have 2G connectivity; 51 percent will have 3G connectivity; and 14 percent will have 4G connectivity (Figure 7).

Figure 7. Global Machine-to-Machine Growth and Migration from 2G to 3G and 4G



In 2013, 4G accounted for 0.43 percent of global mobile M2M connections. By 2014, it will reach 1.5 percent of connections, by 2015, 3 percent of connections, and by 2016, 5.6 percent of connections will be 4G.

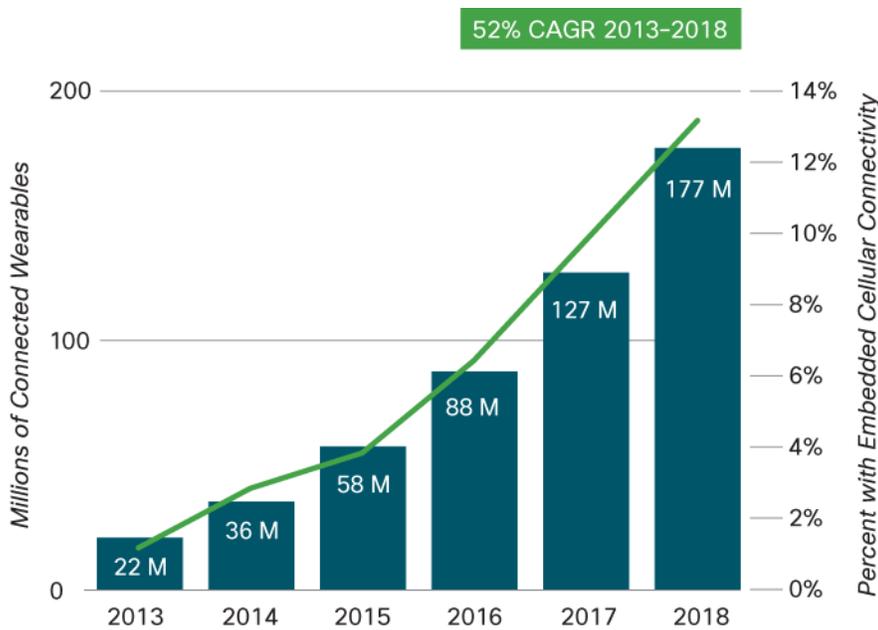
Source: Cisco VNI Mobile, 2014

An important factor contributing to the growing adoption of IoE is the emergence of wearable devices, a category with high growth potential. Wearable devices, as the name suggests, are devices that can be worn on a person, which have the capability to connect and communicate to the network either directly through embedded cellular connectivity or through another device (primarily a smartphone) using Wi-Fi, Bluetooth or another technology. These devices come in various shapes and forms, ranging from smart watches, smart glasses, heads-up displays (HUD), health and fitness trackers, health monitors, wearable scanners and navigation devices, smart clothing, and so forth. The growth in these devices has been fuelled by enhancements in technology that have supported compression of computing and other electronics (making the devices light enough to be worn). These advances are being combined with fashion to match personal styles, especially in the consumer electronics segment, along with network improvements and the growth of applications, such as location-based services and augmented reality. While there have been vast technological improvements to make wearables possible as a significant device

category, the embedded cellular connectivity still has some barriers, such as technology, regulatory, and health concerns, to overcome before it becomes widely available and adopted.

By 2018, we estimate that, there will be 177 million wearable devices globally, growing eight-fold from 22 million in 2013 at a CAGR of 52 percent (Figure 8). As mentioned earlier, there will be limited embedded cellular connectivity in wearables through the forecast period. Only 13 percent will have embedded cellular connectivity by 2018, up from 1 percent in 2013. Currently, we do not include wearables as a separate device and connections category because it is at a nascent stage, so there is a noted overlap with the M2M category. We will continue to monitor this segment, and as the category grows and becomes more significant, we may break it out in future forecast iterations.

Figure 8. Global Connected Wearable Devices

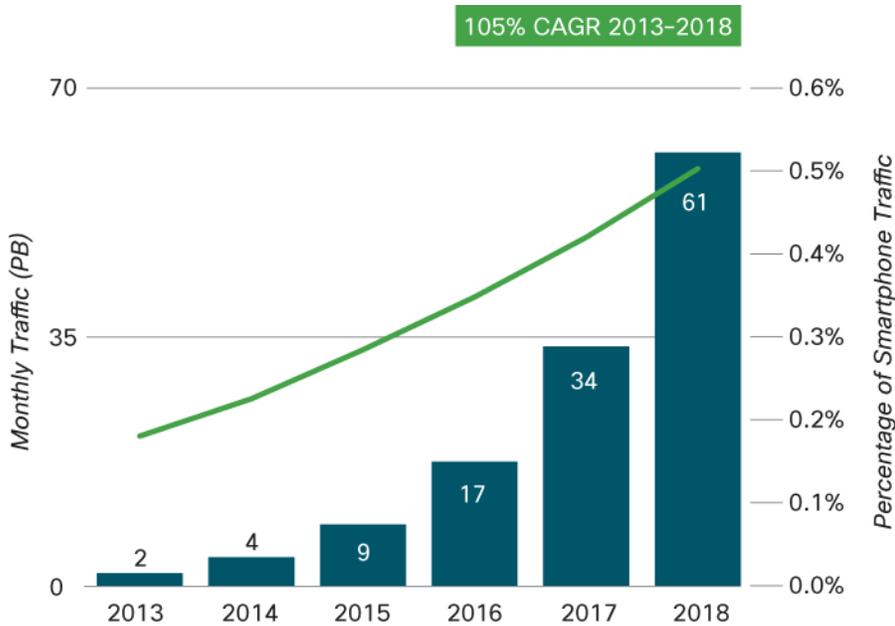


Source: Cisco VNI Mobile, 2014

Regionally, North America will lead through the forecast period in its relative share of wearables, with a 42 percent share in 2013 going to 34 percent by 2018 (Appendix B). Other regions with significant share include Western Europe with 25 percent share in 2013, growing to 26 percent by 2018, and Asia Pacific with 21 percent share, growing to 25 percent by 2018.

The wearables category will have a tangible impact on mobile traffic, because even without embedded cellular connectivity, they can connect to mobile networks through smartphones. Globally, traffic from wearables will account for 0.5 percent of smartphone traffic by 2018 (Figure 9). Globally, traffic from wearable devices will grow 36-fold from 2013 to 61 petabytes per month by 2018 (CAGR 105 percent). Globally, traffic from wearable devices will account for 0.4 percent of total mobile data traffic by 2018, compared to 0.1 percent at the end of 2013.

Figure 9. Global Wearable Devices Traffic Impact

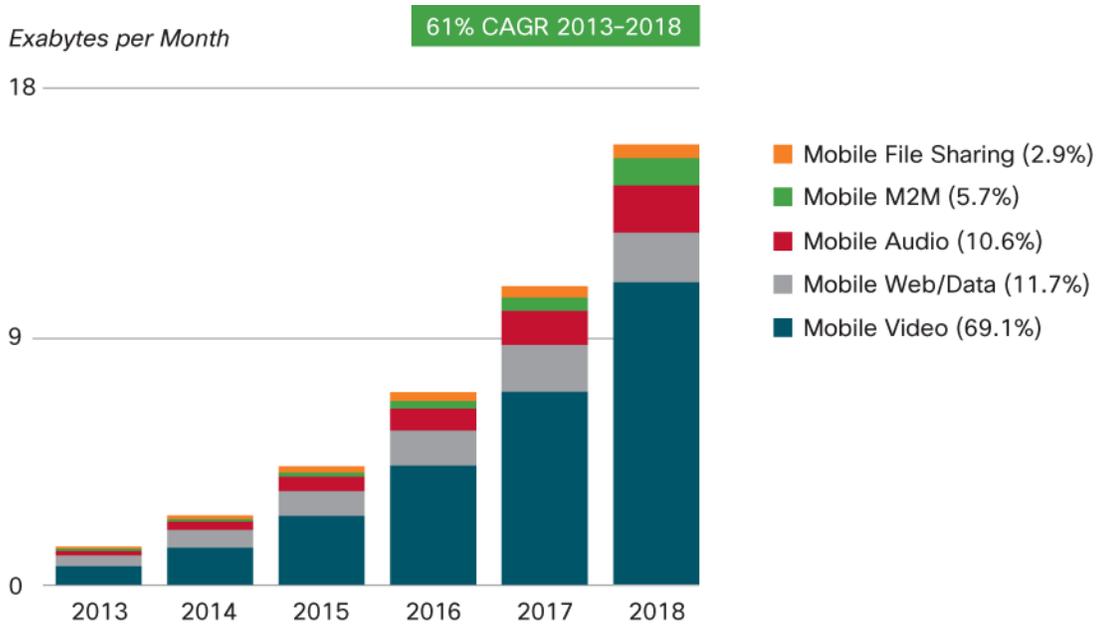


Source: Cisco VNI Mobile, 2014

Trend 3: Analyzing Mobile Applications—Video Dominance

Because mobile video content has much higher bit rates than other mobile content types, mobile video will generate much of the mobile traffic growth through 2018. Mobile video will grow at a CAGR of 69 percent between 2013 and 2018, the highest growth rate of any mobile application category that we forecast, other than machine-to-machine traffic. Of the 15.9 exabytes per month crossing the mobile network by 2018, 11 exabytes will be due to video (Figure 10). Mobile video represented more than half of global mobile data traffic beginning in 2012, indicating that it is having an immediate impact on traffic today, not just in the future.

Figure 10. Mobile Video Will Generate Over 69 Percent of Mobile Data Traffic by 2018

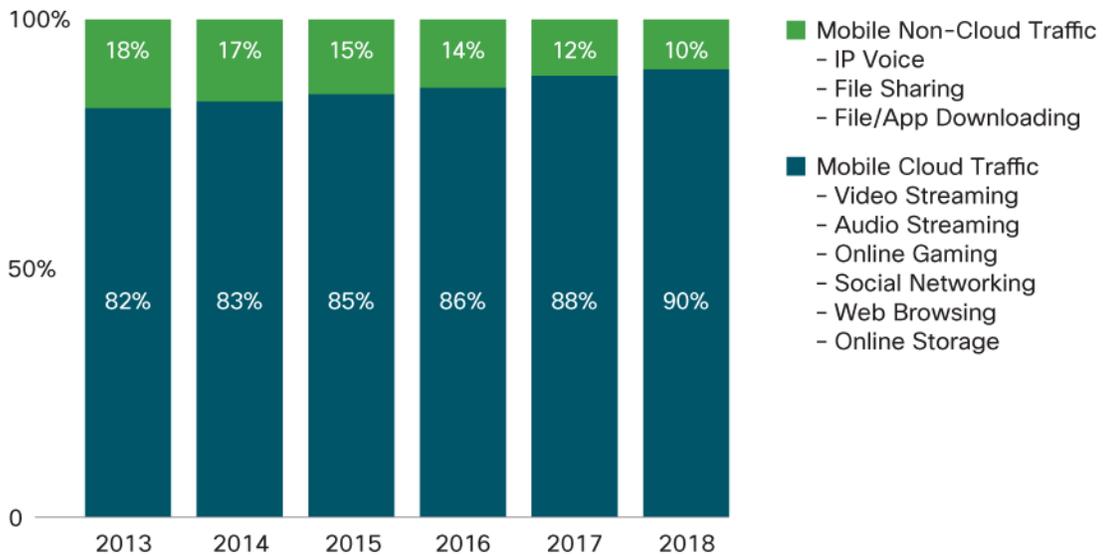


Figures in parentheses refer to traffic share in 2018.

Source: Cisco VNI Mobile, 2014

Because many Internet video applications can be categorized as cloud applications, mobile cloud traffic follows a curve similar to video. Mobile devices have memory and speed limitations that might prevent them from acting as media consumption devices, were it not for cloud applications and services. Cloud applications and services such as Netflix, YouTube, Pandora, and Spotify allow mobile users to overcome the memory capacity and processing power limitations of mobile devices. Globally, cloud applications will account for 90 percent of total mobile data traffic by 2018, compared to 82 percent at the end of 2013 (Figure 11). Mobile cloud traffic will grow 12-fold from 2013 to 2018, a compound annual growth rate of 64 percent.

Figure 11. Cloud Applications Will Account for 90 Percent of Mobile Data Traffic by 2018

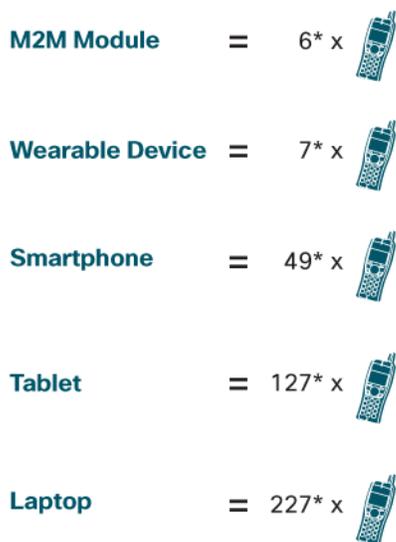


Source: Cisco VNI Mobile, 2014

Trend 4: Profiling Bandwidth Consumption by Device

The proliferation of high-end handsets, tablets, and laptops on mobile networks is a major traffic generator, because these devices offer the consumer content and applications not supported by previous generations of mobile devices. As shown in Figure 12, a single smartphone can generate as much traffic as 49 basic-feature phones; a tablet as much traffic as 127 basic-feature phones; and a single laptop can generate as much traffic as 227 basic-feature phones.

Figure 12. High-End Devices Significantly Multiply Traffic



* Monthly basic mobile phone data traffic

Source: Cisco VNI Mobile, 2014

Average traffic per device is expected to increase rapidly during the forecast period, as shown in Table 3.

Table 3. Summary of Per-Device Usage Growth, MB per Month

Device Type	2013	2018
Nonsmartphone	10.8	45
M2M Module	61	451
Wearable Device	78	345
Smartphone	529	2,672
4G Smartphone	1,984	5,371
Tablet	1,374	5,609
4G Tablet	2,410	9,183
Laptop	2,455	5,095

Source: Cisco VNI Mobile, 2014

The growth in usage per device outpaces the growth in the number of devices. As shown in Table 4, the growth rate of mobile data traffic from new devices is two to five times greater than the growth rate of users.

Table 4. Comparison of Global Device Unit Growth and Global Mobile Data Traffic Growth

Device Type	Growth in Devices, 2013–2018 CAGR	Growth in Mobile Data Traffic, 2013–2018 CAGR
Smartphone	18%	63%
Tablet	41%	87%
Laptop	13%	30%
M2M Module	43%	113%

Source: Cisco VNI Mobile, 2014

A few of the main promoters of growth in average usage are described in the following list:

- As mobile network connection speeds increase, the average bit rate of content accessed through the mobile network will increase. High-definition video will be more prevalent, and the proportion of streamed content, as compared to side-loaded content, is also expected to increase with average mobile network connection speed.
- The shift toward on-demand video will affect mobile networks as much as it will affect fixed networks. Traffic can increase dramatically, even while the total amount of time spent watching video remains relatively constant.
- As mobile network capacity improves, and the number of multiple-device users grows, operators are more likely to offer mobile broadband packages comparable in price and speed to those of fixed broadband. This is encouraging mobile broadband substitution for fixed broadband, where the usage profile is substantially higher than average.
- Mobile devices increase an individual's contact time with the network, and it is likely that this increased contact time will lead to an increase in overall minutes of use per user. However, not all of the increase in mobile data traffic can be attributed to traffic migration to the mobile network from the fixed network. Many uniquely mobile applications continue to emerge, such as location-based services, mobile-only games, and mobile commerce applications.

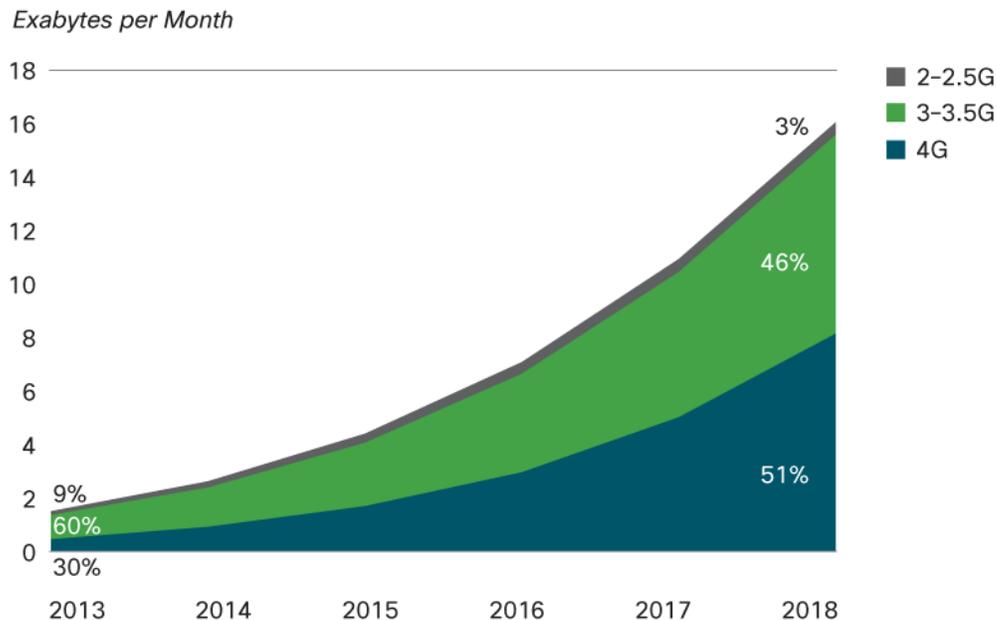
Trend 5: Assessing Mobile Traffic/Offload by Access Type (2G, 3G, and 4G)

Impact of 4G

While 3G and 3.5G account for the majority (60 percent) of mobile data traffic today, 4G will grow to represent over half of all mobile data traffic by 2018, despite a connection share of only 15 percent (Figure 13).

Currently, a 4G connection generates nearly 15 times more traffic than a non-4G connection. There are two reasons for this. The first is that many 4G connections today are for high-end devices, which have a higher average usage. The second is that higher speeds encourage the adoption and usage of high-bandwidth applications, such that a smartphone on a 4G network is likely to generate 50 percent more traffic than the same model smartphone on a 3G or 3.5G network. As smartphones come to represent a larger share of 4G connections, the gap between the average traffic of 4G devices and non-4G devices will narrow, but by 2018 a 4G connection will still generate 6 times more traffic than a non-4G connection.

Figure 13. 51 Percent of Total Mobile Data Traffic Will Be 4G by 2018



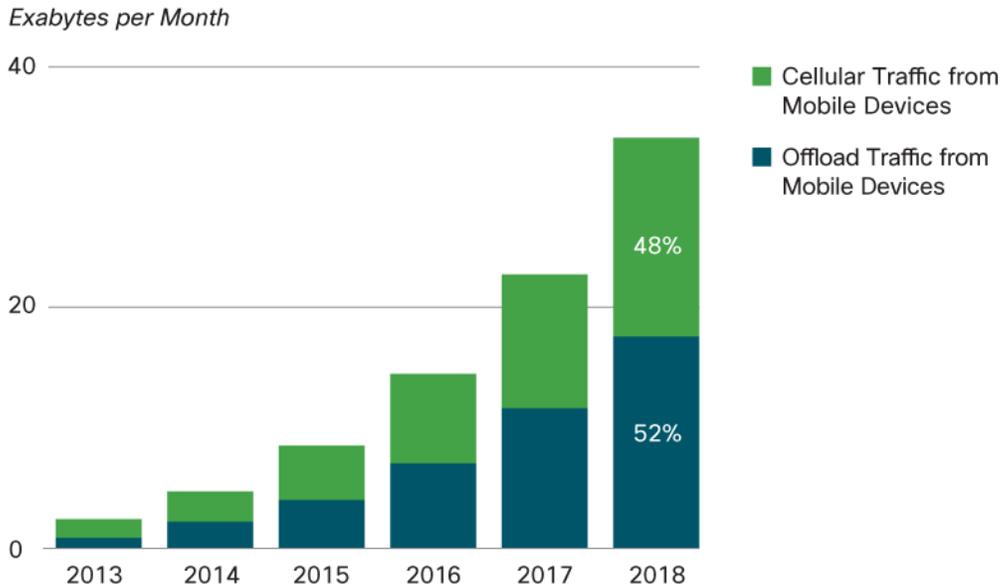
Source: Cisco VNI Mobile, 2014

Offload

Much mobile data activity takes place within users' homes. For users with fixed broadband and Wi-Fi access points at home, or for users served by operator-owned femtocells and picocells, a sizable proportion of traffic generated by mobile and portable devices is offloaded from the mobile network onto the fixed network. For the purposes of this study, offload pertains to traffic from dual mode devices (i.e., supports cellular and Wi-Fi connectivity; excluding laptops) over Wi-Fi and small cell networks. Offloading occurs at the user/device level when one switches from a cellular connection to Wi-Fi/small cell access. Our mobile offload projections include traffic from both public hotspots as well as residential Wi-Fi networks.

As a percentage of total mobile data traffic from all mobile-connected devices, mobile offload increases from 45 percent (1.2 exabytes/month) in 2013 to 52 percent (17.3 exabytes/month) by 2018 (Figure 14). Without offload, Global mobile data traffic would grow at a CAGR of 65 percent instead of 61 percent. Offload volume is determined by smartphone penetration, dual-mode share of handsets, percentage of home-based mobile Internet use, and percentage of dual-mode smartphone owners with Wi-Fi fixed Internet access at home.

Figure 14. 52 Percent of Total Mobile Data Traffic Will Be Offloaded by 2018



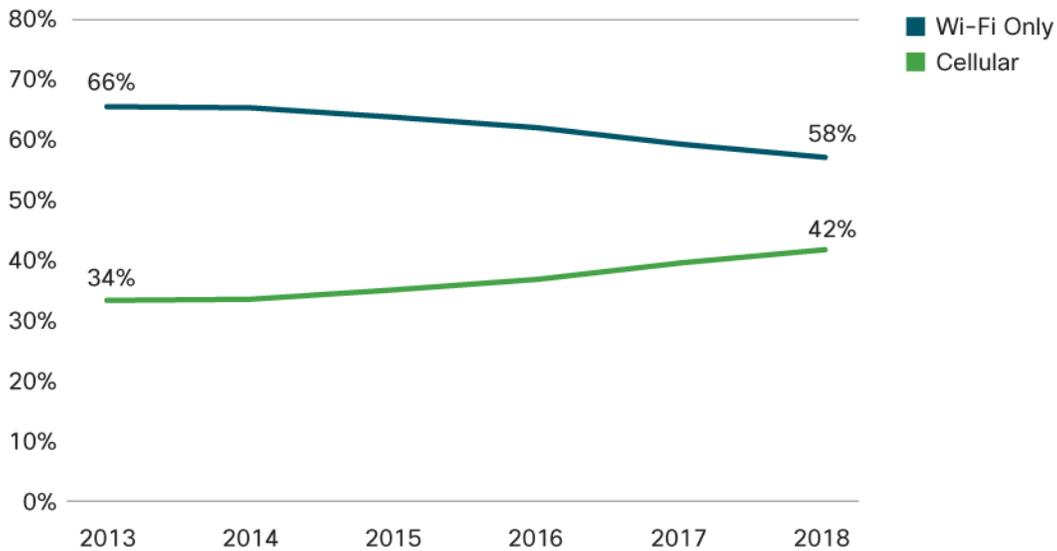
Source: Cisco VNI Mobile, 2014

The amount of traffic offloaded from smartphones will be 51 percent by 2018, and the amount of traffic offloaded from tablets will be 69 percent by 2018.

A supporting trend is the growth of cellular connectivity for devices such as tablets which in their earlier generation were limited to Wi-Fi connectivity only. With increased desire for mobility and mobile carriers offer of data plans catering to multi-device owners, we find that the cellular connectivity is on a rise albeit cautiously as the end users are testing the waters. As a point in case, we estimate that by 2018, 42 percent of all tablets will have a cellular connection up from 34 percent in 2013 (Figure 15).

Figure 15. 42 Percent of Global Tablets Will Be Cellular Connected by 2018

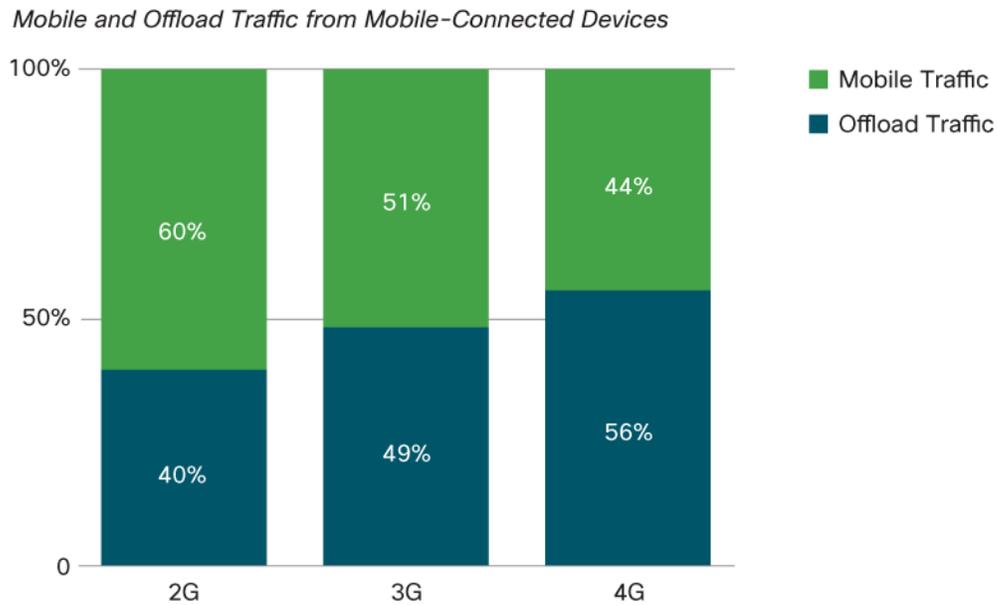
Cellular vs. Wi-Fi Only Tablets Ratio



Source: Cisco VNI Mobile, 2014

Some have speculated that Wi-Fi offload will be less relevant once 4G networks are in place because of the faster speeds and more abundant bandwidth. However, 4G networks will attract high-usage devices such as advanced smartphones and tablets, and it appears that 4G plans will be subject to data caps similar to 3G plans. For these reasons, Wi-Fi offload is higher on 4G networks than on lower speed networks, now and in the future according to our projections. The amount of traffic offloaded from 4G was 54 percent at the end of 2013 and will be 56 percent by 2018 (Figure 16). The amount of traffic offloaded from 3G will be 49 percent by 2018, and the amount of traffic offloaded from 2G will be 40 percent by 2018.

Figure 16. Mobile Data Traffic and Offload Traffic, 2018



Source: Cisco VNI Mobile, 2014

Trend 6: Comparing Mobile Network Speeds

Globally, the average mobile network connection speed in 2013 was 1,387 Kbps. The average speed will grow at a compound annual growth rate of 13 percent, and will exceed 2.5 Mbps by 2018. Smartphone speeds, generally third-generation (3G) and higher, are currently almost three times higher than the overall average. Smartphone speeds will nearly double by 2018, reaching 7 Mbps.

There is anecdotal evidence to support the idea that usage increases when speed increases, although there is often a delay between the increase in speed and the increased usage, which can range from a few months to several years. The Cisco VNI Forecast relates application bit rates to the average speeds in each country. Many of the trends in the resulting traffic forecast can be seen in the speed forecast, such as the high growth rates for developing countries and regions relative to more developed areas (Table 5).

Table 5. Projected Average Mobile Network Connection Speeds (in Kbps) by Region and Country

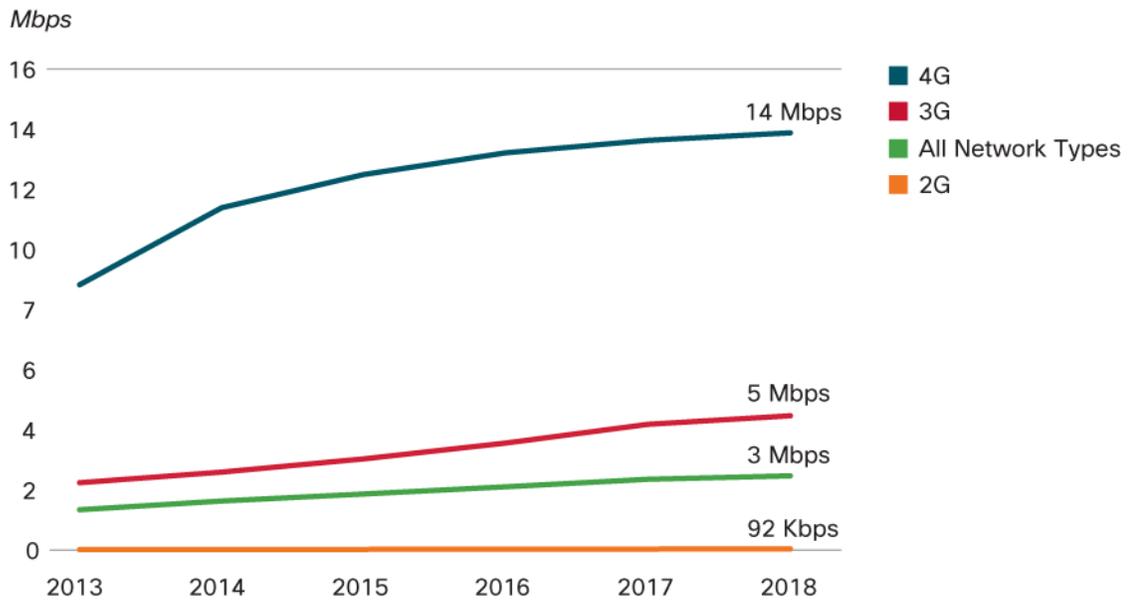
	2013	2013	2014	2015	2016	2018	CAGR 2013–2018
Global							
Global speed: All handsets	1,387	1,676	1,908	2,147	2,396	2,509	13%
Global speed: Smartphones	3,983	4,864	5,504	6,132	6,756	7,044	12%
Global speed: Tablets	4,591	5,584	6,298	6,483	8,018	8,998	14%
By Region							
Middle East & Africa	529	605	675	753	832	900	11%
Central & Eastern Europe	1,351	1,446	1,711	1,945	2,128	2,269	11%
Latin America	684	734	793	856	924	999	8%
Western Europe	1,585	1,735	1,946	2,183	2,452	3,003	14%
Asia-Pacific	1,327	1,492	1,617	1,728	1,863	1,992	8%
North America	1,728	2,010	2,304	2,620	2,988	4,549	21%

Source: Cisco VNI Mobile, 2014

Current and historical speeds are based on data from Cisco's GIST (Global Internet Speed Test) application and Ookla's Speedtest. Forward projections for mobile data speeds are based on third-party forecasts for the relative proportions of 2G, 3G, 3.5G, and 4G among mobile connections through 2018. For more information about Cisco GIST, please visit <http://gistdata.ciscovni.com>.

The speed at which data can travel to and from a mobile device happen in two places: the infrastructure speed capability outside the device, and the connectivity speed from the network capability inside the device. These speeds are actual and modeled end user speeds and not theoretical speeds that the devices, connection or technology is capable of providing. There are several variables that affect the performance of a mobile connection. Roll out of 2G/3G/4G in various countries and regions, technology used by the cell towers, spectrum availability, terrain, signal strength, and number of devices sharing a cell tower. The type of application being used by the end user is also an important factor. Download speed, upload speed and latency characteristics vary widely depending on the type of application, be it video, radio or instant messaging.

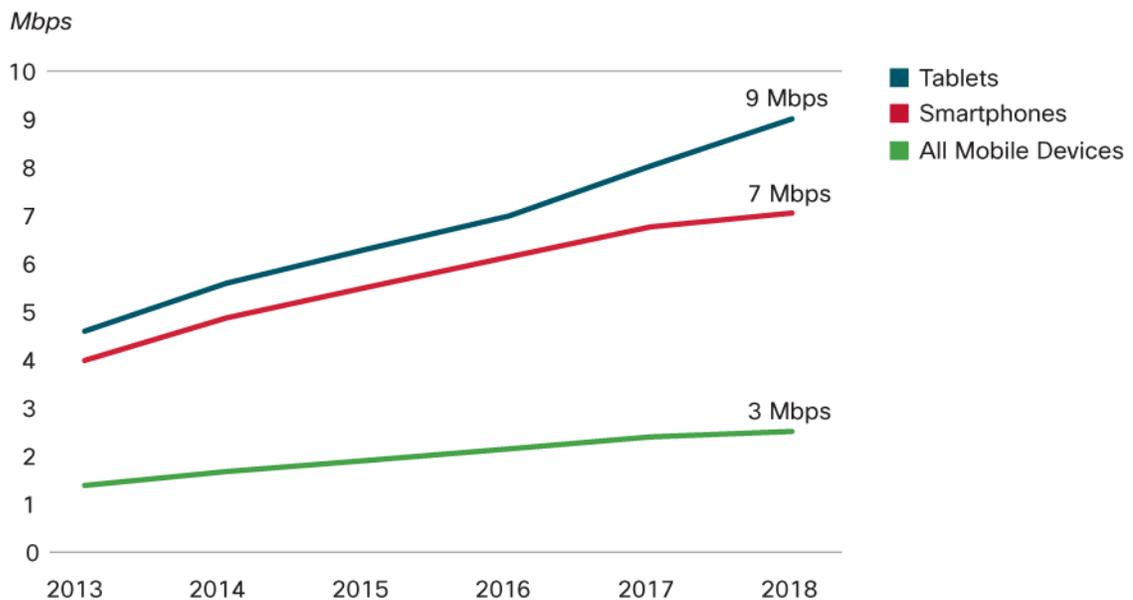
Figure 17. Mobile Speeds by Technology 2G vs. 3G vs. 4G



Source: Cisco VNI Mobile, 2014

4G Speeds will be 6 times higher than that of an average mobile connection by 2018. In comparison, 3G speeds will be twice as fast as the average mobile connection by 2018.

Figure 18. Mobile Speeds by Device



Source: Cisco VNI Mobile, 2014

Trend 7: Reviewing Tiered Pricing—Managing Top Mobile Users

An increasing number of service providers worldwide are moving from unlimited data plans to tiered mobile data packages. To make an initial estimate of the impact of tiered pricing on traffic growth, we repeated a case study based on the data of two Tier 1 global service providers from mature mobile markets. The study tracks data usage from the timeframe of the introduction of tiered pricing three years ago. The findings in this study are based on Cisco's analysis of data provided by a third-party data analysis firm. This firm maintains a panel of volunteer participants who have given the company access to their mobile service bills, including KB of data usage. The data in this study reflects usage associated with over 38,889 devices and spans 12 months (October 2012 through September 2013) and also refers to the study from the previous update for longer term trends. The overall study spans three years. Cisco's analysis of the data consists of categorizing the pricing plans, operating systems, devices, and users; incorporating additional third-party information on device characteristics; and performing exploratory and statistical data analysis. While the results of the study represent actual data from Tier 1 mobile data operators, global forecasts that include emerging markets, and Tier 2 providers may lead to lower estimates.

Over the period of the nearly 3-year study, the percentage of tiered plans compared to all data plans increased from 4 percent to 55 percent, while unlimited plans dropped from 81 percent to 45 percent. This has not, however, constrained usage patterns. From 2012 to 2013, average usage per device on a tiered plan grew from 922 MB per month to 1,081 MB per month, while usage per device of unlimited plans grew at from a higher base of 1,261 MB per month to 1,890 MB per month.

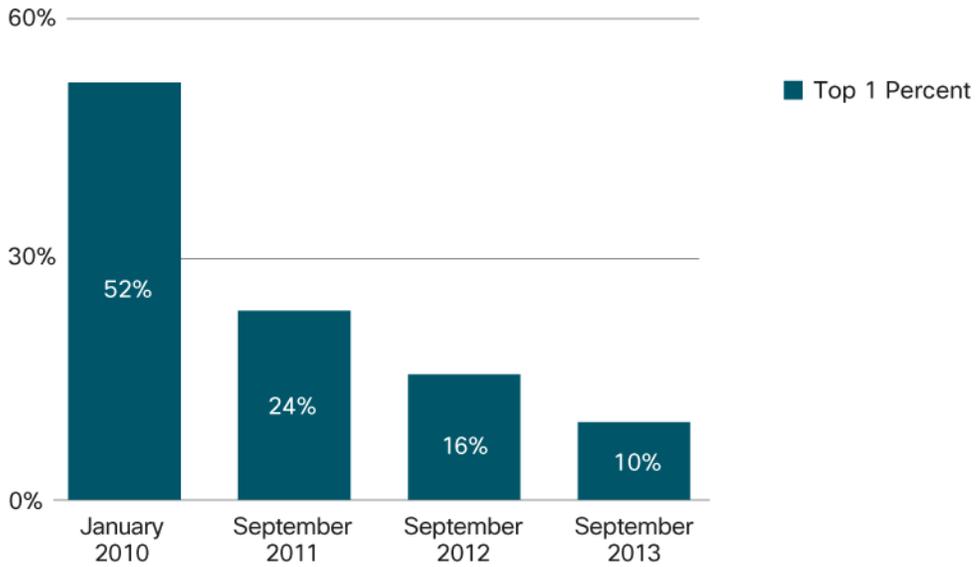
However, tiered plans are effective. There is a narrowing of the bandwidth consumption gap between tiered and unlimited data plan connections, showing the general increase in consumption of mobile data traffic due to the increased consumption of services such as Pandora, YouTube, Facebook, and Netflix. Unlimited plans have promoted the adoption of mobile applications and increased web usage through mobile broadband.

Tiered pricing plans are often designed to constrain the heaviest mobile data users, especially the top 1 percent of mobile data consumers. An examination of heavy mobile data users reveals that the top 1 percent of mobile users is actually the top 3.5 percent, because the top 1 percent of users varies each month. For example, for a mobile data subscriber base of 1000 users; the top 1 percent is 10 users. However, the same set of 10 users does not appear in the top 1 percent category in each month; rather, a larger set of 35 subscribers rotates through the top 1 percent. This top 3.5 percent are the users who have the potential of being in the top 1 percent bracket in any given month and substitute for each other in subsequent months. The trend is due to the nature of consumption of mobile data applications.

The usage per month of the average top 1 percent of mobile data users has been steadily decreasing compared to overall usage. At the beginning of the 3-year study, 52 percent of the traffic was generated by the top 1 percent. At the end of the three year time frame, the top 1 percent generated 10 percent of the overall traffic per month compared to 16 percent in September 2012 (Figure 19). The top 10 percent of mobile users generate as much traffic as the remaining 90 percent of mobile data traffic (Figure 20).

Figure 19. Top 1 Percent Generates 52 Percent of Monthly Data Traffic in Jan 2010 Compared to 10 Percent in Sept 2013

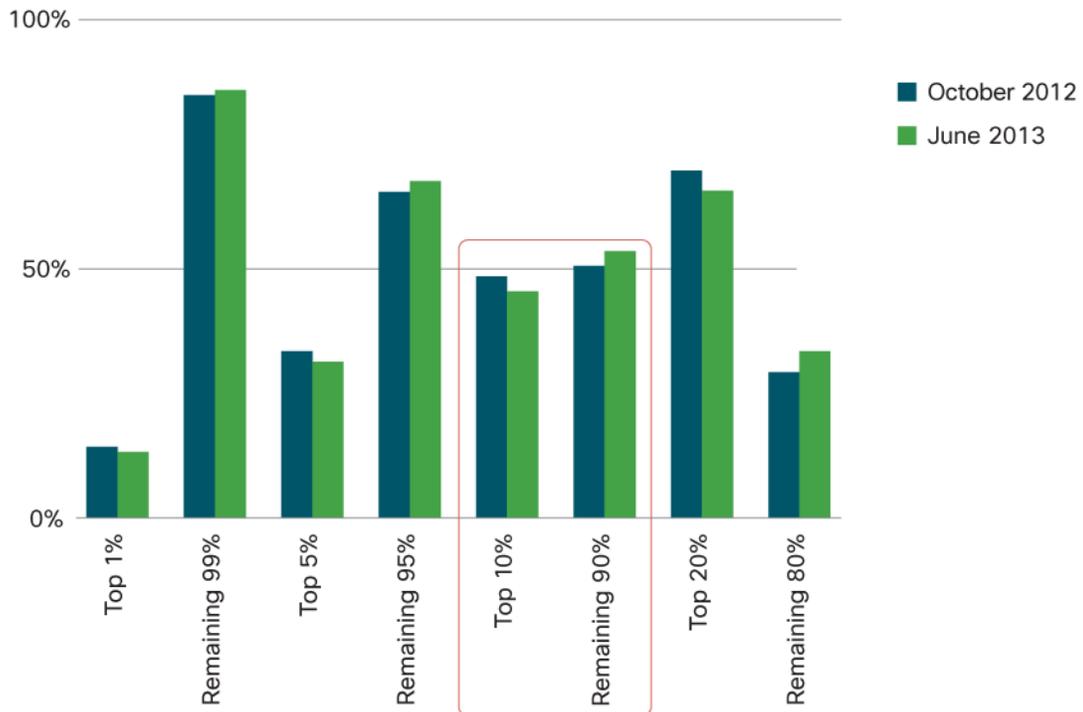
Top 1 Percent Share of Total Monthly Data Traffic



Source: Cisco VNI Mobile, 2014

Figure 20. Top 10 Percent Consumes Nearly As Much As the Remaining 90 Percent

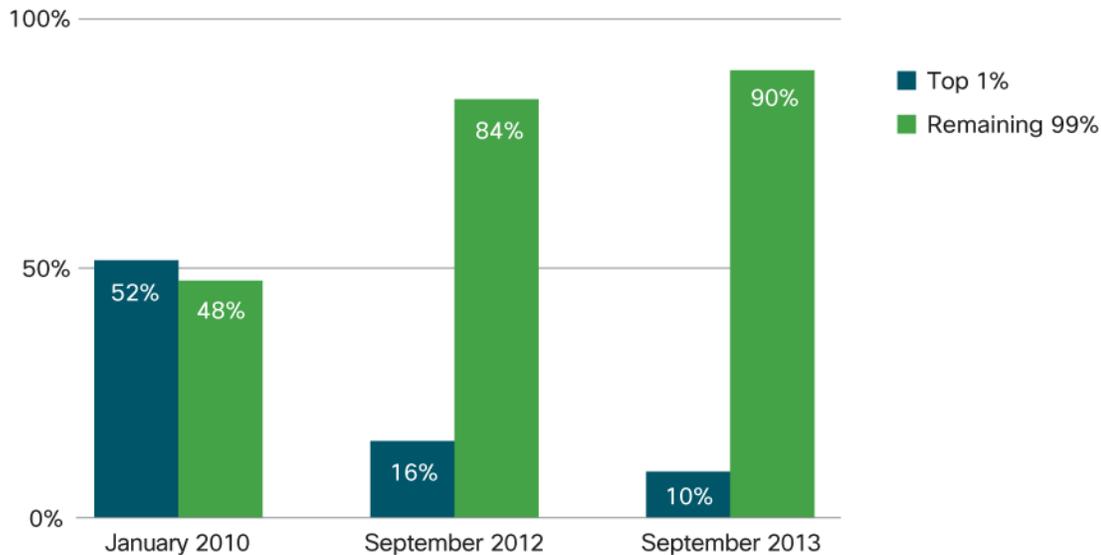
Top Tier Percentage Usage



Source: Cisco VNI Mobile, 2014

Figure 21. Remaining 99 Percent Growing Faster Than Top 1 Percent

MB per User per Month

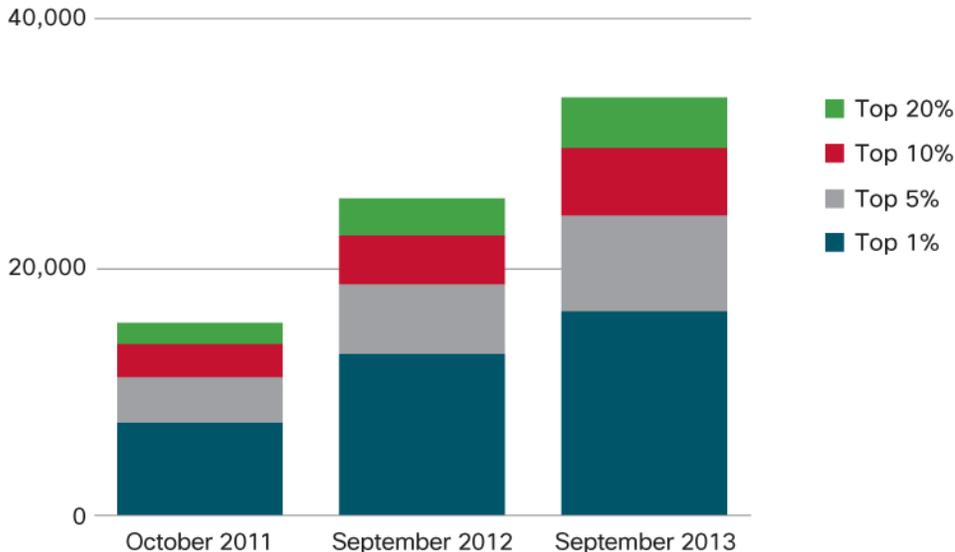


Source: Cisco VNI Mobile, 2014

Additional evidence that tiered pricing plans are effectively constraining the top 1 percent of mobile users, and that the growth is being made up by those outside the top 1 percent, is that the usage of the remaining 99 percent is growing much more rapidly than the top 1 percent (Figure 21). With the introduction of new larger screen smartphones and tablets, there is continued increase in usage in terms of megabytes per month per user in all the top tiers (Figure 22).

Figure 22. All Top Tiers Increase in Absolute Usage (MB per Month) from 2011 to 2013

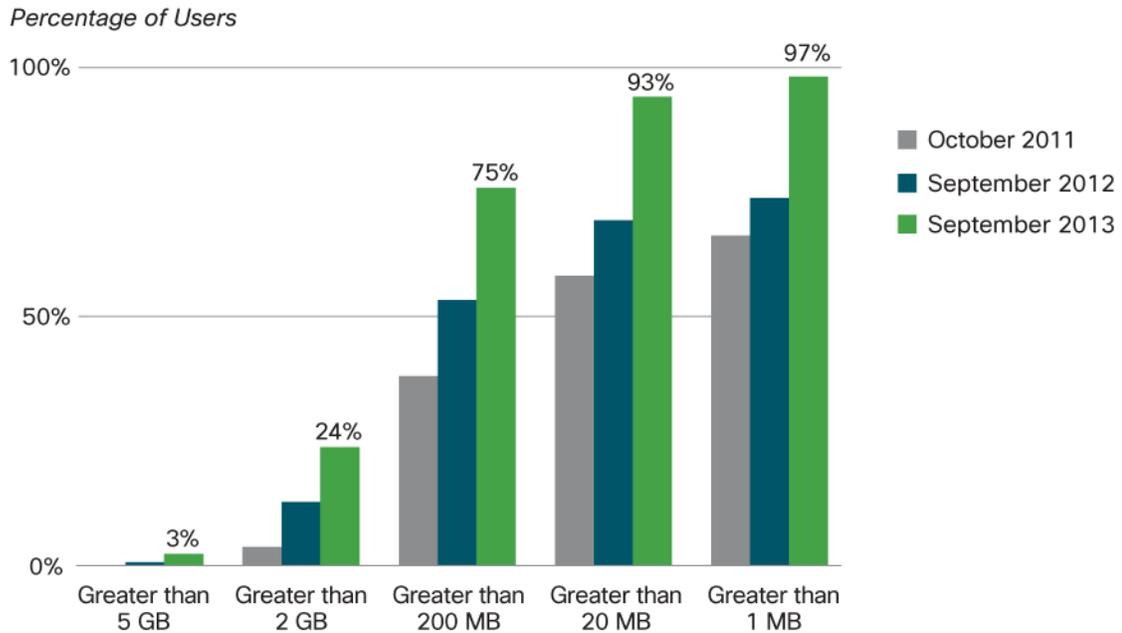
Megabytes per Month



Source: Cisco VNI Mobile, 2014

The proportion of mobile users generating more than 2 gigabytes per month has increased significantly over the past year, reaching 24 percent of users towards the end of 2013 (Figure 23).

Figure 23. 3 Percent of Users Consume 5 GB per Month and 24 Percent Consume over 2 GB per Month



Note: While these averages represent actual data from Tier 1 mobile data operators, global forecasts that include emerging markets and Tier 2 providers will lead to lower estimates.

Source: Cisco VNI Mobile, 2014

More detail on the tiered pricing case study is available in Appendix C.

iOS Marginally Surpasses Android in Data Usage

At the beginning of the three year tiered pricing case study, Android data consumption was equal to if not higher than other smartphone platforms. However, Apple-based devices have now caught up and their data consumption is marginally higher than that of Android devices in terms of megabytes per month per connection usage (Figure 24).

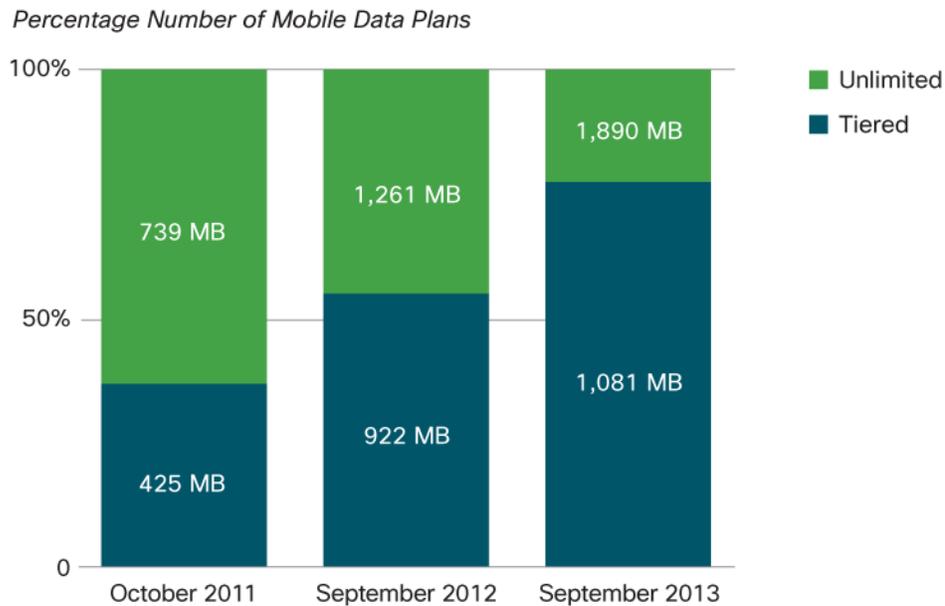
Figure 24. Megabytes per Month by Operating System



Source: Cisco VNI Mobile, 2014

Tiered plans outnumber unlimited plans; unlimited plans continue to lead in data consumption.

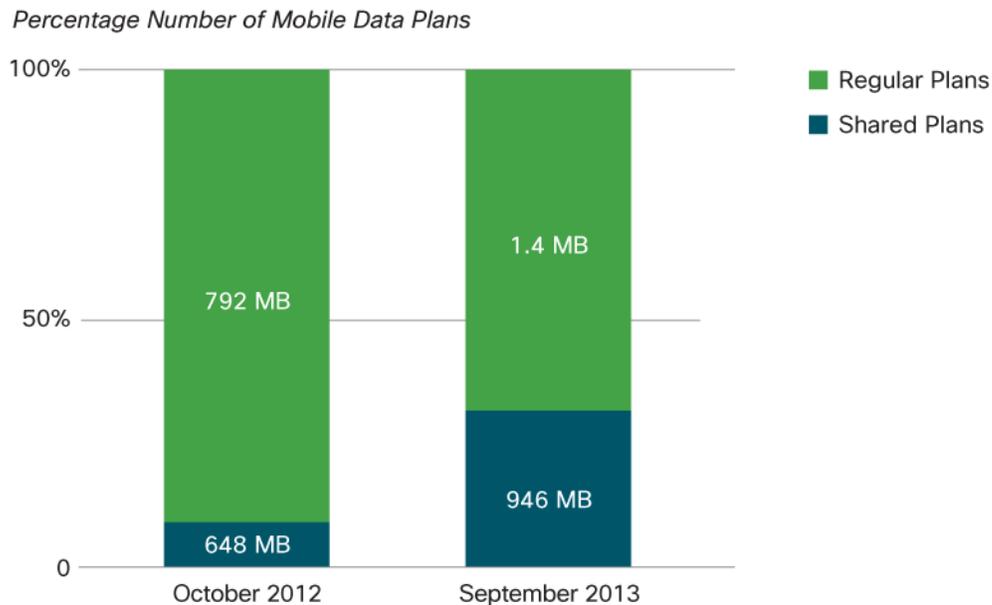
Figure 25. Tiered vs. Unlimited Plans



Source: Cisco VNI Mobile, 2014

The number of shared plans is increasing; there is no clear effect on usage during the short time frame of the study.

Figure 26. Shared vs. Regular Data Plans



Source: Cisco VNI Mobile, 2014

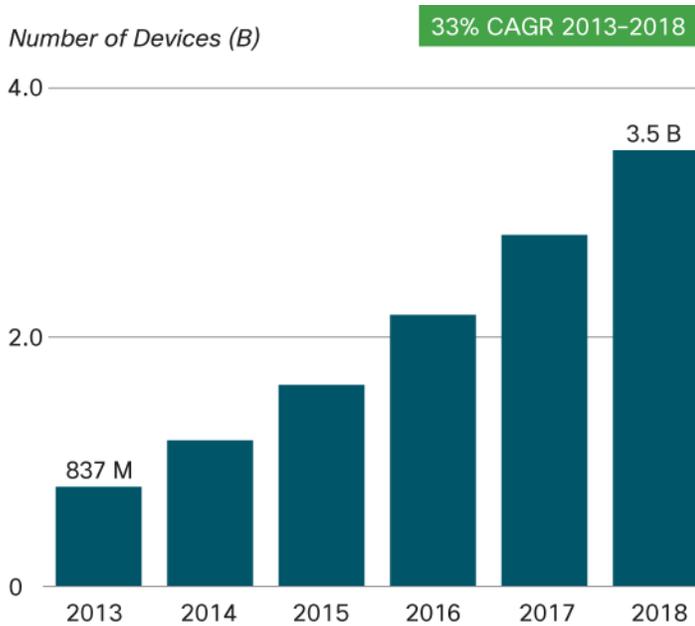
More detail on consumption by operating system is available in Appendix C.

Trend 8: Adopting IPv6—Beyond an Emerging Protocol

The transition to IPv6 is well underway, which helps connect and manage the proliferation of newer-generation devices that are contributing to mobile network usage and data traffic growth. Continuing the Cisco VNI focus on IPv6, the Cisco VNI 2013–2018 Mobile Data Traffic Forecast provides an update on IPv6-capable mobile devices and connections and the potential for IPv6 mobile data traffic.

Focusing on the high-growth mobile-device segments of smartphones and tablets, the forecast projects that globally 79 percent of smartphones and tablets (3.5 billion) will be IPv6 capable by 2018 (up from 46 percent or 837 million smartphones and tablets in 2013). This estimation is based on OS support of IPv6 (primarily Android and iOS) and the accelerated move to higher-speed mobile networks (3.5G or higher) capable of enabling IPv6. (This forecast is intended as a projection of the number of IPv6-capable mobile devices, not mobile devices with an IPv6 connection actively configured by the ISP.)

Figure 27. Global IPv6-Capable Smartphones and Tablets Reach 3.5 Billion by 2018

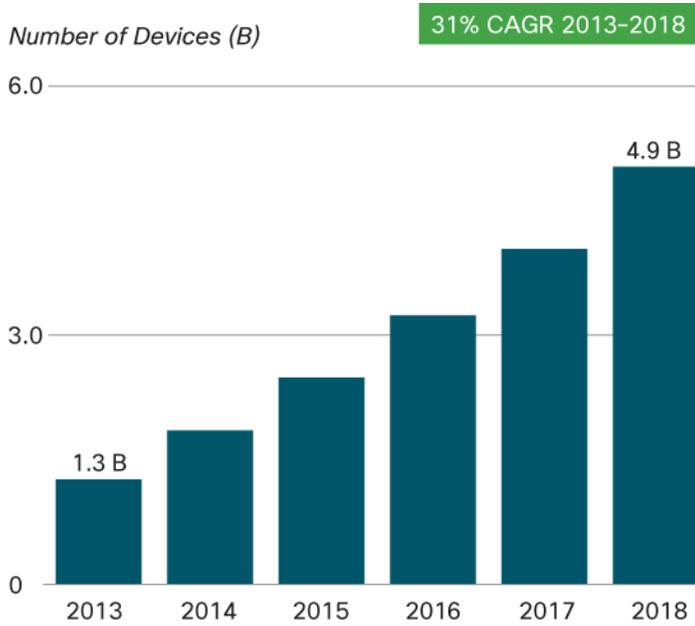


Source: Cisco VNI Mobile, 2014

For all mobile devices and connections, the forecasts project that, globally, nearly half (48 percent) will be IPv6-capable by 2018, up from 18 percent (1.3 billion) in 2013. M2M emerges as a key segment of growth for IPv6-capable devices, reaching nearly 600 million by 2018, a 46-fold increase during the forecast period. With its capability to vastly scale IP addresses and manage complex networks, IPv6 is critical in supporting the IoE of today and in the future. (Refer to Table 15 in Appendix D for more device detail.)

Regionally, Asia Pacific will lead throughout the forecast period with the highest number of IPv6-capable devices and connections, reaching 2.2 billion by 2018. Middle East and Africa and Asia-Pacific will have the highest growth rates during the forecast period, at 35 percent CAGR and 34 percent CAGR respectively. (Refer to Table 16 in Appendix D for more regional detail.)

Figure 28. Global IPv6-Capable Mobile Devices Reach 4.9 Billion by 2018

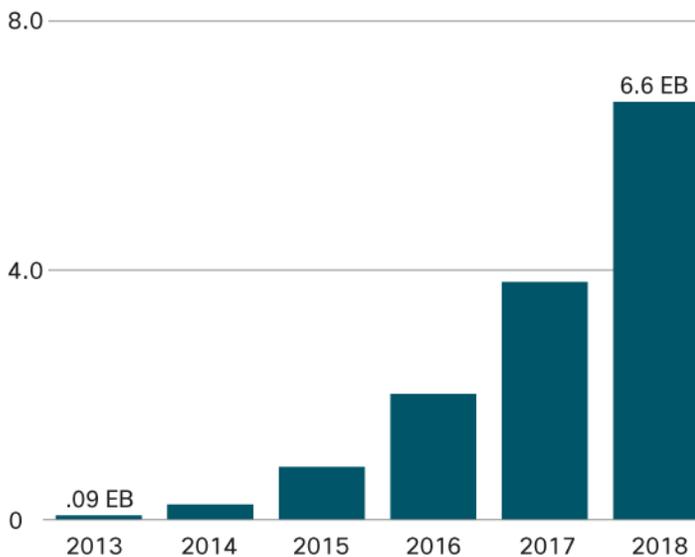


Source: Cisco VNI Mobile, 2014

Considering the significant potential for mobile device IPv6 connectivity, the Cisco VNI Mobile Forecast provides an estimation for IPv6 network traffic based on a graduated percentage of IPv6-capable devices becoming actively connected to an IPv6 network. Looking to 2018, if 50 percent of IPv6-capable devices are connected to an IPv6 network, the forecast estimates that, globally, IPv6 traffic will amount to 6.6 exabytes per month or 40 percent of total mobile data traffic, a 73-fold growth from 2013 to 2018.

Figure 29. Projected IPv6 Mobile Data Traffic Forecast 2013–2018

Exabytes per Month



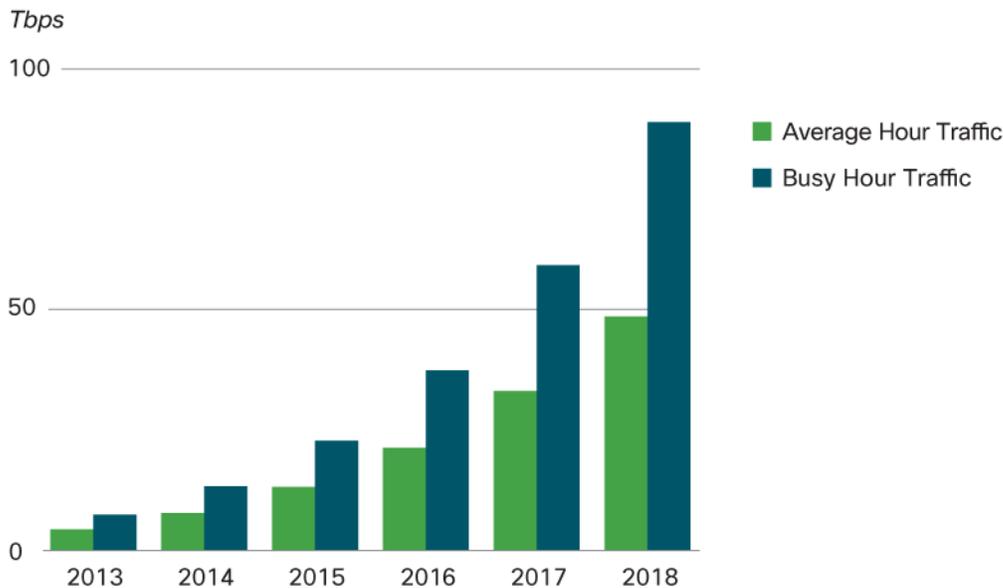
Source: Cisco VNI Mobile, 2014

For additional views on the latest IPv6 deployment trends, visit the [Cisco 6Lab site](#). The Cisco 6Lab analysis includes current statistics by country on IPv6 prefix deployment, IPv6 web content availability, and estimations of IPv6 users. With the convergence of IPv6 device capability, content availability, and network deployment, the discussion of IPv6 moves from “what if” to “how soon will” service providers and end users realize the potential IPv6 has to offer.

Trend 9: Defining Mobile “Prime Time”—Peak vs. Average Usage

Mobile video applications have a “prime time” in that they are predominantly used during certain times of day. Web and general data usage tends to occur throughout the day, but video consumption is highest in the evening. Video therefore has a higher peak-to-average ratio than web and data. Live video and video communications have higher peak-to-average ratios than video-on-demand. As the mobile network application mix shifts towards video, and as the video mix increasingly includes live video and video communication, the overall mobile data peak-to-average ratio increases. Busy hour mobile traffic is growing at a slightly higher pace than average hour traffic, and by 2018 mobile busy hour traffic will be 83 percent higher than average hour traffic by 2018, compared to 66 percent in 2013 (Figure 30).

Figure 30. Mobile Busy Hour Is 66% Higher Than Average Hour in 2013, 83% by 2018



Source: Cisco VNI Mobile, 2014

The faster growth of busy hour traffic is not as pronounced on mobile networks as on fixed networks because mobile networks never had a large amount of peer-to-peer file sharing traffic, which brought down the peak-to-average ratio on fixed networks until video overtook peer-to-peer as the dominant application. Even though the trend is less pronounced, mobile operators will need to plan for a mobile busy hour compound annual growth rate of 64 percent between 2013 and 2018.

Conclusion

Mobile data services are well on their way to becoming necessities for many network users. Mobile voice service is already considered a necessity by most, and mobile data, video, and TV services are fast becoming an essential part of consumers' lives. Used extensively by consumer as well as enterprise segments, with impressive uptakes in both developed and emerging markets, mobility has proven to be transformational. Mobile subscribers are growing rapidly and bandwidth demand due to data and video is increasing. Mobile M2M connections continue to increase. The next 5 years are projected to provide unabated mobile video adoption despite uncertain macroeconomic conditions in many parts of the world. Backhaul capacity must increase so mobile broadband, data access, and video services can effectively support consumer usage trends and keep mobile infrastructure costs in check.

Deploying next-generation mobile networks requires greater service portability and interoperability. With the proliferation of mobile and portable devices, there is an imminent need for networks to allow all these devices to be connected transparently, with the network providing high-performance computing and delivering enhanced real-time video and multimedia. This openness will broaden the range of applications and services that can be shared, creating a highly enhanced mobile broadband experience. The expansion of wireless presence will increase the number of consumers who access and rely on mobile networks, creating a need for greater economies of scale and lower cost per bit.

As many business models emerge with new forms of advertising, media and content partnerships, mobile services including M2M, live gaming, and (in the future) augmented reality, a mutually beneficial situation needs to be developed for service providers and over-the-top providers. New partnerships, ecosystems, and strategic consolidations are expected as mobile operators, content providers, application developers, and others seek to monetize the video traffic that traverses mobile networks. Operators must solve the challenge of effectively monetizing video traffic while increasing infrastructure capital expenditures. They must become more agile and able to quickly change course and provide innovative services to engage the Web 3.0 consumer. While the net neutrality regulatory process and business models of operators evolve, there is an unmet demand from consumers for the highest quality and speeds. As wireless technologies aim to provide experiences formerly only available through wired networks, the next few years will be critical for operators and service providers to plan future network deployments that will create an adaptable environment in which the multitude of mobile-enabled devices and applications of the future can be deployed.

For More Information

Inquiries can be directed to traffic-inquiries@cisco.com.

Appendix A: The Cisco VNI Global Mobile Data Traffic Forecast

Table 6 shows detailed data from the Cisco VNI Global Mobile Data Traffic Forecast. The portable device category includes laptops with mobile data cards, USB modems, and other portable devices with embedded cellular connectivity.

Table 6. Global Mobile Data Traffic, 2013–2018

	2013	2014	2015	2016	2017	2018	CAGR 2013–2018
By Application Category (TB per Month)							
Data	606,405	957,382	1,437,249	2,073,797	2,832,137	3,531,107	42%
File Sharing	66,671	127,235	221,808	308,643	391,641	466,347	48%
Video	793,944	1,458,730	2,579,242	4,370,458	7,094,943	10,956,123	69%
M2M	20,736	49,286	113,415	246,198	490,226	907,472	113%
By Device Type (TB per Month)							
Nonsmartphones	50,425	68,087	91,030	118,901	143,427	154,258	25%
Smartphones	923,361	1,684,096	2,883,253	4,679,786	7,217,671	10,534,617	63%
Laptops	365,011	500,827	678,627	882,051	1,117,171	1,365,892	30%
Tablets	127,027	287,996	581,401	1,065,826	1,829,859	2,881,415	87%
M2M	20,736	49,286	113,415	246,198	490,226	907,472	113%
Other Portable Devices	1,196	2,341	3,987	6,333	10,593	17,394	71%
By Region (TB per Month)							
North America	388,583	624,586	969,032	1,453,312	2,100,830	2,953,875	50%
Western Europe	253,679	389,397	592,818	888,378	1,310,517	1,900,486	50%
Asia Pacific	523,918	953,085	1,670,216	2,777,483	4,441,514	6,717,828	67%
Latin America	91,863	177,273	307,822	505,265	789,313	1,158,090	66%
Central and Eastern Europe	124,059	241,016	434,096	723,186	1,135,470	1,641,205	68%
Middle East and Africa	105,655	207,277	377,731	651,472	1,031,304	1,489,565	70%
Total (TB per Month)							
Total Mobile Data Traffic	1,487,756	2,592,634	4,351,714	6,999,096	10,808,947	15,861,049	61%

Source: Cisco, 2014

The Cisco VNI Global Mobile Data Traffic Forecast relies in part upon data published by Informa Telecoms and Media, Strategy Analytics, Infonetics, Ovum, Gartner, IDC, Dell'Oro, Synergy, ACG Research, Nielsen, comScore, Arbitron Mobile, Maravedis and the International Telecommunications Union (ITU).

The Cisco VNI methodology begins with the number and growth of connections and devices, applies adoption rates for applications, and then multiplies the application's user base by Cisco's estimated minutes of use and KB per minute for that application. The methodology has evolved to link assumptions more closely with fundamental factors, to use data sources unique to Cisco, and to provide a high degree of application, segment, geographic, and device specificity.

- **Inclusion of fundamental factors.** As with the fixed IP traffic forecast, each Cisco VNI Global Mobile Data Traffic Forecast update increases the linkages between the main assumptions and fundamental factors such as available connection speed, pricing of connections and devices, computational processing power, screen size and resolution, and even device battery life. This update focuses on the relationship of mobile connection speeds and the KB-per-minute assumptions in the forecast model. Proprietary data from the [Cisco Global Internet Speed Test \(GIST\) application](#) was used as a baseline for current-year smartphone connection speeds for each country.
- **Device-centric approach.** As the number and variety of devices on the mobile network continue to increase, it becomes essential to model traffic at the device level rather than the connection level. This Cisco VNI Global Mobile Data Traffic Forecast update details traffic to smartphones; nonsmartphones; laptops, tablets, and netbooks; e-readers; digital still cameras; digital video cameras; digital photo frames; in-car entertainment systems; and handheld gaming consoles.
- **Estimation of the impact of traffic offload.** The Cisco VNI Global Mobile Data Traffic Forecast model now quantifies the effect of dual-mode devices and femtocells on handset traffic. Proprietary data from Cisco's IBSG Connected Life Market Watch was used to model offload effects.
- **Increased application-level specificity.** The forecast now offers a deeper and wider range of application specificity.

Appendix B: Global 4G Networks and Connections

Table 7. Regional 4G Connections Growth

	2013		2018	
	Number of 4G Connections	% of Total Connections	Number of 4G Connections	% of Total Connections
Asia Pacific	80,920,533	2.3%	667,956,749	13.1%
Central and Eastern Europe	1,846,331	0.3%	88,665,716	10.1%
Latin America	936,408	0.1%	86,222,002	9.1%
Middle East and Africa	3,648,081	0.3%	86,576,973	5.3%
North America	104,290,345	24.5%	372,559,550	50.6%
Western Europe	11,458,739	1.9%	228,065,764	24.3%
Global	203,100,439	2.9%	1,530,046,754	15.0%

Source: Cisco, 2014

Table 8. Regional Wearable Devices Growth

	2013		2018	
	Number of Wearable Devices	% of Global	Number of Wearable Devices	% of Global
Asia Pacific	4,502,201	20.8%	43,810,250	24.8%
Central and Eastern Europe	1,078,646	5.0%	9,864,884	5.6%
Latin America	984,497	4.5%	9,709,040	5.5%
Middle East and Africa	712,403	3.3%	7,955,103	4.5%
North America	9,063,366	41.8%	59,829,286	33.8%
Western Europe	5,347,081	24.7%	45,775,527	25.9%
Global	21,688,195	100.0%	176,944,090	100.0%

Source: Cisco, 2014

Appendix C: A Case Study on the Initial Impact of Tiered Pricing on Mobile Data Usage

The Changing Role of the Top 1 Percent of Mobile Data Subscribers

Three years ago, the top 1 percent of mobile data subscribers was responsible for a disproportionate amount of mobile data traffic. However, according to the data from this study, this disproportion is becoming less pronounced with time. The amount of traffic due to the top 1 percent of subscribers declined from 52 percent in January 2010 to 10 percent in September 2013. In the recent iteration of the study from October 2012 to September 2013, the amount of traffic due to the top 1 percent of the subscribers declined from 15 percent to 10 percent (Table 9).

Table 9. Percentage of Traffic by User Tier, Months October 2012–September 2013

Data Users	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
% traffic due to Top 1%	15%	14%	15%	15%	19%	17%	15%	13%	14%	13%	12%	10%
% traffic due to Top 10%	49%	48%	48%	47%	59%	59%	48%	46%	46%	42%	42%	40%

Source: Cisco VNI, 2014

Table 10. Average Traffic by User Tier in MB per Month

Average MB per Month	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Top 1%	12,445	12,635	12,278	13,230	12,180	10,699	15,697	12,738	15,807	16,281	16,424	12,785
Top 5%	5,399	5,632	5,450	5,724	5,225	4,750	6,525	5,958	6,748	7,213	7,501	6,799
Top 10%	3,827	4,008	3,857	4,059	3,687	3,438	4,626	4,341	4,824	5,179	5,392	5,048
Top 20%	2,727	2,862	2,701	2,953	2,549	2,422	3,293	3,166	3,451	3,690	3,840	3,689

Source: Cisco VNI, 2014

Tiered pricing plans have lower megabyte-per-month consumption compared to unlimited plans. However, the overall measures displayed healthy growth with few signs of growth slowing, and the move to tiered pricing does not appear to have an immediate effect on overall mobile data traffic.

The number of mobile data users generating more than 2 GB per month has doubled over the course of the study, and the percentage of users generating over 200 MB per month reached 75 percent (Table 11).

Table 11. One Percent of Mobile Data Users Consume 5 GB per Month

%	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Greater than 5 GB	1%	2%	1%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Greater than 2 GB	12%	13%	11%	15%	16%	17%	16%	17%	18%	20%	23%	24%
Greater than 200 MB	54%	56%	56%	56%	57%	58%	59%	60%	62%	74%	75%	75%
Greater than 20 MB	70%	72%	72%	73%	74%	74%	74%	76%	77%	93%	93%	93%

Source: Cisco VNI, 2013

The rapid increase in data usage presents a challenge to service providers who have implemented tiers defined solely in terms of usage limits. Mobile data caps that fall too far behind usage volumes may create opportunities for competitors in the market. Therefore, many service providers are creating more nuanced tiers, shared data plans and data add-ons, such as a separate charge for tethering and hotspot functionality. Such offerings tend to require less vigilance on the part of subscribers than data caps, yet still monetize scenarios that tend to have high data usage. Shared data family plans are being introduced and their effects on overall mobile data traffic are yet to be determined.

Mobile Data Traffic Volume by Operating System

While the effect of the tiered plan is clear, the average consumption per connection continues to increase for both tiered and unlimited plans. Both Android- and Apple-based devices are prominent bandwidth promoters in tiered as well as unlimited plans. Android-based devices led in average megabyte-per-month usage with unlimited plans and Apple-based iOS led in usage with tiered plans (Tables 12 and 13).

Table 12. MB per Month Usage per Mobile Operating System in Unlimited Plans

	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Android	1,497	1,585	1,601	1,733	1,938	1,857	2,288	1,964	2,435	2,447	2,583	2,226
iOS	1,131	1,246	1,191	1,211	1,311	1,214	1,380	1,449	1,559	1,635	1,759	1,767
Palm OS	819	414	497	543	876	1,288	882	1,144	1,658	228	491	886
Windows	501	630	484	1,259	2,083	2,332	1,685	1,480	1,655	1,678	1,079	804
Blackberry	168	192	167	138	152	128	243	308	302	309	437	411

Source: Cisco VNI, 2014

Table 13. MB per Month Usage per Mobile Operating System in Tiered Pricing Plans

Operating System	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
iOS	748	835	782	893	929	943	958	983	1,049	1,068	1,132	1,122
Android	451	468	462	515	565	582	585	583	632	944	1,000	1,051
Windows	607	531	611	632	731	829	748	760	876	926	882	976
Blackberry	229	250	203	261	292	277	263	314	345	403	445	415
Palm OS	75	130	157	199	176	213	171	224	154	261	253	244

Source: Cisco VNI, 2014

Shared data plans have been introduced in mature markets and the initial findings show lower traffic usage in shared plans; but both shared as well as regular plans continue to grow in terms of usage per month.

Table 14. Table 14: Shared vs. Regular Plans

Shared vs. Regular Plan (MB/month)	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Regular Plan	792	840	808	877	953	942	1,006	995	1,107	1,345	1,432	1,416
Shared Plan	648	733	703	725	752	742	808	798	841	908	952	946

Source: Cisco VNI, 2014

Appendix D: IPv6-Capable Devices, 2013–2018

Table 15 provides regional IPv6-capable forecast detail. Table 16 provides the segmentation of IPv6-capable devices by device type.

Table 15. IPv6-Capable Devices by Device Type, 2013–2018

Devices (K)	2013	2014	2015	2016	2017	2018	CAGR 2013–2018
Global	1,294,935	1,841,342	2,471,825	3,173,249	3,961,932	4,934,672	31%
Laptops	121,760	150,661	178,331	204,668	232,977	258,095	16%
M2M	12,720	37,258	86,692	176,847	329,307	586,186	115%
Nonsmartphones	309,801	435,880	544,815	577,148	548,431	546,823	12%
Other Portables	14,005	13,293	13,040	15,069	18,573	22,698	10%
Smartphones	766,567	1,089,696	1,473,281	1,944,511	2,476,418	3,049,246	32%
Tablets	70,082	114,554	175,667	255,006	356,226	471,625	46%

Source: Cisco, 2014

Table 16. IPv6-Capable Devices by Region, 2013–2018

Devices (K)	2013	2014	2015	2016	2017	2018	CAGR 2013–2018
Global	1,294,935	1,841,342	2,471,825	3,173,249	3,961,932	4,934,672	31%
Asia Pacific	526,332	770,169	1,063,814	1,378,683	1,759,816	2,261,164	34%
Latin America	110,158	164,800	228,623	301,506	377,236	465,365	33%
North America	185,044	237,832	291,560	357,057	424,930	503,103	22%
Western Europe	235,026	313,392	390,085	473,251	553,732	639,970	22%
Central and Eastern Europe	105,196	156,350	219,743	298,522	385,027	467,562	35%
Middle East and Africa	133,179	198,800	278,000	364,231	461,190	597,508	35%

Source: Cisco, 2014



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ATTACHMENT B

We Now Spend More Time Staring at Phones Than TVs

By [Joshua Brustein](#) November 19, 2014

Marketers think of smartphones and tablets as the “second screen,” places where people direct their attention during commercial breaks on TV. It may be time to reverse those distinctions.

People with access to a smartphone or tablet now spend an average of 2 hours and 57 minutes on them each day, says digital analytics firm Flurry, putting [phones ahead of televisions](#) as time-sucks. The old first screen on average gets about 2 hours and 48 minutes of attention each day, according to the Bureau of Labor Statistics. The mobile device emerges as an even bigger winner when you filter the data for dedicated users. Flurry clocks daily mobile device users at 3 hours and 45 minutes per day, compared with 3½ hours for daily television watchers.

An inflection point like this has clearly been coming. The amount of time that people spend watching TV has been flat for several years, while people continue to spend more and more time with apps. Flurry, which is owned by Yahoo! ([YHOO](#)), says app time has grown almost 10 percent in the past nine months alone.

Time Spent on Mobile Devices and TV US Daily Average (Min)

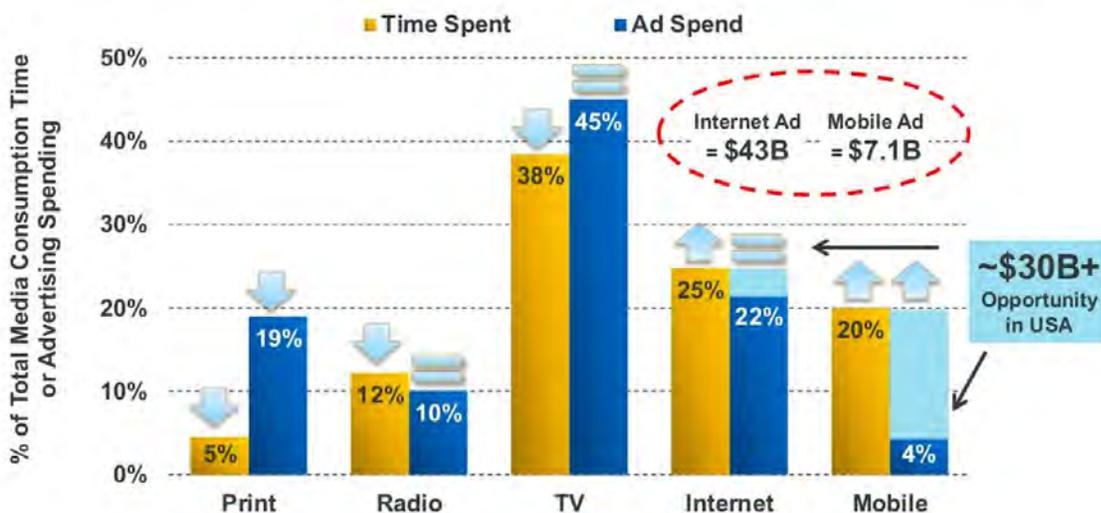


Flurry can't determine how much mobile apps are pulling people away from television, rather than just supplementing it. New media habits have essentially created more time in the day: People idly flip through content on their smartphones while halfway paying attention to whatever is playing on their televisions.

[Story: The Budget Mobile Era Arrives](#)

The rise in time spent on mobile should eventually lead to a correction in the advertising industry, as [Mary Meeker pointed out in her annual Internet Trends report](#). Theoretically, advertisers should spread their dollars across different kinds of media at roughly the same proportion as customers spend their time. Right now that's not true, as the chart below shows. Meeker thinks that mobile and Internet advertising have about \$30 billion worth of growth to come just from the reallocation of ad dollars to account for changing media habits. Cable-TV networks are seeing the [growth of their advertising businesses slow](#).

% of Time Spent in Media vs. % of Advertising Spending, USA 2013



Source: Advertising spend based on IAB data for full year 2013. Print includes newspaper and magazine. \$30B+ opportunity calculated assuming Internet and Mobile ad spend share equal their respective time spent share. Time spent share data based on eMarketer 7/13 (adjusted to exclude outdoors / classified media spend). Arrows denote Y/Y shift in percent share. 15

In reality, it's not quite as simple as matching the ad dollars to the amount of time spent. Digital advertisers tend to look for immediate transactions. This is the whole point of Google's (GOOG) search ads: Suitsupply wants its ad to show up at the exact moment someone starts searching for new clothing. But companies still see television as the place for brand marketing, including the memorable ads that companies pay millions to air during the Super Bowl. "If you ask people, 'How many search ads do you remember?' the answer is probably zero," says Simon Khalaf, Flurry's chief executive.

Khalaf thinks that video ads on mobile will eventually change that. But it will take time. So-called old media is losing the attention of the American public far faster than it's losing advertising dollars. Print media, for instance, still draws 19 percent of spending from advertisers, even though people spend only 5 percent of their media time with print products.

COMPTEL's Response to Questions in House Energy and Commerce White Paper

Regulation of the Market for Video Content and Distribution

COMPTEL supports competition across all platforms and for all services. For purposes of encouraging competition in the video marketplace, we submit that Congress should lower the barriers to entry for competitors, promote access to content that encourages the development and availability of competition, and ensure over-the-top video services are not disrupted by incumbent broadband Internet access service providers.

The way Americans access video services continues to change. While many Americans continue to rely upon traditional broadcast television, cable, and satellite services, the growth of on demand, streaming and other over-the-top video services such as Hulu, Netflix, Amazon Prime, or YouTube continues to increase significantly. In fact, many Americans are forgoing traditional linear programming packages entirely in order to enjoy the content of their choice at the time of their choosing. A simple broadband connection is all that is needed for many consumers to gain access to the content they prefer and enjoy.

As such, it is crucial for Congress to consider how video impacts the availability of other services, like broadband Internet access service. For example, COMPTEL members have found that to provide a competitive broadband Internet access service in the residential marketplace, there is still demand for linear video by most consumers. Therefore, it is critical for competitors to offer a linear programming option in addition to a competitive broadband Internet access service; however, the availability and pricing of video is such that competitors often offer it at a loss, thereby impacting their financial capability to extend broadband facilities in direct competition against incumbent providers.

Accordingly, COMPTEL recommends that Congress take a broad view on how to promote competition in the video marketplace, including the promotion of competition in the delivery of broadband networks. To this end, we offer some areas for further exploration and consideration by the Committee below.

Lowering Barriers to Entry for New, Competitive Networks

Constructing New Networks Requires Access to Rights-of-Way, Poles, Ducts, and Conduit

In order to lower the barriers for new construction of networks, Congress can take several steps to promote access to rights-of-way, poles, ducts and conduit.

First, Congress should adopt a federal dig once policy. Federal funding rules should include installation of broadband conduit during all federally funded or federally mandated projects. As the U.S. upgrades or builds its highways and other utility infrastructure, broadband conduit should be installed and made timely available to communications providers at reasonable rates. A federal dig once policy has the potential to improve access to rights-of-way which will promote more advanced and competitive networks.

As the Committee is aware, access to poles, ducts and conduit largely owned by electric and telephone companies is necessary for competitors to build their own networks. Congress should take several steps to lower barriers to the availability of rights-of-way, poles, ducts, and conduit. First, all broadband and IPTV providers should have the ability to gain timely and dependable access to the physical infrastructure needed, including poles, ducts, and conduit, at reasonable and predictable rates and timeframes. Accordingly, in its revision to the Act, Congress should extend Section 224's rights and protections to ensure such access. Indeed, Congress should consider broadening the Section in a way

that is technologically neutral by extending it to all communications providers. Congress should future proof its revisions to Section 224 and use broad definitions so as to promote deployment and competition by different kinds of networks. Similarly, pole owners should be required to dedicate additional space for new entrants when they replace their poles. Make-ready for poles and the coordination of pole attachers add significant delay and costs for each build project. The FCC should maintain oversight to set reasonable timeframes for access and make-ready. It is important that a federal agency have policymaking authority to establish/modify timeframes as necessary and resolve disputes.

Congress also should address the availability of the necessary information that is required to deploy new networks. Access to the information about rights-of-way, poles, ducts, and conduit is critical for planning deployments. Congress should specifically require federal, state, and local agencies that maintain such information to make it readily available and require that this information be kept up-to-date with timely revisions.

Constructing New Networks Requires Access to Content and Navigation Devices

Providers seeking to compete with a linear programming package should be able to obtain access to video programming at reasonable prices, terms and conditions. In order to promote competition by new entrants and encourage deployment of new networks, Congress should:

- Ensure that new entrants can access programming networks or other content affiliated with incumbent cable operators or broadcasters on a reasonable and unbundled basis; and
- Ensure that all programming (including broadcast, cable programming, and independent programming) remains available during contract renewal disputes so consumers are not harmed, subject to true up payments once the carriage contract is renewed.

Tying (or bundling) in the video marketplace—that is, requiring that video providers purchase a number of programming networks together has become common. This practice has contributed to the increase in pricing for linear programming packages. As discussed above, the cost of video programming is significant and most small and mid-sized competitors offer linear programming at a loss. Such costs discourage or impede competitive network deployment. Congress should restrict tying practices for new entrants so as to encourage competitive network deployment. Similarly, new entrants must compete against incumbents which benefit significantly from volume discounts, another barrier to entry in this market.

The lack of access at competitive prices to advanced innovative navigation equipment (aka set top boxes) remains an impediment to new entrants in the video programming marketplace. Congress should foster a competitive marketplace for navigation devices for providers seeking to offer linear programming packages. Just as consumers can attach their own computers and other types of devices to the Internet to obtain content, services, and applications, Congress should promote third party navigation devices for linear programming that also can access the Internet. The development of open, standard protocols for navigation devices that permit consumers to access their linear programming and over-the-top applications and services will foster more competitive and advanced network deployments.

Promoting Video Availability and Competition Over-the-Top

As discussed above, a number of video on-demand providers now offer over-the-top options for consumers. Others, such as Dish, are beginning to offer competitive linear programming options over the Internet. The development of over-the-top video options is good for consumers and competition. Some broadband Internet access service providers (“ISPs”) have used their gatekeeper position to demand tolls at the point of interconnection, simply to allow content that their end users requested to be delivered at the speeds for which the end users have paid. They have allowed their ports with transit providers, and others to congest, and refused to augment capacity until those providers pay. As discussed by the New America Foundation’s Open Technology Institute, the M-Lab study clearly demonstrates congestion encountered by Tier 1 backbone providers at interconnection points with the largest ISPs and that those providers used the congestion as leverage in demanding tolls for delivering video traffic to their subscribers.¹ Consumers were not receiving the service from the broadband ISPs that they paid for, and there was much confusion and frustration among consumers about these problems. ISPs’ use of their gatekeeper power to block or degrade traffic to demand tolls is a harmful practice that will harm the development of video competition over-the-top if it is not adequately addressed.

Moreover, where programming is unreasonably withheld by entities that are threatened by the development of over-the-top competition, they have the incentive to withhold programming with which they are affiliated or to demand independent programmers to withhold programming. Accordingly, Congress should permit over-the-top providers to avail themselves of the same program access protections provided other competitors, such as DBS providers, should they choose to do so. And incumbent video providers should not be permitted to stifle competition by restricting independent programmers from offering their programming over-the-top. Similarly, regulatory burdens that could stifle the growth of over-the-top video programming should be avoided so as to encourage innovative offerings that potentially could compete against current video programmers.

New entrants should be encouraged to explore new business models for video programming—as such, it is important that they may offer exclusive programming in order to differentiate their products from incumbents and attract consumers.

¹ See Open Technology Institute Letter to the FCC, GN Dockets Nos. 10-127, 14-28, MB Docket No. 14-57 (filed Dec. 22, 2014) (citing “Beyond Frustrated: The Sweeping Consumer Harms as a Result of ISP Disputes,” Open Technology Institute, November 2014 and “ISP Interconnection and its Impact on Consumer Internet Performance,” Measurement Lab, October 28, 2014).

Questions:

2. Cable services are governed largely by the 1992 Cable Act, a law passed when cable represented a near monopoly in subscription video.

a. How have market conditions changed the assumptions that form the foundation of the Cable Act? What changes to the Cable Act should be made in recognition of the market?

As described above, access to programming and consumers are required in order to offer a competitive alternative to cable services. Cable operators have an incentive to withhold their own affiliated programming from competitors—often programming such as regional sports networks that are a must have in order to compete against them. They also have the incentive to demand independent programmers to withhold programming over-the-top, and to use their gatekeeper position as ISPs to block, degrade, and charge unreasonable fees to over-the-top video providers. These are all incentives that Congress should address in its review of the Act as we propose above.

3. Satellite television providers are currently regulated under law and regulation specific to their technology, despite the fact that they compete directly with cable. What changes can be made in the Communications Act (and other statutes) to reduce disparate treatment of competing technologies?

Satellite television largely has been a successful due to congressional action that promoted competition - providing access to cable affiliated programming. Congress must now look to the future as to what the next new entrants will need to succeed against incumbents. We have offered that new networks should be encouraged, and Congress should implement policies that will allow next-generation video offerings to compete in the marketplace.

4. The relationship between content and distributors consumes much of the debate on video services.

a. What changes to the existing rules that govern these relationships should be considered to reflect the modern market for content?

Congress should promote the use of copyright compulsory licensing where it will promote more competition in the video marketplace, taking into proper account the rights of content creators.

5. Over-the-top video services are not addressed in the current Communications Act. How should the Act treat these services? What are the consequences for competition and innovation if they are subjected to the legacy rules for MVPDs?

Congress should strive to promote new entrants in the video marketplace in order to encourage competition for the benefit of consumers. Regulatory burdens on new entrants should be avoided where possible so as not to discourage new network deployments and innovative offerings. COMPTTEL proposes a number of prudent measures described above that will promote over-the-top video. With more options, consumers will benefit.

Thank you for the opportunity to comment.

Alan Hill
SVP, Government Relations
COMPTTEL



**Computer & Communications
Industry Association**
Tech Advocacy Since 1972

January 23, 2015

United States House of Representatives
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, D.C. 20515

Delivered by email to: commactupdate@mail.house.gov

Dear Chairman Upton and Chairman Walden:

Attached please find CCIA's response to some of the questions posed in the Committee's December 2014 white paper on video content and distribution policy. We appreciate this opportunity to participate in the Committee's process of updating federal laws governing video distribution.

Respectfully submitted,



Catherine R. Sloan
VP, Government Relations
Computer & Communications Industry Association
(CCIA)

Response of the Computer & Communications Industry Association (CCIA)

To White Paper on Video Content and Distribution
House Committee on Energy & Commerce

Pursuant to the request for comments¹ issued by the House Energy and Commerce Committee, CCIA submits the following comments on video content and distribution.

The Computer & Communications Industry Association (“CCIA”) represents more than twenty large, medium-sized, and small companies in the high technology products and services sectors, including computer hardware and software, electronic commerce, telecommunications, and Internet products and services—companies that collectively generate more than \$465 billion in annual revenues. CCIA is dedicated to innovation and enhancing society’s access to information and communications. CCIA promotes open markets, open systems, open networks and full, fair and open competition in the computer, telecommunications and Internet industries. CCIA’s membership includes online content providers and distributors, but no broadcasters or cable TV operators.² As such, we focus our comments on Questions 1(b), 4 and 5.

Question 1(b): Access to Broadcast Content

The television landscape has changed dramatically since the Cable Act of 1992 was enacted, establishing the current system of retransmission consent. In those early days, the playing field was closer to level. The broadcaster negotiated with a single cable company that was likely the only pay-TV provider in the same market. Not reaching a retransmission consent agreement was mutually assured destruction for both sides of the negotiating table. Today, by

¹ Available at <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/20141210WhitePaper-Video.pdf>.

² A list of CCIA members is available at <https://www.cciagnet.org/members>.

³ See Prepared Statement of Melinda Witmer, Executive Vice President and Chief Video and Content Officer,

contrast, cable operators no longer enjoy local monopolies for TV programming. Unlike 1992, broadcasters can now pit potential suitors against one another, all to the detriment of consumers. This is *not* a free market.

Congress' original intent in 1992 was for retransmission consent fees to support local programming.³ Today, however, localism is threatened because most local broadcasters are owned either by large station groups, private equity or other financial investors, or major media conglomerates. As a result, local broadcast stations are being forced to pay “reverse retransmission consent” to broadcast networks (CBS, NBC, ABC, FOX) in exchange for national programming.⁴ So, in reality, retransmission consent fees are being used to subsidize national networks, and not local news and information. The original purpose of enhancing localism for consumers has been subverted by these realities in the industry. Even Sinclair Broadcasting Group recently stated that rapidly increasing “reverse retrans fees” are damaging the ability of broadcasters to invest in local programming.⁵

In order to promote both localism and competition, Congress could implement the bipartisan Local Choice proposal developed in the last Congress.⁶ Local Choice would enhance localism because the local station that foregoes must-carry and elects retransmission consent will

³ See Prepared Statement of Melinda Witmer, Executive Vice President and Chief Video and Content Officer, Time Warner Cable, “The Cable Act at 20,” Hearing before the Senate Committee on Commerce, Science, and Transportation, July 24, 2012, *available at* <http://www.gpo.gov/fdsys/pkg/CHRG-112shrg86916/html/CHRG-112shrg86916.htm> (expressing the view that Congress “intended [for retransmission consent fees] to subsidize local stations to ensure the continued viability of local broadcasting”).

⁴ See Brian Stelter, *Networks Want Slices of a New Pie*, N.Y. TIMES, July 3, 2011, *available at* <http://www.nytimes.com/2011/07/04/business/media/04retrans.html> (explaining reverse transmission consent fees).

⁵ Sinclair Broadcast Group, Inc., Petition to Deny, MB Docket No. 14-57 at 8 (Aug. 25, 2014), *available at* <http://apps.fcc.gov/ecfs/document/view?id=7521819260>.

⁶ See Rockefeller, Thune Issue Joint Statement on Committee Passage of the Satellite Television Access and Viewer Rights Act, Office of Sen. John Thune (Sept. 17, 2014) *available at* <http://www.thune.senate.gov/public/index.cfm/2014/9/rockefeller-thune-issue-joint-statement-on-committee-passage-of-the-satellite-television-access-and-viewer-rights-act> (explaining how the Local Choice provision was ultimately removed from the STAVRA bill that passed the Senate Commerce, Science, and Transportation Committee).

need to compete with the other stations and provide compelling content that entices subscribers to keep the channel. It will force broadcasters to deliver relevant, quality local programming that consumers want to watch.

Congress should fix the broken and outdated retransmission consent regime that is harming consumers with broadcast blackouts and rising fees. The growing frequency with which broadcasters are using blackouts as a routine negotiating tactic is alarming evidence of a broken system. There were 107 broadcaster blackouts in 2014, 127 in 2013, and 91 in 2012.⁷ In contrast, there were only 51 blackouts in 2011 and just 12 blackouts in 2010.⁸

Broadcasters hold exclusive rights to most premium live sporting events and “must-have” national broadcast network programming,⁹ but the vast majority of consumers no longer rely on free over the air broadcast signals to watch those events and programs. Rather, they purchase pay TV bundles that include their major local TV stations and are reluctant to switch to an online TV service that does not carry them.

Online TV distributors lack enough subscribers to yield the market negotiating power necessary to obtain volume discounts, and so they must pay dramatically more for broadcast retransmission rights than major cable operators pay. This is a significant barrier to entry for new distributors or MVPDs.¹⁰

⁷ *Astronomical increases in broadcaster blackouts*, AMERICAN TELEVISION ALLIANCE, available at http://www.americantelevisionalliance.org/wp-content/uploads/2014/04/ATVA_Planets.pdf.

⁸ *Id.*; see also *TV Blackouts Hit All-Time High*, AMERICAN TELEVISION ALLIANCE, available at http://www.americantelevisionalliance.org/wp-content/uploads/2013/05/ATVA_FactSheet_Blackout_Map_v10.pdf (showing 12 blackouts in 2010).

⁹ See *FCC Releases Tenth Annual Report on Competition in Video Markets*, Fed. Commc’ns Comm’n at 5, (Jan. 28, 2004) available at <http://www.fcc.gov/document/fcc-releases-tenth-annual-report-competition-video-markets> (describing how many non-cable MVPDs claim difficulty accessing sports and regional news due to “exemptions to the program access rules”).

¹⁰ See *Promoting Innovation and Competition in the Provision of Multichannel Video Programming Distribution Services*, Fed. Commc’ns Comm’n, 80 Fed. Reg. 2078, 2079 (Jan. 15, 2015) (stating that “extending program access protections to Internet-based providers would allow them to ‘access[] critical programming needed to attract and retain subscribers.’”)

To promote facilities-based broadband and video competition, the Committee should explore ways of lowering the entry barriers posed by inferior access to local broadcast stations, which were and are licensed to serve the public interest, and were once fully supported by advertising revenue.¹¹

For example, Congress could authorize the FCC to impose standstill requirements or allow MVPDs to import distant network signals during the pendency of retransmission consent disputes.¹² Congress could clarify FCC authority to grant interim carriage rights during broadcaster blackouts. Further, Congress could prohibit mandatory bundling as a condition for retransmission consent, so that broadcasters could not require that MVPDs contract for or carry affiliated non-broadcast programming networks.

To promote uninterrupted access to broadcast network programming, Congress could amend the definition of “antenna” for the purpose of determining over-the-air broadcast signal availability so that indoor antennas are included and more homes will qualify for importation of distant signals during blackouts.

Question 4: Relationship between Content and Distributors

Cable TV operators enjoy legacy monopoly leverage that derives from their originally exclusive local government franchises that protected them from competition.¹³

¹¹ See Promoting Innovation and Competition in the Provision of Multichannel Video Programming Distribution Services, Fed. Comm’n Comm’n, 80 Fed. Reg. 2078, 2089 (Jan. 15, 2015) (explaining how Sections 614 and 615 of the Communications Act, along with the FCC’s rules, “entitle commercial and noncommercial television broadcasters to carriage on local cable television systems;” moreover, it is in the public interest for customers to access local broadcasts).

¹² See In the Matter of Sky Angel U.S., LLC: Emergency Petition for Temporary Standstill, Fed. Comm’n Comm’n (Apr. 21, 2010), available at https://apps.fcc.gov/edocs_public/attachmatch/DA-10-679A1.pdf (declaring the FCC’s Media Bureau’s decision that Sky Angel was denied a temporary standstill for program access relief in its dispute with Discovery Communications because Sky Angel failed to show a likelihood of success that it would be entitled to relief under the FCC’s program access rules.).

¹³ See *FCC Releases Tenth Annual Report on Competition in Video Markets*, Fed. Comm’n Comm’n at 5, (Jan. 28, 2004) available at <http://www.fcc.gov/document/fcc-releases-tenth-annual-report-competition-video-markets> (explaining how ten years after the FCC’s first report on video market competition, MVPDs still had difficulties

Program access rules should be retained to allow new entrants' access to cable programming networks and other content affiliated with a major national cable operator at reasonable prices, terms and conditions.

Congress should consider allowing the FCC to impose mandatory binding arbitration for program access complaints, with strict time limits on the disposition of any appeal to the FCC. Congress should also expressly authorize the FCC to impose standstill requirements to avoid blackouts and promote continuous program carriage during contract renewal disputes. If necessary, new contracts could include "true-up" provisions. Forced bundling of cable-affiliated programming networks should be considered *per se* anti-competitive during program access negotiations. MVPDs should be able to curate their own packages of video programming unburdened by programming they do not wish to purchase for their customers.

Question 5: Over the Top (OTT) Video Services

Internet TV distribution remains in its infancy, and regulatory creep should not be allowed to overwhelm it. Sources of OTT Video in general should not be classified as multichannel video program distributors (MVPDs), a category of pay TV providers that traditionally carry bundled packages of broadcast signals and national cable networks and have regulatory obligations that go along with that type of enterprise.¹⁴ At the very least single channels of video and Video on Demand (VOD) services should remain outside such a regulatory construct. Even if Internet video providers offering linear, subscription-based

with franchises from local governments); *see also James Cable Partners, L.P. v. City of Jamestown*, 43 F.3d 277, 280 (6th Cir. 1995) (affirming an award of an exclusive franchise because "[n]othing in the language of section 7(a) [of the 1992 Cable Act, codified at 47 U.S.C. 541(a)] compels retroactive application. Indeed, if the Act is not retroactive, the existence of an exclusive franchise is an eminently 'reasonable' ground to refuse to award an additional franchise.").

¹⁴ *See* 47 U.S.C. 522(13) (defining "multichannel video programming distributor" as "a cable operator, a multichannel multipoint distribution service, a direct broadcast satellite service, or a television receive-only satellite program distributor, who makes available for purchase, by subscribers or customers, multiple channels of video programming").

programming packages are treated like facilities-based MVPDs, other providers of online video content such as on-demand movies or user generated content should not be automatically subject to MVPD regulation. On the other hand, if an OTT provider chooses to opt-in to the MVPD category with both its program access rights and its obligations, that might not be objectionable.

Access to programming is essential for over-the-top providers if they are to be able to offer a service that will become a viable competitive alternative to current MVPD offerings. Broadcasters should be required to negotiate in good faith with qualifying OTT providers to enable consumer access to “must-have” content over their Internet connections. Programming networks affiliated with cable operators should be prohibited from withholding programming from OTT providers or from extracting unreasonable prices, terms, and conditions from them.

TV Navigation Devices

Consumer access to OTT services requires a broadband connection. That broadband connection may be provided to the consumer by the same vendor from whom that consumer buys pay TV services. Lack of access to commercial retail TV navigation equipment remains an impediment to new entrants in the MVPD and OTT space. Device options that are independent from one’s cable provider are few. Renting proprietary TV boxes monthly from MVPDs is still the norm.

The FCC is forming its Downloadable Security Technical Advisory Committee (DSTAC) to identify and recommend new industry standards for interoperable TV navigation devices by September of this year so that a commercial market for new TV devices at reasonable prices has a chance to develop.¹⁵ Development of open standard protocols that allow for devices that let

¹⁵ See Public Notice: FCC Seeks Nominations for Membership for the Downloadable Security Technical Advisory Committee, Fed. Comm’n Comm’n (Dec. 4, 2014), *available at* <http://www.fcc.gov/document/fcc-seeks-nominations-downloadable-security-advisory-committee>.

consumers fully benefit from their MVPD subscriptions while integrating content accessed from the Internet is key to market competition in video.

Consumers should have a real choice of whether to lease a navigation device from their MVPD or to use their own device purchased from a consumer electronics vendor or other third party.

Access to Local Infrastructure

Again, access to OTT services requires a broadband connection. Traditional cable and telecom MVPDs have established rights to essential local infrastructure like utility poles, ducts, and conduits.

Lack of similar access to local infrastructure limits deployment of broadband networks by new entrants. The inability to get timely and dependable access to such infrastructure at reasonable and predictable rates creates a barrier to entry.

Congress should modernize Section 224 to include facilities based wireline broadband providers as well as all franchised video service providers.

January 23, 2015

James R. Connor
50 Oak Street
Los Altos, CA 94022

The Honorable Fred Upton
2183 Rayburn House Office Building
Washington, DC 20515

The Honorable Greg Walden
2185 Rayburn House Office Building
Washington, DC 20515

Committee Members:

The purpose of this letter is to provide some information on the issue of providing ongoing public broadcast access to community media stations by the existing media network companies such as Comcast and AT&T.

This issue of requiring access and content distribution by broadcasters in a community is one that wants significant serious attention. We live in a very well-educated commitment in Silicon Valley. The local Community station, KMVT, provides programming to the communities of Mountain View Los Altos Sunnyvale. KMVT also works with several regional cities to provide and manage their government and local local affairs news and information to the community. The regular commercial television stations operate commercial stations and as such deliver content mainly in the entertainment area, college and professional sports, and national, state and regional news coverage. These commercial stations generally do not have the have the focus or audience participation to warrant spending time and resources on local matters important to the various communities in Silicon Valley.

Community television and media providers have been the content distributors for local issues, including public access which allows all perspectives to be broadcast on important issues. Education is a major component of KMVT and most community media stations, providing educational content on a wide variety of issues including health, exercise, diet, aging, and resources available to address health issues.

Educational content also is delivered in the form of classes for middle school and high school student in the digital arts, directing, camera operations, etc. The third point is that community television broadcasts government hearings, and generally hosts a discussion of election issues and candidate debates.

All of these above issues are relevant to citizen knowledge and involvement in the community. I do not see a practical or realistic method for commercial broadcasters or Multi-Channel Video Programming Distributors (MVPD's) to create this content.

Allowing community television and media stations to create original content and use a broadcast channel or the MVPD system for distribution will continue to serve communities with relevant local content. In short, community television and media companies have evolved to be the “**town halls**” of our democratic heritage, every citizen and every perspective gets an equal opportunity to be heard and important information on government and educational resources are added benefits.

The second question relates to the role of PEG fees paid by the network content provider, the MVPD) and the justification for continuing these fees. The PEG (public access, education, government) fee structure have operational costs that are partially covered by these (PEG) fees.

The level of information on local community events, local government issues as well as education events is simply not available and would not be not commercially feasible to broadcast by the existing franchise programming providers.

If you have watched “regular television” lately, you may have noticed the incredible level of advertising that accompanies every television program. Commercial broadcast television delivers 42 minutes of content and 18 minutes of advertisement for every broadcast hour. Community Television is a refreshing break of the onslaught of advertising focused on personal consumption or consuming personal services.

I personally have found a number of community television shows to be thoroughly engaging and informative. I enjoyed the opportunity to watch a complete show without interruptions from advertisements.

Thank you for your time and consideration in this commentary.

Regards

James R. Connor



C O U N C I L F O R



Thomas A. Schatz
President

January 23, 2015

The Honorable Greg Walden
Chairman
Subcommittee on Communications and
Technology
Committee on Energy and Commerce
U.S. House of Representatives
2123 Rayburn House Office Building
Washington, DC 20515

The Honorable Anna Eshoo
Ranking Member
Subcommittee on Communications and
Technology
Committee on Energy and Commerce
U.S. House of Representatives
2123 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Walden and Ranking Member Eshoo,

On behalf of the more than one million members and supporters of the Council for Citizens Against Government Waste (CCAGW), I appreciate the work the Committee has undertaken on updating the Communications Act of 1934, as well as the open dialogue you have created in providing an opportunity for all to participate in the discussion of what a modern communications law would encompass.

I would like to submit the following responses to the questions posed by the Committee in its most recent white paper on "Video Services Policy." Should you have any questions, please feel free to contact either myself, or Deborah Collier, CAGW's director of technology and telecommunications policy, at (202) 467-5300.

Sincerely,



Thomas A. Schatz
President

Discussion and Questions:

In reviewing the questions provided in this particular White Paper discussion, a recurrent theme has emerged. The Communications Act, and its attending amendments through the Cable Act, the Satellite Television Extension and Localism Act (STELA), and the Telecommunications Act of 1996 all had one key flaw. They were not written in a technology neutral manner, which allowed for a great deal of inequitable leverage between industries providing content, delivery mechanisms, or both. This issue creates an inflexible environment for innovation and competition, even while technology modernizes and shifts to an increasing number of over-the-top video viewing solutions.

In addition to the federal regulatory restrictions placed on video distributors, additional local restrictions are also imposed, including excessive pole attachment fees, right-of-way approvals, and other taxes and fees intended to line the coffers of local governments, but end up passed along to consumers in the form of higher subscription costs.

- 2) Cable services are governed by the 1992 Cable Act, a law passed when cable represented a near monopoly in subscription video.**
 - a. How have market conditions changed the assumptions that form the foundation of the Cable Act? What changes to the Cable Act should be made in recognition of the market?**

In 1992, Congress amended the Communications Act of 1934 to give broadcasters a clearer footing in negotiations with monopoly cable providers, granting broadcasters the right to choose between guaranteed carriage or insisting that the multichannel video programming distributors (MVPD) obtain and pay for a station's consent to retransmit the station's signal to local subscribers. The law allowed broadcasters to make a new election between these two options every three years.

The assumption that the broadcasters are dealing with a cable monopoly no longer exists. There are a wide range of MVPDs in the marketplace ranging from cable to satellite to fiber optic options, as well as over-the-top video services through the Internet. In 2013, the Government Accountability Office (GAO) found that the average price for expanded basic service in 2011 was \$57.46, an increase of more than 33 percent since 2005, exceeding the 15 percent increase in the Consumer Price Index.¹ However, GAO also found that competition in the market has increased, providing consumers with a number of new video distribution choices including video service through telephone companies such as Verizon's FiOS service, as well as increased online video distribution

¹ "Video Marketplace: Competition is Evolving, and Government Reporting Should Be Reevaluated," U.S. Government Accountability Office, GAO-13-576, June 25, 2013, <http://www.gao.gov/products/GAO-13-576>.

using various business models such as free and subscription-based services.

- b. Cable systems are required to provide access to their distribution platform in a variety of ways, including program access, leased access channels, and PEG channels. Are these provisions warranted in the era of the Internet?**

No. The existing television regulatory regime inhibits the free market, reduces competition by undercutting smaller providers' ability to compete on price, increases costs for consumers, and frustrates millions of Americans by shutting off popular programming at peak viewing periods. Government rules and regulations should drive businesses into the twenty-first century, not hold them back. In retransmission consent negotiations, consumers lose viewing time and pay increased costs.

- 3) Satellite television providers are currently regulated under law and regulation specific to their technology, despite the fact that they compete directly with cable. What changes can be made in the Communications Act (and other statutes) to reduce disparate treatment of competing technologies?**

The Council for Citizens Against Government Waste has always supported the principle that laws should be written in a technology and vendor neutral manner. Separating one technology as distinct under the law from others that provide similar services, despite the means in which the services are provided should be avoided.

- 4) The relationship between content and distributors consumes much of the debate on video services.**
- a. What changes to the existing rules that govern these relationships should be considered to reflect the modern market for content?**

Currently, MVPDs offer basic service that subscribers must purchase before they can add to the video programming. With the exception of broadcast channels that elect "must carry" status, all other programming is based on negotiated terms between the cable provider and the entity that owns the channel or programming service.

- b. How should the Communications Act balance consumer welfare with the rights of content creators?**

Current law does not adequately address the problem of programming blackouts experienced by millions of consumers who have fallen victim to tense negotiations between broadcasters and MVPDs, as broadcasters have used their upper hand to "hold hostage" programs in an effort to force

MVPDs to pay exorbitant fees or carry extra channels on basic tiers. As a result, consumers not only sometimes experience a programming blackout until a deal has been reached, but also see an increase in their bills as broadcasters' ransoms are passed off in the form of higher rates.

Under current retransmission rules, millions of Americans have been subjected to television blackouts when negotiations have run into an impasse. This has been seen time and time again, with blackouts of such major events as the 2010 World Series; the 2010 Oscar Awards; the 2012 blackout of CBS and NBC to viewers in North Dakota; the 2012 blackout of local Fox stations in Minnesota and North Dakota; and most recently the blackout of CBS television programming (including Internet access) to Time Warner Cable subscribers in August 2013.

Consumers should not have to be victims of a system that allows broadcasters to pit one MVPD against another, threatening to withhold consent for its signal if agreements are not reached. Old government policies have inhibited the free market by dictating the rules which govern these negotiations and no longer reflect the vibrant content and cable provider marketplace.

A repeal of provisions in the Cable Act of 1992 that require MVPDs to set aside portions of their channel capacity for mandatory carriage of local commercial broadcast stations, and directing the FCC to repeal network non-duplications, along with other burdensome regulations including syndicated exclusivity and ports blackout rules would be a good start toward reducing the burden of MVPDs to satisfy broadcast requirements.

5) Over-the-top video services are not addressed in the current Communications Act. How should the Act treat these services? What are the consequences for competition and innovation if they are subjected to the legacy rules for MVPD's?

The primary consideration for these services is how copyright rules and regulations pertain to licensing agreements between content providers and broadcasters, MVPDs, and over-the-top video services. Under current law, MVPDs pay broadcasters compulsory copyright license royalty fees that are dictated by the federal government for use of content, rather than allowing the royalty fees to be dictated by free market negotiations. The government's role in dictating prices to MVPDs should be eliminated, and the free market should determine royalty pricing for content regardless of the platform.

Greater enforcement of the rights of the copyright holders against piracy must also be added to the protections guaranteed within the act.



Joab M. Lesesne, III

Vice President, Public Policy and Government Affairs
Public Policy Office

January 23, 2015

House of Representatives
Committee on Energy and Commerce
Subcommittee on Communications and Technology
2125 Rayburn House Office Building
Washington, DC 20515

Dear Committee Members and Staff:

Cox Enterprises, Inc. ("CEI") welcomes this opportunity to provide the Committee its perspective on the questions posed by the Committee's white paper dated December 10, 2014.

CEI is the parent of, among other companies, Cox Communications, Inc. ("CCI"), a broadband communications and entertainment company that provides advanced digital video, Internet, and telephone service to approximately 6 million residential and business customers, and Cox Media Group ("CMG"), an integrated broadcasting, publishing, direct marketing, and digital media company operating in 20 U.S. media markets and reaching 52 million Americans weekly. Both CCI and CMG make major contributions to the video industry in the United States and each has a strong interest in any changes to regulations governing the delivery of video services to this country's television viewers.

We submit that Congress's focus should be on ensuring that consumers can obtain affordable, dependable access to the video services they want and need – service that will not be compromised by unfair competition. CEI has long believed that the government can best create this environment for consumers by regulating lightly and evenly, intervening only when necessary, and treating all competitors fairly.

Please find attached CEI's responses to the questions posed by the Committee. Please do not hesitate to contact me if you have any questions regarding CEI's response or if the Committee has any follow-up inquiries.

Sincerely,

A large black rectangular redaction box covering the signature of Joab M. Lesesne, III.

Joab M. Lesesne, III

Attachment

RESPONSES OF COX ENTERPRISES, INC.

1. Broadcasters face a host of regulations based on their status as a “public trustee.”

a. Does the public trustee model still make sense in the current communications marketplace?

CEI’s broadcast stations (radio and television), currently operated by CMG, have operated pursuant to the “public trustee” model since the company began operating its first radio station, WHIO(AM) in Dayton, Ohio, in 1935. The idea of assigning spectrum to members of the community to be used for broadcast services in the public interest has been an unparalleled success. That structure has created a system in which broadcasters like CMG take pride, and which has provided high-quality local news, public affairs, emergency, weather, and sports programming to listeners and viewers in communities across the country. While the model has worked in the past, the regulatory restrictions and burdens on which it is conditioned have made it harder for broadcasters to compete, particularly as they are challenged by new content providers that face significantly fewer, if any, regulatory restrictions and requirements.

In reviewing the “public trustee” model, Congress would do well to “mend it, not end it.” Competition in the market for news and entertainment services has significantly eroded the market position that a spectrum assignment once promised. In 1935, the radio license granted for WHIO(AM) made that station one of only a small handful of businesses in the mass media industry. Today, WHIO(AM) and radio and television stations throughout the country compete with hundreds (if not thousands) of choices in television, radio, satellite, cable news and entertainment, major motion pictures, over-the-top (“OTT”), and, of course, the Internet itself. CMG welcomes this competition and is dedicated to continuing to serve its local viewers and listeners, but the stark reality is that broadcasters will struggle in an environment where broadcasting remains heavily regulated and its competitors are comparatively free of regulation.

While the history of broadcasting has been one of increasing competition, the degree of regulation has surprisingly remained very similar. Broadcasters continue to face ownership and content restrictions that their competitors do not, and those regulatory burdens increase costs and can diminish local investment. In previous decades, the strong local media market outweighed those regulatory costs. But increasing competition from national media outlets (particularly over the Internet) coupled with the high cost of broadcast regulation has made it more difficult for local broadcasters to continue this level of investment. This in turn threatens to diminish the amount and quality of local news, information, and content that can be produced. Continuing this trend would be a real loss for communities across America.

The proper course for Congress in considering changes to the Communications Act is to preserve the “public trustee” model and loosen the regulatory handcuffs on broadcasters, which will preserve viewer access to local news and information.

b. Which specific obligations in law and regulation should be changed to address changes in the marketplace?

Changes to the traditional broadcast regulatory structure are necessary to keep up with drastic changes in the market. Of primary concern are regulations that pose a barrier to investment in the local services

that TV and radio stations provide. In particular, outmoded local ownership restrictions no longer foster local service, but instead hinder it. The three local ownership rules that most significantly hinder continued high-quality local broadcast service are: (1) the newspaper/broadcast cross-ownership rule (the “NBCO Rule”), and (2) the local radio ownership rules. The FCC has consistently preserved these rules despite volumes of evidence that they are no longer necessary to protect the public interest. Congress should eliminate or significantly liberalize each of these rules.

Congress Should Abolish the NBCO Rule

The current NBCO Rule prohibits broadcasters from owning both a newspaper and either a radio or television station in the same market. This rule is nearly 40 years old, and study after study has shown that prohibiting newspaper/broadcast combinations actually reduces the amount of local news production in communities across the country. In an era when newspapers face significant financial strain and the production costs for local news are spiraling upward, continued prohibition of newspaper/broadcast cross-ownership hurts local communities. When the NBCO Rule was adopted in 1975, the FCC grandfathered CMG’s newspaper, radio, and television combinations in both Dayton and Atlanta. CMG has successfully operated these properties in both markets for decades by providing strong local news and content and providing unmatched service to these communities. Yet, CMG cannot replicate its successful Dayton and Atlanta formula in other markets due to the NBCO Rule. Congress’s leadership is necessary to abolish this rule and ensure that local communities have access to the best local news and information services possible.

Congress Should Remove the Local Radio Ownership Rules

The current local radio ownership restrictions are needlessly complicated and have the effect of ensuring that radio stations play little or no part in the production of local news in markets across the country. By limiting the extent to which owners of local radio stations can realize appropriate economies of scale, these rules prevent local radio stations from marshalling resources to create and distribute any substantial amount of local news or other content. Radio remains a great American industry, but the current ownership restrictions inhibit local radio stations from playing the important role in local communities that they once did. By eliminating or substantially liberalizing the local radio ownership rules, Congress would remove a significant barrier to investment and promote a reinvigoration of local content on America’s oldest wireless mass communication medium.

- c. How can the Communications Act foster broadcasting in the 21st century? What changes in law will promote a market in which broadcasting can compete with subscription video services?**

In addition to eliminating the ownership restrictions outlined above, Congress should update the laws to ensure that local TV stations can negotiate for fair compensation with any distributor asserting rights to retransmit its signals. Such an update requires Congress to ensure that new multichannel video programming distributors (“MVPDs”) and OTT video providers are subject to the retransmission consent provisions of Section 325(b) of the Communications Act that govern existing MVPDs.

- d. **Are the local market rules still necessary to protect localism? What other mechanisms could promote both localism and competition? Alternatively, what changes could be made to the current local market rules to improve consumer outcomes?**

The local ownership rules damage localism in the TV broadcast industry. The changes to the ownership rules described above will improve consumer outcomes by promoting localism and improving the service that all television stations provide.

2. **Cable services are governed largely by the 1992 Cable Act, a law passed when cable represented a near monopoly in subscription video.**
 - a. **How have market conditions changed the assumptions that form the foundation of the Cable Act? What changes to the Cable Act should be made in recognition of the market?**

Fundamental changes in the MVPD market have completely eviscerated the “near monopoly” assumptions underlying the 1992 Cable Act, and there is no longer any basis for subjecting cable operators to more stringent regulation than other MVPDs. Since 1992, CCI’s cable systems have experienced an abundance of competition from the large direct broadcast satellite (“DBS”) providers (DirecTV and Dish Network) and telephone companies (Verizon, AT&T, and CenturyLink), other municipal and local cable overbuilders, online video services like Hulu, Amazon Prime, and Netflix (which on its own eclipses the subscriber levels of every cable operator). These providers are increasingly becoming the exclusive rather than supplementary choice of many customers. Every one of these competitors is more lightly regulated than traditional cable operators, giving them the ability to operate flexible business models supporting their chosen mix of price points and service offerings. Historically, as new competitors have appeared in the market and to ensure that they gain a firm competitive footing, policy makers have gone out of their way to exempt these new providers from existing regulations that otherwise would have applied. Currently, the FCC seems primed to distort the competitive marketplace even more dramatically to boost online video distributors’ access to programming without regard to the attached infrastructure costs for delivering the programming. Congress should act to make sure that this does not happen, and to ensure that all MVPDs compete on a level playing field.

The time for differential regulation of cable companies and their MVPD competitors has long since passed. The 1992 Cable Act included provisions that have allowed cable operators to remove, brick by brick, some layers of rate and other regulations never applied to cable’s competitors. And while CCI has demonstrated effective competition in well over 95% of its cable service footprint, eliminating some of these regulations, CCI continues to face substantial content, local franchising, program access, leased access, and other obligations that many or all of its competitors do not.

CCI describes below a number of areas where Congress should update key provisions of the Act to address anti-competitive conduct, while harmonizing these and other currently disparate and inconsistent MVPD regulations.

Congress Should Preserve Program Access Protections and Apply Them Uniformly

The issue of access to programming at fair and non-discriminatory rates remains important to fair competition among MVPD market participants, and the unfair competition provisions of Section 628 should be preserved in any reform of the Act. But the competitive landscape has changed since 1992,

when Congress was primarily concerned with vertical integration between cable operators and cable programming providers. Today, the problem of non-economic volume discounts extended to the largest video providers is causing the market to yield anti-competitive and anti-consumer results.

As the MVPD market has become stratified between a few extremely large MVPDs and a large number of small and mid-sized cable operators like CCI, it is becoming increasingly difficult for smaller providers to obtain programming on fair and reasonable terms. Instead, programmers and the largest operators agree to terms with substantial volume discounts and pass along the cost of those discounts to smaller operators like CCI. The result is that small and mid-sized cable operators face higher programming costs than they would in an efficient market, and those increased costs lead to higher costs for consumers, less innovation, and, ultimately more consolidation as operators seek the scale necessary to obtain programming more cheaply. The pending AT&T/DirectTV merger proceeding is a case in point. AT&T and DirectTV have told investors and regulators that by doing nothing more than combining their size and buying power, they expect to reduce programming licensing fees by 20% over what AT&T currently pays. History shows that programmers make up these lost fees by charging higher rates to smaller operators like CCI. These volume discounting practices are unfair and anti-competitive. Moreover, the laws that are in effect to address these anti-competitive practices are unnecessarily limited in scope to vertically integrated programming and limited in reach to hold only cable MVPDs accountable.

Congress should make a change and apply the unfair competition provisions of Section 628(b) and discriminatory pricing limitations of Section 628(c) to all MVPDs. All MVPDs should be prohibited from entering into programming contracts that include volume discounts that cannot be justified based on the economics of scale distribution and any other legitimate economic advantages derived from negotiating distribution agreements with very large MVPDs. Congress also should consider strengthening the non-discriminatory pricing provisions of Section 628(c) to ensure that all industry participants understand exactly what level of discounts are presumptively unfair.

Section 628 also originally prohibited cable operators from withholding vertically integrated programming from their competitors. While the FCC allowed that ban to sunset in 2012 (again retaining cable MVPD-specific scrutiny in the case of regional sports network carriage agreements), Congress should re-examine the issue of exclusive programming contracts as part of any revision to the Communications Act. Exclusive programming contracts are a competitive weapon that should not be placed in the hands of the largest MVPDs. Companies that are significantly larger than operators like CCI and that compete directly with them for customers should not be able to exclude small and mid-sized cable operators from important programming inputs. Again, the AT&T/DirectTV merger shows the potential dangers of allowing MVPDs to enter into exclusive distribution agreements with programmers. As an example, the merged AT&T/DirectTV already intends to retain and leverage across its multiple platforms its exclusive distribution rights. It is inconceivable that a company the size of AT&T/DirectTV would need exclusive programming to compete fairly – with over \$160 billion in revenue, the merged company is almost 10 times the size of CEI. The likely outcome of this will be a race among the largest providers to lock up desirable programming in exclusive agreements, further compromising small and mid-sized operators' ability to compete

Congress also should address the differential treatment that the FCC has engaged in with respect to exclusive agreements to serve multi-dwelling unit buildings ("MDUs"), such as apartment and condominium complexes. The FCC has interpreted exclusive MDU agreements to be an unfair competitive practice – but only when entered into by cable operators. This interpretation of the law produces absurd results, as major national carriers like DirectTV and DISH network are permitted to enter

into exclusive MDU service agreements, but small and mid-sized operators like CCI are not. Congress should act to ensure that any exclusive MDU service prohibition applies uniformly to all MVPDs.

- b. Cable systems are required to provide access to their distribution platform in a variety of ways, including program access, leased access channels, and PEG channels. Are these provisions warranted in the era of the Internet?**

Due to the substantial competition from all segments of the MVPD industry and consumer demands for services that require increasing amounts of bandwidth, there is no basis for requiring cable operators alone to provide programmers with access to their distribution platform through the program carriage, program access, leased access, and public, educational, and governmental ("PEG") programming statutes. In each of these areas, Congress should consider what protections are necessary in light of today's competitive marketplace and the availability of the Internet as a vehicle for publication and distribution of such niche programming.

Congress Should Eliminate Cable Operators' Leased Access Obligations

The leased access law wrongly presumes that cable operators have bottleneck control over the facilities necessary for independent programmers to reach viewers. Even assuming that was true in 1992, it certainly is not the case today. Today, any prospective programmer has numerous options for reaching viewers directly over the Internet, and can negotiate carriage with any one of cable's many competitors. No basis exists for requiring cable operators alone to offer access to their distribution capacity at government-regulated rates.

In the event that Congress identifies some continuing justification for a leased access requirement, that obligation should be extended to all MVPDs. CCI's cable systems do not offer unique opportunities for access to viewers, and they should not be subjected to unique requirements for making their distribution networks available to independent programmers.

Congress Should Reexamine Its PEG Programming Requirements

Congress's imposition of federal regulations on the provision of PEG services imposes unfair obligations on cable operators that none of CCI's competitors face. Moreover, these federal requirements can interfere with individual states' efforts to regulate the local franchising process. For both of these reasons, Congress should carefully consider whether its PEG requirements remain necessary in light of the many opportunities that local municipalities have to reach viewers directly over the Internet. If Congress continues to believe that federal PEG laws remains necessary, it should explore how these obligations might properly be imposed on CEI's many MVPD competitors.

- 3. Satellite television providers are currently regulated under law and regulation specific to their technology, despite the fact that they compete directly with cable. What changes can be made in the Communications Act (and other statutes) to reduce disparate treatment of competing technologies?**

CEI supports changes to the Communications Act that would equalize, to the extent possible, the regulations that govern cable and satellite video providers. It makes no sense that CCI's local cable systems are subject to more burdensome regulation than competing video providers serving more than four times as many customers. The pending merger of AT&T and DirecTV adds substantial urgency to

solving the problem of unequal regulation. The merged company will be an unprecedented multi-platform competitor with the capability of providing consumers nationwide with video, voice, wireless, and data service packages. Such a competitor should not also benefit from preferential regulatory advantages simply because it operates a satellite video service that was once a new entrant to the video market.

As touched on above, cable operators continue to be saddled with regulations that were adopted in 1984 and 1992 – an era when cable was perceived as having a near-monopoly on local video service. Given the massive competitive success of competitive video services – the two U.S. DBS providers are currently the second and third largest MVPDs – there is no justification for disparate regulation between cable and other MVPDs. Ultimately, Congress must decide if regulations like PEG channel carriage, and leased access are still necessary to serve the public interest. If so, those requirements should be imposed on all MVPDs; if not, then cable operators should be relieved of the obligations as well.

Satellite providers also enjoy less regulation due to the current construction of Congress's program access and unfair competition statutes. Again, in view of the competitive success of satellite providers, it is not sound policy to leave DBS companies free of competitive restrictions that continue to apply to far smaller cable operators. In the area of program access and unfair competition, CCI would support continuing the existing restrictions on cable operators while applying those same rules to satellite operators. Because the MVPD industry is increasingly characterized by extremely large companies and much smaller competitors, allowing the largest companies to engage in practices like exclusive programming agreements and exclusive contracts to enter multi-dwelling unit buildings poses a substantial danger to competition and the survival of mid-sized and smaller cable operators.

4. The relationship between content and distributors consumes much of the debate on video services.

a. What changes to the existing rules that govern these relationships should be considered to reflect the modern market for content?

With respect to the retransmission consent marketplace, CEI encourages Congress to explore proposals it has previously made to the FCC to improve the outcomes of those negotiations between broadcasters and MVPDs that result in an impasse, preventing harm to TV viewers. Under current law, when parties reach a negotiating impasse, there is no mechanism to help them reach a fair agreement, and consumers and viewers are caught in the middle faced with blackouts or signal losses. Neither CCI nor CMG has been immune to this unfortunate reality. CEI has advocated for several years that the FCC should create a "fair path" to the resolution of retransmission consent disputes with a mechanism that would allow impartial, binding mediation between broadcasters and MVPDs at an impasse. Disputes and blackouts are bound to recur without such a dispute resolution mechanism. Congress can and should act to ease the difficulties of the current good-faith negotiation framework.

With respect to both the retransmission consent marketplace and the broader cable programming market, CEI has described above the imbalances in the market that tend to lead to unfair differential pricing and volume discounts that are driven more by leverage than by any reasonable economic factors. The free market is a great engine of prosperity and growth, but a market affected by anti-competitive conduct and discriminatory pricing is not. CEI encourages Congress to examine this matter and explore solutions that would restore fair pricing for cable programming.

b. How should the Communications Act balance consumer welfare with the rights of content creators?

Congress's role should be to enhance consumer welfare by ensuring the fairest and freest possible market for video programming. In some cases (e.g., leased access and cable-only PEG obligations), that may mean the elimination of regulations, while in other cases (e.g., retransmission consent dispute resolution) the same goal might call for smarter regulation. Congress should focus on ensuring that the video programming market is characterized by opportunity, regulatory parity, and pro-competitive conduct. If it does so, both consumers and content creators will continue to thrive.

5. Over-the-top video services are not addressed in the current Communications Act. How should the Act treat these services? What are the consequences for competition and innovation if they are subjected to the legacy rules for MVPDs?

The development of new OTT business models and innovative technological means of delivering video programming has the potential to enhance competition and foster additional benefits for consumers. But government should not put a thumb on the scale through the regulatory process. In particular, if regulators grant special rights to OTT providers detached from the related responsibilities applicable to other video distributors, the inevitable result will be a distorted marketplace that produces inefficient results, with traditional MVPDs bearing disproportionate costs. Congress should refrain from tilting the scales in favor of particular competitors and should make sure the FCC likewise refrains from picking winners and losers in the marketplace.

In accordance with these principles, if Congress decides to endorse MVPD status for OTT providers, CCI strongly believes that the principles of legal and regulatory parity and certainty should govern Congress's consideration of any questions about regulation of OTT video services. The current MVPD marketplace is characterized by high investment by distributors, vigorous competition among a large number of market participants, and significant levels of regulation designed to serve a number of different public interests. Before Congress addresses OTT video services, it should carefully consider the effects that any action (including inaction) would have on the existing MVPD marketplace. The end result of any congressional action in this area should be to create a level, well-defined regulatory playing field for all providers, not an uneven and uncertain regulatory landscape that encourages market participants to engage in regulatory gaming that ultimately will distort investment and harm consumers.

[REDACTED]

From: Sheila R. Cox [REDACTED]
Sent: Tuesday, January 20, 2015 5:10 PM
To: CommActUpdate
Cc: [REDACTED]
Subject: PEG TV

In Roseburg, we feel the PEG channel is still a very valuable tool for reaching our citizens – especially seniors who often do not have access to the internet. Thank you for the opportunity to comment.

***Sheila R. Cox, City Recorder
City of Roseburg***

[REDACTED]

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January 23, 2015

The Honorable Fred Upton
2183 Rayburn House Office Building
Washington, DC 20515

The Honorable Greg Walden
2185 Rayburn House Office Building
Washington, DC 20515

Re: Regulation of the Market for Video Content and Distribution – Response to White Paper #6

I'm writing to you today to share with you how San Jose's community media center provides value to residents, and why our channels are still very relevant in the digital age.

CreaTV San Jose is a non-profit community media center serving the City of San Jose (population: 1 million). CreaTV San Jose connects diverse communities within our city using media to foster civic engagement.

Since opening in 2008, CreaTV has:

- Aired over 25,000 locally produced videos in ten different languages;
- Created videos for 500 local non-profits that cannot afford production company market rates;
- Partnered with twenty-three satellite sites serving at-risk youth to provide equipment, job training and a safe and creative outlet for them to tell their stories.

CreaTV provides coverage of over 350 city and county meetings so that residents can be engaged in critical decisions affecting their daily lives. Finally, CreaTV trains residents in video production and provides low to no cost access to state of the art production equipment, allowing residents to engage in a deeper community conversation. We provide over 500 certifications in video production annually, allowing residents to gain real job skills at an affordable price.

Content created through our members is aired on our 24/7 online and four commercial-free public and education channels.

255 West Julian Street #100
San Jose, CA 95110
www.creatvsj.org | 408-295-8815

Even in Silicon Valley, and I would argue *especially* in Silicon Valley given our cost of living and lack of affordable housing, the digital divide prevents all members of community to have access to broadband. Media centers like CreaTV level the playing field for all – giving anyone who has a message access to our cable channels and thus allowing for a deeper and richer community conversation.

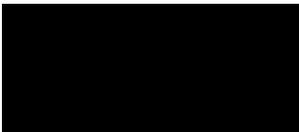
Since opening in 2008, as tools like YouTube and Facebook were exploding around us, the submission of content for our community cable channels went up, not down. Shortly after opening CreaTV conducted a viewer survey and learned that the “community” channel previously run by Comcast had a 6.9% viewer penetration. CreaTV took that channel over and in 2014, that number grew to 23% viewer penetration. Three of CreaTV’s other new channels boasted 12-28% regular viewership of cable subscribers in San Jose.

While the quality and quantity of content on media center channels across the country varies due to a number of factors - most significantly an unnecessary capital restriction on PEG Fees that is responsible for the closure of over 50 centers in the state of California – these channels and the tremendous professional development, youth engagement and civic engagement resources they come with are not to be discounted. I can tell you that CreaTV’s network of users – including 500+ non-profits, the city and county, over 3,000 students that have access to our equipment in their schools, and the hundreds of local series producers – find incredible value in our centers and channels as a civic engagement agent and hub of information.

Last night, CreaTV San Jose premiered a feature length documentary on the history of our city. This premiere sold out, with 1,122 enthusiastic attendees – including our entire city council and newly elected Mayor Sam Liccardo - boasting about the value of our media center and the channels we manage.

I thank you for your time and ask you to please consider the protection of PEG channels and the centers that operate them.

Sincerely,



Suzanne St. John-Crane
CEO

[REDACTED]

From: Andy Crosier [REDACTED]
Sent: Thursday, January 22, 2015 1:11 PM
To: CommActUpdate
Cc: [REDACTED]
Subject: Regulation of the Market for Video Content and Distribution - Response to White Paper #6

January 22, 2015

To Whom It May Concern:

I am writing this letter in support of PEG community media. I believe it's an invaluable service that benefits each community (it's in) in immeasurable ways. Public Access channels are one of the last bastions for organized localism within our communities. They each, individually, provide a unique way of targeting a relatively small area of people within their specific community, concerning content that directly applies to them. One way in which I think PEG channels are still relevant in 2015 and beyond is the great number of Baby Boomers that still rely on seeing their Township Trustee Meetings through the access channels. The Boomer generation comprises almost a quarter of the United States' population, a good portion of which, have not made the leap to using the internet. To remove this freedom of speech platform now would not only abandon the older generation, but deprive the younger generation of taking advantage of all the educational opportunities that PEG has to offer. Please consider the immense impact that Educational and Government Access channels have on communities and our nation as a whole.

Sincerely,

Andy Crosier
[REDACTED]

CTIA – THE WIRELESS ASSOCIATION[®]
RESPONSE TO HOUSE WHITE PAPER ON VIDEO POLICY

CTIA – The Wireless Association[®] (“CTIA”) submits the following response to the White Paper released by the House Committee on Energy and Commerce (“Committee”) on December 10, 2014, requesting comment on the regulation of the video content and distribution market as it updates the Communications Act of 1934, as amended (the “Act”).^{1/}

I. INTRODUCTION AND SUMMARY

CTIA appreciates the Committee’s ongoing efforts to modernize the Act and welcomes the Committee’s review of the regulatory landscape of the video content and distribution market.^{2/} As the White Paper observes, recent developments “reflect a video market that is substantially different than the one that existed at the time of the last congressional examination of the Communications Act.”^{3/} CTIA agrees. Historically, the Act viewed the regulation of the video marketplace primarily through a broadcasting and cable lens. However, broadband providers, among others, now play an increasingly-expanding role in the video ecosystem. Therefore, a technology-neutral approach is more appropriate today.

^{1/} See House Committee on Energy and Commerce, *Regulation of the Market for Video Content and Distribution* (Dec. 10, 2014) (“White Paper”), available at <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/20141210WhitePaper-Video.pdf>.

^{2/} See CTIA – The Wireless Association Response to House White Paper on Modernizing U.S. Spectrum Policy (filed Apr. 25, 2014) (“CTIA Spectrum Policy Comments”), available at http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP2_Responses_14-25.pdf; CTIA – The Wireless Association Response to House White Paper on Competition Policy (filed June 13, 2014) (“CTIA Competition Policy Comments”), available at http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP3_Responses_22-42.pdf; CTIA – The Wireless Association Response to House White Paper on Network Interconnection (filed Aug. 8, 2014) (“CTIA Interconnection Policy Comments”), available at http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP4_Responses_1-22.pdf; CTIA – The Wireless Association Response to House White Paper on Universal Service Policy (filed Sept. 19, 2014) (“CTIA USF Policy Comments”).

^{3/} White Paper at 5.

Toward this end, CTIA recommends that Congress should:

- Recognize instead that consumers increasingly rely on wireless mobile broadband providers and other delivery platforms for access to the Internet and video content;
- Rather than adopt video policies that are technology-centric, foster a regulatory system that ensures content providers have many options to deliver video programming; and
- In order to promote the fast growing video market segment, ensure that additional spectrum is available to mobile broadband providers.

Congress should seek to facilitate new entry and rationalize existing regulation and restrictions, and avoid locking in any particular technology or business plan as it relates to future video delivery. The goal should be more content on more devices and not reflexively applying legacy rules and requirements on future video providers or supporting legacy business models that are evolving. Given the spectrum usage of broadcast television, it is also important that the discussion of the future of video, and corresponding regulatory structure, is not divorced from the discussion of the future of spectrum.

II. WIRELESS MOBILE BROADBAND PROVIDERS ARE PLAYING A MORE PROMINENT ROLE IN THE VIDEO ECOSYSTEM

As both the Committee and the FCC recognize, consumers are increasingly turning to non-traditional, often Internet-based, outlets to receive a variety of content, leading to “increasingly fractured” video audiences.^{4/} Recent studies indicate that streaming content has

^{4/} See White Paper at 5; *Promoting Innovation and Competition in the Provision of Multichannel Video Programming Distribution Services*, Notice of Proposed Rulemaking, MB Docket No. 14-261, FCC 14-210, ¶ 1 (rel. Dec. 19, 2014) (noting that “video services are being provided increasingly over the Internet”).

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Response to House White Paper on Video Policy

overtaken broadcast television, with an estimated 80 percent of consumers between the ages of 16-45 watching streamed video several times a week or more.^{5/}

Consumers are also demanding access to content at any place and at any time, relying on wireless devices, rather than fixed and broadcast-based services, as their on-ramp to Internet-based video content – both subscription and non-subscription alike.^{6/} Indeed, “[m]ore than six in ten U.S. adults now watch videos online – and roughly half of those, 36% of all U.S. adults, watch news videos,” according to new Pew Research Center survey data. Broadcast content itself is commonly viewed online; many local news stations also have mobile apps that allow consumers to watch live broadcasts on their mobile devices.^{7/}

Further, non-subscription-based over-the-top (“OTT”) services such as YouTube continue to dominate mobile video traffic, with 70 percent of smartphone owners using YouTube on monthly basis.^{8/} At the same time, subscription-based services like Netflix, which is currently being used by 15 percent of smartphone owners on a monthly basis, are rising in popularity.^{9/} By some estimates, “traffic volume per use for Netflix [is] 3.5 times more than YouTube traffic per user over cellular networks.”^{10/} Consequently, Ericsson predicts that mobile data traffic in North America will grow six times from 2014 to 2020 and that video traffic will account for around 55

^{5/} See Ericsson Consumer Lab, *10 Hot Consumer Trends in 2015*, at 2 (2014), available at <http://www.ericsson.com/res/docs/2014/consumerlab/ericsson-consumerlab-10-hot-consumer-trends-2015.pdf>.

^{6/} See CTIA Spectrum Policy Comments at 4 (reporting that “it was recently estimated that 50 million people in the U.S. now watch video on their mobile phones”).

^{8/} See Ericsson, *Ericsson Mobility Report: On the Pulse of the Networked Society*, at 14,22 (Nov. 2014) (“Ericsson Report”), available at <http://www.ericsson.com/res/docs/2014/ericsson-mobility-report-november-2014.pdf>.

^{9/} See Ericsson Report at 22-23.

^{10/} Ericsson Report at 23.

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percent of all global mobile data traffic by 2020.^{11/} Similarly, Cisco estimates that global mobile data traffic will increase nearly 11-fold between 2013 and 2018.^{12/}

This trend is only expected to grow as 4G technologies proliferate and the migration to LTE continues. Studies indicate that video now typically constitutes 45-55 percent of the mobile traffic over 4G networks.^{13/} As CTIA previously explained to the Committee, the growth in 4G technologies, which is characterized by higher bandwidth, lower latency, and increased security, will lead to even higher adoption of mobile technologies by end users.^{14/} Ericsson observes that the evolution of video-capable mobile devices, with larger screens and higher picture quality, as well as the faster network speeds that come with LTE will similarly drive up mobile video consumption.^{15/} It estimates that by 2020, LTE will represent 80 percent of North America’s mobile subscriptions.^{16/} CTIA’s members are testing new technologies like LTE broadcast, which was used at the recent National College Football Championship game, and as these capabilities come to market and are embraced by consumers, demand for bandwidth is likely to increase even further.¹⁷

^{11/} See Ericsson Report at 13-14.

^{12/} See Cisco, *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2013–2018*, at 3 (Feb. 5, 2014), available at http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.pdf.

^{13/} See Ericsson Report at 3; Sandvine, *Global Internet Phenomena Report 2h 2014*, at 7 (2014), available at <https://www.sandvine.com/trends/global-internet-phenomena/> (estimating that “real-time entertainment” – comprised of streaming video and audio – traffic accounts for 40 percent of the downstream bytes on mobile networks in North America).

^{14/} See CTIA Spectrum Policy Comments at 3-4.

^{15/} See Ericsson Report at 15.

^{16/} See Ericsson Report at 9.

¹⁷ See Ina Fried, “[College Football’s Big Game Was a Huge Day for Mobile Data](http://recode.net/2015/01/13/college-footballs-big-game-was-a-huge-day-for-mobile-data/),” ReCode, January 13, 2015, available at <http://recode.net/2015/01/13/college-footballs-big-game-was-a-huge-day-for-mobile-data/>

III. CONGRESS SHOULD ENCOURAGE CONSUMER ACCESS TO A VARIETY OF VIDEO SERVICE OFFERINGS AND ENSURE MOBILE BROADBAND PROVIDERS HAVE SUFFICIENT RESOURCES TO COMPETE

Congress should ensure that any update of the Act reflects the increasing diversification of device usage and service delivery. *First*, as CTIA previously explained to the Committee, Congress should adopt light-touch technology-neutral policies that encourage the growth of services like OTT video that do not rely on a particular delivery platform.^{18/} Rather than subject various video distributors to “significantly different regulations even though they appear to be analogous to consumers,”^{19/} Congress should examine what consumers consider as substitutes and limit FCC regulation for all competitors.^{20/} OTT distributors have flourished in an unregulated environment, and consumers view their products and services – including streaming video services – as substitutes for services offered by more regulated communications providers, demonstrating the success of intermodal competition. To encourage this growth, the FCC’s authority to regulate all video distributors should be limited. As CTIA noted, Congress should ensure that the Act provides clear direction to the Commission so that it acts only in instances where Congress has found the need exists.^{21/}

This regulatory parity and flexibility, acting only when necessary, will ensure that content providers have many delivery options, and consumers will have a variety of methods to access,

^{18/} See CTIA Competition Policy Comments at 13-15; *see also, e.g.*, CTIA Interconnection Policy Comments at 6; CTIA USF Policy Comments at 5.

^{19/} White Paper at 1.

^{20/} See CTIA Competition Policy Comments at 13-15.

^{21/} See CTIA Competition Policy Comments at 14-15.

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Response to House White Paper on Video Policy

video programming. As one content provider recently noted, “we don’t care where you watch it or when you watch it . . . We just want it to be counted and be paid appropriately.”^{22/}

Second, Congress should ensure that wireless mobile broadband providers can continue to provide a platform for video content by ensuring they have access to critical resources such as spectrum.^{23/} As noted above, video programming will be increasingly carried by wireless providers. This trend will stress the capacity of wireless networks. As CTIA has pointed out to the Committee, spectrum is a vital input for mobile broadband providers.^{24/} And, even though providers are using their spectrum resources efficiently, more spectrum is required to meet the skyrocketing demand for bandwidth-intensive applications like streaming video.^{25/} Indeed, even employing advanced technologies like LTE, providers will need more spectrum to provide the high quality video services that consumers demand.^{26/}

It is particularly important, as the Committee is aware, that a stable supply of spectrum in bands suited for mobile broadband is made available on a licensed basis to providers.^{27/} As broadcasters are completing their evolution from analog to digital and becoming more spectrally efficient, their spectrum resources, in particular, may be made available to mobile broadband providers. Congress should ensure that the Commission continues to have the authority to

^{22/} Mark Bergen, “CES: CBS CEO Moonves Calls Overnight Ratings ‘Useless,’ Defends Streaming Service,” ADVERTISINGAGE (Jan. 8, 2015), *available at* <http://adage.com/article/consumer-electronics-show/cbs-leslie-moonves-ott-service-medialink-ces-keynote/296506/>.

^{23/} See CTIA Competition Policy Comments at 12-13.

^{24/} See CTIA Spectrum Policy Comments at 4-5.

^{25/} See CTIA Spectrum Policy Comments at 4-5; *see also* Reply Comments of CTIA – The Wireless Association® on NBP Public Notice #6, Spectrum for Broadband, GN Docket No. 09,-47, *et al.*, at 2 (filed Nov. 13, 2009).

^{26/} See Ericsson Appendix at 5 (“Densification, appropriate network dimensioning and adequate spectrum allocations are required to continue to ensure good application coverage for all users in the entire cell, even after LTE is deployed.”).

^{27/} See CTIA Spectrum Policy Comments at 11; CTIA Competition Policy Comments at 12-13.

auction this spectrum as well as any other spectrum held by existing licensees so that it can be reallocated to provide more highly valued and innovative services such as mobile broadband.

IV. CONCLUSION

A modern Act should reflect a modern communications ecosystem. The evolution of the video marketplace demonstrates that the regulatory structure need not be based on dated silo-based regulation. Thus, Congress should recognize the role that other entities, such as mobile broadband providers, play and ensure that they have the technology-neutral, light-touch regulatory framework and the spectrum resources they need to provide new and innovative services to consumers.

January 23, 2015

[REDACTED]

From: Paul Dingeman <[REDACTED]>
Sent: Thursday, January 22, 2015 11:26 AM
To: CommActUpdate

The Honorable Fred Upton
2183 Rayburn House Office Building
Washington, DC 20515

Dear Representative Upton:

We here at CTV - Community TV in Marine City and St. Clair, Michigan in St. Clair County hope that you will continue to support our PEG Channel... We are very important to the Local Community.

Daily we supply the residents of the area with School Board Meetings, City Council Meetings, and of course Local High School Sports.....The major Television Station is Detroit do not cover our area unless it is a Fire, or Death....

CTV Community TV, here WE cover the local Community, please make sure this service does not stop....

Paul Dingeman
Executive Director CTV Channel Six
A Service of the City of St. Clair

[REDACTED]

[REDACTED]

www.watchCTV.org
www.facebook.com/watchCTV
www.youtube.com/watchctv

"



This email has been checked for viruses by Avast antivirus software.

www.avast.com

[REDACTED]

From: Mary Van Sickle [REDACTED]
Sent: Thursday, January 22, 2015 5:13 PM
To: CommActUpdate
Subject: Regulation of the Market for Video Content and Distribution - Response to White Paper #6
Attachments: 7.30.13_Letter of Support for DMA to Mandan mayor.docx

The Honorable Fred Upton
2183 Rayburn House Office Building
Washington, DC 20515

Dear Representative Upton:

In a recently released white paper, the House Energy and Commerce Committee has questioned the value of Community Media Centers in the internet age. Here is the specific language used, "Cable systems are required to provide access to their distribution platform in a variety of ways, including program access, leased access channels, and PEG channels. Are these provisions warranted in the era of the Internet?"

I am responding to let you know that provisions requiring PEG access are more necessary and warranted today as they have ever been.

Please allow me to explain. Dakota Media Access (DMA) will soon be celebrating its 28th year operating a Community Media Center (PEG channels) in Bismarck and Mandan, North Dakota. In that time, we've provided coverage for over 4,000 local government meetings, conducted hundreds of candidate debates and election issue forums, and provided equipment, production training and a distribution system for thousands of community producers and local programs.

An example of just one of our valuable programs, "Capability Chronicles," is co-produced by The Arc of Bismarck, a non-profit organization providing education, advocacy and support to people with disabilities. Attached is a letter from their executive director expressing the value DMA provides in producing and distributing their program through both our cable channel and our internet web-based on-demand viewing system.

The convergence of communications technologies and the consolidation of industry power towards fewer providers has actually increased demand for our local services and distribution systems. In addition, DMA has successfully developed Internet delivery as a supplement to, rather than a substitute for cable channel delivery. Consequently, there is a real need to increase, rather than decrease support going forward.

Thank you for this opportunity to express my concerns.

Mary Van Sickle
Executive Director
Bismarck, North Dakota
[REDACTED]



[DMA on facebook](#)

[Government Access, channel 2](#)

[Community Access, channel 12](#)



P.O. Box 2081
Bismarck, ND 58502-2081
(701) 222-1854
www.thearcofbismarck.org

July 30, 2013

Mayor Arlyn Van Beek
City of Mandan
205 2nd Ave. NW
Mandan, ND 58554

Dear Mayor Van Beek,

I am writing to relate what a great partner we have in Dakota Media Access. This will be the third year we have worked with Dakota Media Access to produce Capability Chronicles, a media series telling the success stories of people with disabilities.

To date, we have produced over 25 stories with two priorities in mind – that people with disabilities will find inspiration and that people unfamiliar with the disability community will become more comfortable within it. We are accomplishing these things and so much more. Our guests enjoy sharing their stories, and truly feel like they are helping others step outside of their comfort zone to find their own success. People in our community are hearing things like, “I don’t want to be thought of as someone with cerebral palsy,” and “the smiles on the faces of the people with disabilities who water ski for the first time.”

The episodes are played and repeated on the Dakota Media Access education channel. In addition, viewers from across the state are able to view the episodes on the websites of Dakota Media Access and our organization. The people at Dakota Media Access regularly go out of their way to accommodate our guests with scheduling, accessibility, and technology. They are always ready to help us learn something new to create a better product, move a truckload of equipment to capture a good story, and make every effort to contribute to our success.

We are so fortunate to have community access television that is so active and engaged with issues in our area. One of the best ways to teach is to tell a good story, and we’re doing that for Bismarck-Mandan thanks to Dakota Media Access.

Respectfully,

Cally Musland
Executive Director

cc: Mike Braun, Mandan City Commissioner
Dot Frank, Mandan City Commissioner
Dennis Rohr, Mandan City Commissioner
Sandy Tibke, Mandan City Commissioner

[REDACTED]

From: Bob Datz [REDACTED]
Sent: Sunday, January 18, 2015 12:09 PM
To: CommActUpdate
Subject: Public Access rules - keep them in place

I would urge you to allow no diminution of cable TV public access requirements in consideration of reforms of the Communications laws. With news outlets withdrawing from smaller market towns, for instance on the west end of the 2nd district, towns are able to air government proceedings to allow residents to be engaged with issues they otherwise would not know about ...this is an unqualified benefit for our republic. Further, access for resident-produced videos provides access to "the media" to all, reaching even residents who don't use online sources. Diversity of viewpoints is vital to freedom of thought. Just ask residents of Egypt, China and so many other places.

Thanks for your consideration
Bob Datz
West Brookfield, MA

[REDACTED]

From: Autumn Labbe-Renault [REDACTED]
Sent: Thursday, January 22, 2015 6:52 PM
To: CommActUpdate
Cc: [REDACTED]
Subject: Re: Regulation of the Market for Video Content and Distribution – Response to White Paper #6

Jan. 22, 2015

The Honorable Fred Upton
2183 Rayburn House Office Building
Washington, DC 20515

The Honorable Greg Walden
2185 Rayburn House Office Building
Washington, DC 20515

Re: Regulation of the Market for Video Content and Distribution – Response to White Paper #6

Dear Congressman Upton and Congressman Walden:

On behalf of Davis Media Access (DMA), a non-commercial media center serving Yolo County, CA, I am writing with concern about questions raised in the above-referenced white paper, specifically, whether cable access provisions are warranted in the age of the Internet.

DMA is the only non-profit community media center serving Yolo County, a largely agricultural county located 12 miles west of the state Capitol. For more than 25 years, DMA has provided public access to equipment, training and channel time. Over the years we have also taken on development and management of educational access television for the local school district. In 2004, DMA was the first community media center in the nation to launch a low-power radio station. In 2009, DMA was a beta site for the Knight Foundation's Open Media Project.

Davis falls between the major media markets of Sacramento and the Bay Area, and DMA provides local content that would otherwise not be available. From coverage of K-12 performing arts and sports, to non-partisan and in-depth local election coverage--local through Congressional; from live and archived public meetings, to programs highlighting non-profits, community newsmakers, the arts and music, DMA is the place where local content matters.

Commercial media is often costly, doesn't invite participation, and represents a narrow spectrum of voices, owned by a very few companies. Non-commercial community media fills a critical need, teaching both digital literacy and media production, all while highlighting non-profits, community activists, marginalized voices, and perspectives outside the mainstream. Using the framework and resources established 25 years ago by the City of Davis, we've leveraged those to include a radio station, four open-source websites, video and audio streaming and archiving, and support for a tremendous variety of individuals and community organizations. We provide access to media equipment and training in digital media use and production—one on one, in groups, through

workshops—as well as distribution outlets on local cable, radio and the Internet.

Content distribution via the Internet is not a solution that works for all. Throughout our county, there are those for whom cable and broadcast are still prime avenues for news and information, whether because of age, income or location. In fact, in many parts of our county, broadband penetration is so low as to be non-existent. Time and time again, we're told that access to local channels is one of the reasons people still subscribe to cable.

Cable remains a business that impacts the public rights of way in a very significant manner in order to do business in a given community. The franchise fees have historically addressed this via a public-interest obligation. To do away with this provision would shutter meaningful learning, limit transparency in local government via public meetings, and a curtail a wealth of other services provided by the community anchor institutions that PEG channels have evolved into.

I urge you to please re-evaluate the devastating impact this would have on communities across the nation.

Respectfully,

Autumn Labbe-Renault

Executive Director, Davis Media Access

Board Member, Alliance for Community Media, Western Region

--

Autumn Labbe-Renault

Executive Director, Davis Media Access



The Honorable Fred Upton
2183 Rayburn House Office Building
Washington, DC 20515

Mr. Upton,

I'm writing to you in response to White Paper #6 of the Regulation of the Market for Video Content and Distribution as it relates to PEG television.

I represent DATV - Dayton Access Television, the community media center in Dayton, Ohio. DATV has been in existence since 1978 providing citizens with the ability to communicate with the masses in their community. DATV has always prided itself as being one of the last true outlets for freedom of speech in modern times.

Over the years we have seen many attempts to eliminate public, education, and government access channels by cable, telephone, and internet companies. These actions are attempts by large corporations to silence the common person's ability to communicate with not only their neighbors, but their governments as well. In the past we've seen reductions in funding, channel realignments that put us out of the reach of many low-income viewers, degradations in our signal qualities during realignments, non- acceptance of our high definition signals, just to name a few. We are constantly targeted because giants like Time Warner, AT&T, Comcast know we don't have the resources nor the sophistication to fight many of these battles. Additionally, we are not put on a level playing field with our friends in the broadcast industry.

Our country was founded on the basic principles of freedom of speech, however, the aforementioned companies seem to have been winning the war on suppressing these freedoms. Is freedom of speech no longer relevant in today's society?

Not only are media centers like DATV an avenue for freedom of expression and thought, but they also serve as a gathering place for the underserved. Centers like ours are often the only place where the downtrodden feel like they have a voice in our society. Additionally we provide services for many youth organizations and schools, giving today's youth the skills necessary to navigate in the every changing world of social media. We teach them how to effectively communicate with others and the importance of media literacy.

As I close, my hope is that you will agree that PEG centers are an important thread in the fabric of our society. And that you will secure the long standing missions of our organizations by protecting us from legislations that seek to end our existence.

I thank you for taking the time to read my letter and I appreciate you consideration.
Please feel free to contact me if you would like further information.

Sincerely



Steve Ross

Executive Director, DATV

937-223-5311

steve@datv.org



1110 Vermont Ave., NW, Suite 750
Washington, D.C. 20005

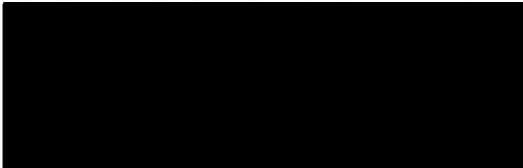
January 23, 2015

United States House of Representatives
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, D.C. 20515

Delivered by email to: commactupdate@mail.house.gov

Dear Chairman Upton and Chairman Walden:

Attached please find DISH's responses to questions posed in the Committee's recent white paper on regulating the market for video content and distribution. We applaud the Committee's efforts to have a broad and thoughtful discussion regarding reform of this country's video laws, and we look forward to working with you to update the Communications Act. Should you have any questions, please do not hesitate to contact us.



Jeffrey Blum
Senior Vice President and
Deputy General Counsel
DISH Network L.L.C.

DISH'S RESPONSE TO THE HOUSE ENERGY AND COMMERCE COMMITTEE'S WHITE PAPER ON VIDEO REGULATION

Introduction

The video industry is a place where the marvels of yesterday have become commonplace today. The needs and desires of consumers are evolving as technological innovations continue to be deployed in the marketplace. Our laws should also evolve to create a framework that facilitates the functions of the free market. This framework would help pay-TV providers give consumers what they want: the ability to watch programming on their television sets, their computers and their mobile devices, no matter where they are, for a reasonable price.

DISH continues moving forward to meet this consumer demand. By rolling out technological innovations like the *Hopper with Sling*, our subscribers can be anywhere and watch their live and recorded shows on their computers or mobile devices. On January 8, 2015, we announced the upcoming launch of our new over-the-top (OTT) streaming television service, *Sling TV*. This ground-breaking product will present an alternative to traditional pay-TV subscriptions and deliver live TV with these channels, among others: ESPN, ESPN2, TNT, TBS, Food Network, HGTV, CNN, Cartoon Network and Disney Channel. The core package will cost \$20 per month and, unlike traditional pay-TV services, consumers will be able to access programming with no long-term contract, credit check or hardware installation required. This is good for consumers and good for competition.

These are just some of the ways in which DISH has embraced innovation and responded to our customers' changing needs. This country's telecommunications laws, which set the framework for a competitive video marketplace, must do the same. Below, please find our answers to the Committee's questions.

1. Broadcasters face a host of regulations based on their status as a "public trustee."

a. Does the public trustee model still make sense in the current communications marketplace?

No, the "public trustee" model does not reflect the current marketplace realities. Broadcasters receive significant benefits under their "public trustee" status, including valuable public spectrum and government-sanctioned monopolies within each demographic market area, or "DMA". Congress intended these benefits to enhance the broadcasters' commitment to local news and information and, ultimately, to serve the public. Unfortunately, the broadcasters are failing to meet their end of the bargain.

Broadcasters' ever expanding strategy of blacking out communities so they can extract higher and higher fees on the backs of consumers is not what Congress intended when it passed the 1992 Cable Act. In addition, many broadcast stations no longer prioritize local news and information as evidenced by the lack of investment and declining quality of content. The major media conglomerates are charging those local stations ever-increasing fees in exchange for national programming like sports leagues and entertainment. The "public trustee" is now being

exploited to subsidize the national networks - CBS, NBC, ABC, and FOX – and no longer supports the original goal of enhancing local news and information.

The “public trustee” model providing broadcasters with significant government benefits no longer meets Congress’s intended purpose and Congress should take this opportunity to update the 1992 Cable Act to reflect this reality.

b. Which specific obligations in law and regulation should be changed to address changes in the marketplace?

Today, pay-TV subscribers are on the losing end of regulation crafted over two decades ago to subsidize the broadcasting business model. Congress should reform the outdated retransmission consent regime to sync with reality.

The television landscape has changed dramatically since retransmission consent was established in the Cable Act of 1992. Back then there was equal bargaining power; the broadcaster negotiated with a single company that was likely the only pay-TV provider in the same market. Failure to reach a retransmission consent agreement was mutually assured destruction for both sides of the negotiating table. Today, by contrast, cable operators no longer enjoy local monopolies and multiple pay-TV providers are forced to negotiate against one monopoly broadcaster, all to the detriment of consumers. This is *not* a free market.

If Congress chooses to relieve the broadcasters of any obligations, there would be an even stronger justification for why broadcasters should no longer enjoy the benefits of a government-sanctioned monopoly in each DMA, among other things.

c. How can the Communications Act foster broadcasting in the 21st century? What changes in law will promote a market in which broadcasting can compete with subscription video services?

The Communications Act can foster broadcasting in the 21st century by creating a framework that facilitates the benefits of a free market. Congress should modernize the law by eliminating the retransmission consent regime that shields broadcasters from market forces.

For example, the Local Choice proposal introduced by Senators Rockefeller and Thune in the 113th Congress would allow broadcasters to offer their signal directly to subscribers at their own set price. Under Local Choice, as we explain below, broadcasters would retain their dual revenue streams from both advertising and compensation for their programming. Local Choice also would incentivize broadcasters to improve the quality of their programming and innovate in the changing video marketplace.

d. Are the local market rules still necessary to protect localism? What other mechanisms could promote both localism and competition? Alternatively, what changes could be made to the current local market rules to improve consumer outcomes?

As the nation's only pay-TV provider of local television service in all 210 markets, DISH does not believe that local market rules are necessary to protect localism. Moreover, the retransmission consent regime is effectively undermining Congress' efforts to support localism.

The Local Choice proposal developed in the last Congress would promote both localism and competition. This free market approach would enhance localism because the local broadcast station that foregoes must-carry would compete with the other stations to provide the most relevant, quality local content that consumers want to watch.

Congress intended retransmission consent fees to support and cultivate local programming. Today, however, retransmission consent fees are largely used to subsidize national networks, not local news and information. Referred to as "reverse retrans," the local broadcast stations are now required to pay the broadcast networks for national programming like the National Football League. Congress' original goal of enhancing localism is threatened by the current industry structure that is diverting an increasing percentage of retransmission consent fees away from the local programming. Even one of the largest broadcast companies in the country, Sinclair Broadcasting Group, recently noted that the alarming increase in reverse retrans fees is hurting the ability of broadcasters to invest in local programming.¹

Congress can give new life to localism by reforming the retransmission consent regime to account for the changes in the video marketplace. Please see Question 4(a) for the full list and details of DISH's suggested reforms to retransmission consent.

2. Cable services are governed largely by the 1992 Cable Act, a law passed when cable represented a near monopoly in subscription video.

a. How have market conditions changed the assumptions that form the foundations of the Cable Act? What changes to the Cable Act should be made in the recognition of the market?

Please see DISH's responses to Questions 1(b) and 4(a) on how market conditions have changed for MVPDs since the 1992 Cable Act was enacted.

¹ See Sinclair Broadcast Group, Inc., Petition to Deny, MB Docket No. 14-57 (Aug. 25, 2014).

3. *Satellite television providers are currently regulated under law and regulation specific to their technology, despite the fact that they compete directly with cable. What changes can be made in the Communications Act (and other statutes) to reduce disparate treatment of competing technologies?*

DISH does not believe that any current laws or regulations inappropriately favor satellite television over cable.

4. *The relationship between content and distributors consumes much of the debate on video services.*

a. *What changes to the existing rules that govern these relationships should be considered to reflect the modern market for content?*

Above all, Congress should end broadcast blackouts that are harming consumers across our country. The video landscape has evolved far beyond recognition since retransmission consent was created in 1992; however, the regulatory regime has remained the same. Each broadcast network still has only one affiliate holding monopoly power in each market, but there are now usually at least three, if not many more, distributors to leverage against one another in each DMA.

Broadcasters aggressively take advantage of the uneven playing field during retransmission consent negotiations to extract greater fees from MVPDs. The bargaining power is so imbalanced that SNL Kagan predicts that retransmission consent fees will soar to \$9.3 billion by 2020, which is nearly twice the \$4.9 billion broadcasters are expected to receive in 2014.²

The negotiation tactics routinely used by the broadcasters to threaten blackouts is alarming and further evidence of a broken system. There were 107 broadcaster blackouts in 2014; 127 in 2013; and 96 in 2012. In contrast, there were 51 blackouts in 2011 and just 12 blackouts in 2010.

Congress must ensure that our video laws account for changes in the marketplace, technology, and consumer demand. There is a range of possible solutions to address the broadcasters' unfair leverage and abuse of the outdated retransmission consent regime. But at a minimum, Congress should end blackouts that are directly harming consumers. DISH's suggested solutions include:

(1) Implement the free market Local Choice proposal.

As discussed above, Congress should pass the pro-consumer, pro-free market Local Choice proposal. Under the Local Choice proposal, broadcast stations would set the price for their station and sell directly to the consumers. The consumer would elect whether or not to

² Mike Farrell, *Kagan: Retrans Fees Rise to \$9.3B by 2020; Fees Nearly Double 2014 Estimates*, Multichannel News (Oct. 27, 2014), <http://www.multichannel.com/news/news-articles/kagan-retrans-fees-rise-93b-2020/385063>.

subscribe and pay for the local broadcast station. Local Choice would end the rising number of harmful blackouts and eliminate soaring retransmission consent fees.

(2) Allow MVPDs to import distant signals during retransmission consent disputes.

Congress could also alleviate the harm to consumers from blackouts by permitting MVPDs to temporarily import distant network signals to subscribers when local network broadcasters withhold signals. Under this approach, a distant signal could not be imported during a retransmission consent dispute unless and until the broadcaster decided to pull its local signal. This solution would still leave consumers without access to certain local programming, including local news, sports and weather information, but it would at least provide network programming.

(3) Amend the definition of “antenna” for the purposes of determining over-the-air broadcast signal availability.

Congress should mandate a change in the “antenna” standard to allow the importing of distant signals. For years, the law and the relevant standard assumed the use of a “conventional, stationary, outdoor rooftop receiving antenna.” Today, however, most Americans do not have rooftop antennas. For decades now people have used indoor antennas.

In the 2010 STELA, Congress intended to permit use of indoor antennas as part of the standard by removing “conventional,” “stationary,” “outdoor,” and “rooftop” from the language. The FCC, however, has failed to implement this change in its rules and the “outdoor rooftop” criteria have remained unchanged. Congress should require the FCC to implement the relevant standard that reflects the kinds of equipment actually deployed in the marketplace.

(4) Prohibit broadcasters from blocking consumer access to online content.

Congress should prohibit broadcasters from blocking online content to an MVPD’s broadband subscribers during a dispute. The harms to consumers of such conduct was evident in 2014 when CBS blocked Time Warner Cable broadband subscribers from access to CBS content on the Internet during a retransmission dispute between the two companies. And Time Warner Cable’s television subscribers were not the only customers blocked; the stand-alone broadband subscribers were also blocked. Congress should prohibit broadcasters and their affiliates from interfering with consumers’ Internet content.

(5) Clarify FCC authority to grant interim carriage rights during broadcaster blackouts/baseball style arbitration.

Congress should provide the FCC explicit statutory authority to grant an MVPD interim carriage of a broadcast station during a retransmission consent negotiation impasse. Better yet would be to combine interim carriage with baseball-style arbitration. This is a pro-consumer rule that could provide a simple solution to blackouts: the programming stays up until the broadcaster and MVPD reach a deal.

(6) Prohibit mandatory bundling as a condition for retransmission consent.

Congress should prohibit a broadcast station from making its owned or affiliated cable programming a condition for granting the MVPD retransmission consent. The broadcasters' forced tying of affiliated content has become a significant challenge during retransmission consent negotiations. DISH is not advocating that Congress prohibit all offers that bundle retransmission consent with carriage of additional content. If, however, an MVPD requests an offer for retransmission consent on a stand-alone basis, the broadcaster should not refuse to honor that request.

[REDACTED]

From: [REDACTED] on behalf of Colin Dixon [REDACTED] >
Sent: Friday, January 23, 2015 1:59 PM
To: CommActUpdate
Subject: Comment on 6th CommAct White Paper
Attachments: 150125 Local independents not survive online-ColinAsusS7.pdf; 150120 Broadcasters fight to define online role-ColinAsusS7.pdf; nScreen nSights - View My Video - Final.pdf; nScreen nSights - Store my Stuff final.pdf; nScreenMedia View My Video - Report Summary.pdf; nScreenMedia Store My Stuff - Report Summary.pdf

Mr. Redl:

I am a market analyst and commentator on the digital video market. I was forwarded the sixth white paper and asked to comment on it. I provide analysis, opinion and market data regarding the transition of the video industry from single screen delivery (the TV) to multiscreen delivery. I have been active in this market (as analyst and product creator) for 15 years. You can find more details on my background at nscreenmedia.com and on [linkedin](https://www.linkedin.com).

I've attached the following, which I feel are very relevant to the discussion of the comm act update.

1. Broadcasters fight to define online role - deals with how local broadcasters are working to retain digital media rights in negotiations with pay TV operators and against tech upstarts like Aereo. Also, why the protections in law for broadcasting are not relevant on the Internet.
2. Local independents not survive online - discusses why local independent TV broadcasters likely won't survive the transition to online delivery. Looks at why protections under law (must carry etc.) for them are unnecessary online
3. View My Video - a report my company issued last year on consumer behaviors in the digital domain. Good background to understand the context for any legislation that might be contemplated.
4. Store My Stuff - a report my company issued last year on how quickly US consumers are moving toward an all-digital-media lifestyle. Again, good background to understand the context for contemplated legislation.
5. I've also attached two single page summaries of the reports so you can get the highlights of the reports in a couple of minutes reading.

Very happy to provide further details and assistance on this very critical issue.

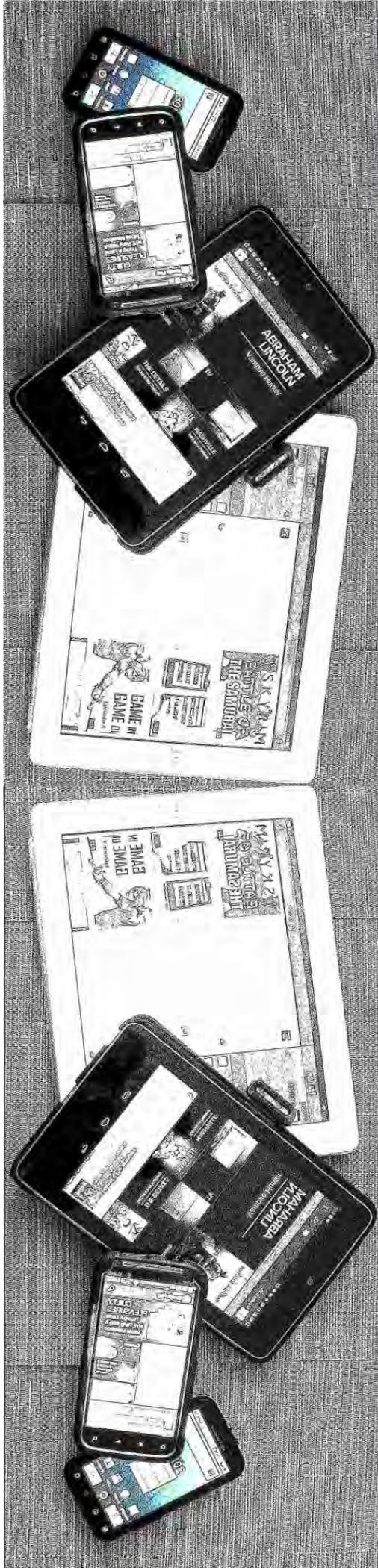
Colin Dixon

Founder & Principal Analyst



*Helping you understand media delivery
in a multi-screen, OTT world*





Screen Sights

View My Video – Consumer Digital Media Consumption

Author: Colin Dixon

Date: Q2 2014



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About nScreenMedia

nScreenMedia is a resource to the Digital Media Industry as it transitions to the new infrastructure for multi-screen delivery. Through a mix of informed opinion, news, information and research, nScreenMedia helps you make sense of multi-screen media. www.nscreenmedia.com

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3 SUMMARY

Consumers with broadband access have many different ways to watch video today. 80% watch free Internet video, making it the most popular of the methods we examined, beating out pay-TV with 78%.

Free Internet Video	Pay-TV	DVD/Blu-ray Discs	Subscription Internet video	Owned Digital movies & TV	Free OTA TV	Home Video
80%	78%	64%	55%	50%	43%	36%

In terms of usage, pay-TV viewers still spend the most time with their service. They use pay-TV nearly 2.6 times as long as subscription service users watch services such as Netflix, and 4 times as much time as free Internet video viewers, disc and owned digital movie viewers.

The online site most frequented by broadband users is, of course, YouTube. 92% of online video viewers (OVV) said they watch videos at the site. 52% say they use Netflix and 35% Hulu/Hulu Plus. Amazon Prime is used by 26% of OVVs. Premium TV channel sites, such as HBO Go and Showtime Anytime, are collectively used by just 28%.

In terms of time spent watching video provided by each OTT service, YouTube still leads, though with a much reduced margin, 48%. Netflix occupies 22% of a OVVs online streaming time, with Hulu/Hulu Plus 8%, Premium channel sites 7% and Amazon Prime a disappointing 6%. Amazon Prime video streamers are spending about half the time with the service than Netflix subscribers spend with Netflix.

74% US broadband users say they currently subscribe to pay-TV. 17% say they subscribed at some time in the past, but now no longer do. 8% say they cancelled service more than two years ago, while 10% say they have never subscribed to pay-TV.

Of the people that have cancelled pay-TV, 84% said they are at least somewhat happy with their decision, with 37% saying they are so happy they will never go back. That’s not to say this group of cord-cutters don’t miss features of pay-TV. 31% said they missed having access to shows they can’t find anywhere else. 12% missed first run TV episodes and 9% missed the sports. However, 29% are unmoved by pay-TV, saying they miss absolutely nothing.

PCs	TVs	Disc Players	Smartphones	Game Consoles	Tablets	Connected TV device
98%	95%	80%	74%	63%	56%	30%

98% of broadband owners have at least one PC. 95% have TVs and 80% either a Blu-ray or DVD player. Smartphones are owned by 74%, game consoles by 63% and tablets by 56%. Connected TV devices like Roku and Apple TV are owned by 30% of broadband consumers. The average number of devices owned by someone with the device is 2. For example, computer owners typically have 2.04 PCs.

As we saw in the last report, millennials (18-29) love connected devices and digital media. A millennial is 15% more likely than average to own a smartphone, 13% a game console and 7% a connected TV device. Conversely, they are slightly (2%) less likely to own a television or disc player.

Millennials strongly prefer digital media over traditional. They are 24% more likely than average to use Internet subscription services, 20% free Internet video and 14% owned digital movies and TV shows. They’re also 10% more likely to watch home videos. On the other hand, they are less likely to subscribe to pay-TV. 63% say they currently subscriber versus 77% of 30-49 year olds.

4 ABOUT THE DATA

To better understand consumer digital media behavior, we partnered with Troubadour Research and Consulting to survey 1000 consumers with access to high-speed internet, either through at-home broadband internet or mobile smartphone connectivity. Specific research objectives were:

- To explore the composition of personal media collections
 - What types of files are being stored, and where are they sourced from?
 - How are files stored – in the cloud, NAS, or on devices in the home?
 - Do consumers anticipate growth in their personal media collections and if so, in what areas?
- To understand consumers' viewing behaviors
 - Where is content sourced from? How much time is spent watching paid TV vs. internet video (free and subscription-based)
 - What percentage of homes are without pay-TV and are these consumers satisfied with their decision to “cut the cord?”

Survey responses were drawn from a community of approximately 10 million US panelists. The survey data were weighted to accurately reflect gender and age in the US population of consumers with broadband in the home.

4.1 ABOUT TROUBADOUR RESEARCH & CONSULTING

Troubadour Research and Consulting is a research and strategy consulting firm built upon the premise that market research should be focused on telling the story. Troubadours have a long heritage of being trusted advisors, bringing the story of the people to decision makers, so we focus on story-driven – rather than data-driven – presentation of insights and recommendations.



5 WHAT WE LOOKED AT AND WHY

The objective of the survey was to better understand consumer storage and consumption of digital media. This report deals with consumption of media from traditional and online sources. We surveyed users on their usage of the following media sources:

- Pay-TV services like DirecTV, Comcast and Verizon FiOS
- Internet subscription video services like Netflix and Hulu Plus
- Free TV resources using an over-the-air antenna
- Free online resources like YouTube and Crackle
- DVD and Blu-ray disks
- Digital movies and shows
- Home videos

There is a special section on the attitudes of consumers that have cancelled pay-TV services and another on millennials.

The companion report to this one, entitled *Store My Stuff – Consumer Digital Media Storage*, examines the U.S. broadband user’s ownership and storage of physical and digital media in detail. There is a particular focus on the usage of cloud storage services, and on attitudes and behaviors of millennials.

This report is made possible by the generous contribution of Plex. Though the subject matter of the report is a collaboration between Plex and nScreenMedia, Plex did not influence the data, analysis and conclusions presented here.

6 THE DATA

6.1 VIDEO SOURCE PREFERENCE

Consumers have many different ways to watch video today. To understand which ones they use, and for how long, we asked consumers to estimate how many hours per week they spend watching each through all the screens at their disposal.

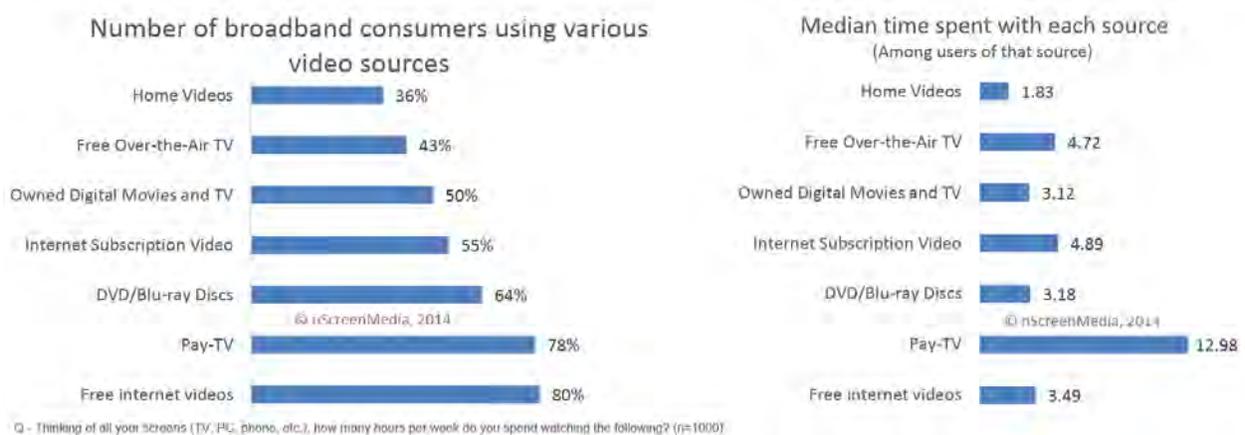


Figure 1 Usage of various sources of video by US broadband consumers

To our surprise, more people say they watch free Internet videos (80%) than watch pay-TV (78%.) Of course, we are talking about broadband users, as opposed to the general population. They certainly have easier access to online video than non-broadband users. However, it does show how deeply ingrained in the viewing habits of consumers sites such as YouTube, Vevo and Hulu have become over the last 10 years.

64% say they watch DVD and Blu-ray discs, while 55% say they watch subscription video from sites such as Netflix and Hulu Plus. While digital movie and TV show ownership is still in its infancy, 50% say they watch at least one or two a week. Keeping in mind that the vast majority have pay-TV subscriptions, free over-the-air (OTA) viewing has a surprisingly strong showing, 43%. This unusually high number is likely due to the fact that pay-TV subscribers are aware they are watching OTA TV through pay-TV subscriptions, and reported as such in our survey. Home videos are watched weekly by 36% of broadband consumers.

Pay-TV still dominates from the perspective of time spent with the service by subscribers. The median¹ time spent each week by pay-TV subscribers using the service is almost 13 hours. This is certainly no surprise. However, in those homes with a subscription to a service like Netflix or Hulu Plus, they use the service almost 5 hours a week. Those watching free over-the-air TV watched for 4 hours and 43 minutes. This data speaks to the fact that subscription video services are viewed, and used, very much as a peer service to regular TV.

Again, free Internet video surprised us by being used longer by its adherents than long-form video stalwarts like DVDs and owned digital movies. It's interesting to note that disks and their digital equivalent are watched almost identically by their users. Finally, home movies put in a surprisingly good performance, being watched for 1 hour and 15 minutes a week by those who watch them. As we saw in the sister report *Store My Stuff*, this illustrates the new dynamic nature of home videos courtesy of the convenience of smartphones and cloud services.

6.1.1 Internet Video site Usage

To be able to compare usages of various Internet video sites, we asked survey participants that watch Internet-based video where they spent their viewing time.

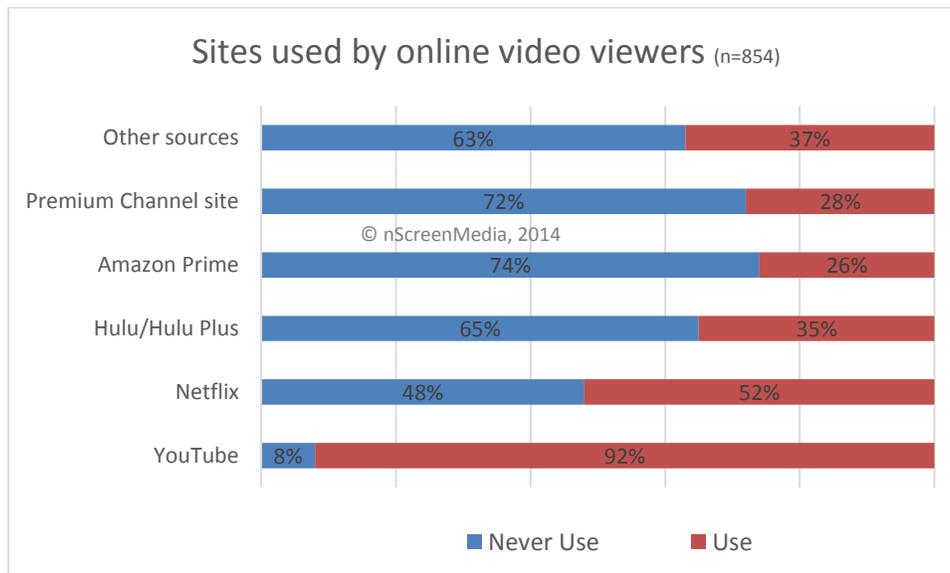


Figure 2 The percentage of online video viewers using various popular online sites

92% report spending at least some time watching videos on YouTube. The next most used site is Netflix with 52% reporting using the site. 35% say they spend time with Hulu and Hulu Plus, while 26% say they

¹ We chose to use the *median* in this report because it is better at eliminating the effects of extreme users, which tends to skew the *mean* value. The reader should not compare the values of our *median* results with other data calculated using the *mean* (for example, Nielsen reports *mean* TV watching.)

watch Amazon Prime video. Premium channel sites like HBO Go and Showtime Anytime are used by 28% of online video viewers.

This data suggests that there are about half as many video users of Amazon Prime as Netflix users. At the time of the survey there were 33 million Netflix subscribersⁱ, suggesting there were 16 or 17 million Amazon Prime videos viewers. However, as we shall see, our data indicates that Amazon video viewers watch far less video with the service than Netflix users watch from Netflix.

It will come as no great surprise that 48% of online video viewing is from YouTube. Month after month, comScore video site rankings place “Google Sites” (mostly comprised of YouTube traffic) atop the list of the most popular sites. In March 2014, over 80% of unique video viewers visited YouTube, and watched 11B videos for an average viewing time of 294 minutes per unique viewer.ⁱⁱ

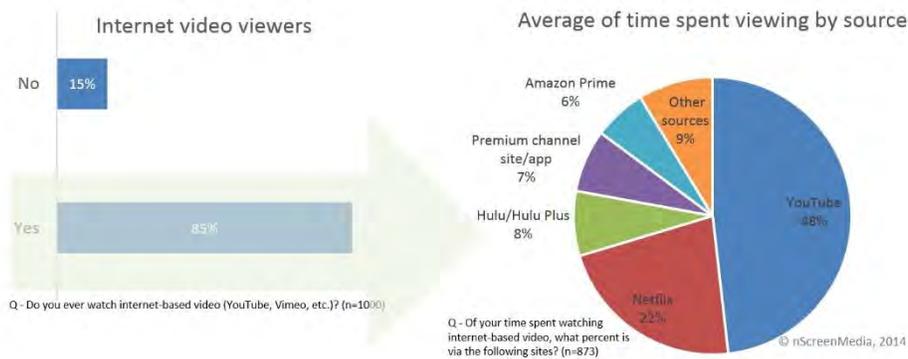


Figure 3 Time spent watching video at various Internet video sites

Netflix video consumes 22% of the average online video user’s time, making it the second most viewed site. Hulu and the subscription Hulu Plus occupy 8% of the time. All of the Premium channel sites account for 7% of viewing, with Amazon Prime accounting for just 6%.

We can draw some interesting conclusions from this data. According to the data shown above, Amazon Prime has about half as many video users as Netflix subscribers. Yet the amount of time spent viewing the video is just a quarter of Netflix. This suggests Amazon Prime users watch a half as much video on Amazon as Netflix users watch with Netflix. Also, despite the fact that HBO has nearly as many subscribers in the US as Netflixⁱⁱⁱ, HBO Go’s usage by those subscribers is tiny in comparison to its online rival.

6.2 PAY-TV SUBSCRIBERS, CANCELLERS AND NEVERS

Much has been written about the phenomenon of cord-cutting (cancelling pay-TV to make do with other video resources, or simply to do without TV altogether.) Like me, you are probably confused by the conflicting market data. For example, PricewaterhouseCoopers recently said cord-cutting is “largely a myth,”^{iv} while Variety reported the first “hard evidence” that cord cutting is happening when pay-TV subscriptions fell for the first 12 month period last year.^v

Our research shows 17% of US broadband users have had pay-TV at some time in the past and now no longer have it. What’s more, 8% say they cancelled service more than two years ago. 10% say they have never subscribed to pay-TV, and 74% claim to currently have it.

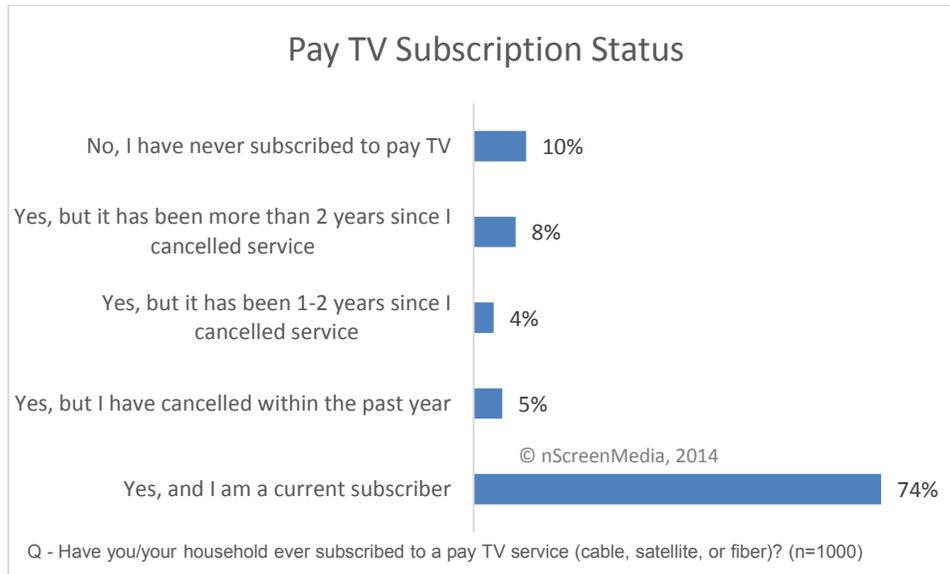


Figure 4 The percentage of US broadband users that have cancelled pay-TV, or never had it

While you could argue the 5% that cancelled within the last year are temporary pay-TV defectors, it’s hard to make that argument for those cancelling one or more years ago. This group, if they had any intention to return to pay-TV, has had plenty of time do so.

Other market evidence points to the fact that cord-cutting is a real phenomenon. nScreenMedia reports that, while the number of homes with pay-TV has stayed flat at just under 100M for the last 4 years, household penetration has fallen 2.4% because the number of homes has increased.^{vi} Nielsen reports the number of households with broadband access without pay-TV was 5.6M in 2013, up 10% on the previous year.^{vii}

What is much less well understood is how these cord-cutters feel about their decision. It is to this subject we turn next.

6.2.1 Level of Happiness with Decision to Cancel Pay-TV

We asked the group of broadband users that have cancelled pay-TV how happy they are with their decision. 84% said they are at least somewhat happy with their decision, with 37% saying they are extremely happy and will never go back.

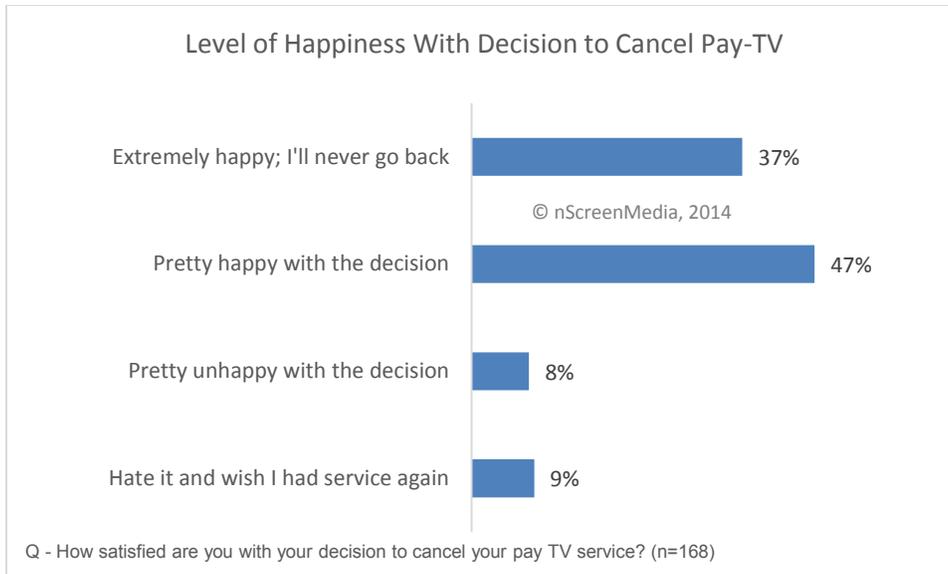


Figure 5 Level of satisfaction with decision to cancel pay-TV

This data should be unwelcome news for the pay-TV industry. The common belief is that the cord-cutting occurring today is primarily of the economic kind. That is, some consumers are still suffering from the recent economic problems and have reluctantly cancelled pay-TV to save money.

There is lots of evidence that this economic cord cutting is, in fact, happening. Craig Moffett, an analyst with Moffett and Nathenson, recently said: "We have always argued that cord-cutting is an economic phenomenon, not a technological one. ... Pay-TV revenue growth reflects rapid pay-TV pricing growth and that is precisely the problem. Rapidly rising prices are squeezing lower-income consumers out of the ecosystem."^{viii}

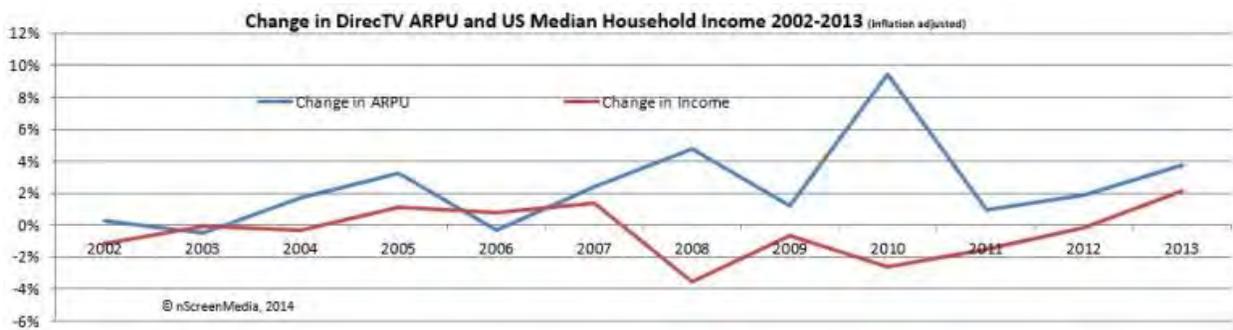


Figure 6 The growing pay-TV affordability gap in the US

What is clear is that pay-TV subscription costs have been rising well ahead of inflation for some time. DirectTV's average revenue per unit (ARPU) increased 3.8% (inflation corrected) in 2013. At the same time, the median US household income increased just 2.1%.^{ix} That means the average DirectTV subscriber had to take a little bit of money from somewhere else in the household budget to continue to pay for DirectTV. This has been going on for some time. Since 2002, DirectTV ARPU has increased on average 2.4% a year while median household income has fallen 0.4% a year.

So while many pay-TV subscribers may have cancelled service “reluctantly” because of economic reason, 84% of them seem happy with their decision and nearly 40% overall vow they won’t comeback.

That said, with all the sport, first run shows and premium movies, cord-cutters must miss something. And that is what we asked our survey participants next.

6.2.2 Pay-TV Content Missed Most by Cancellers

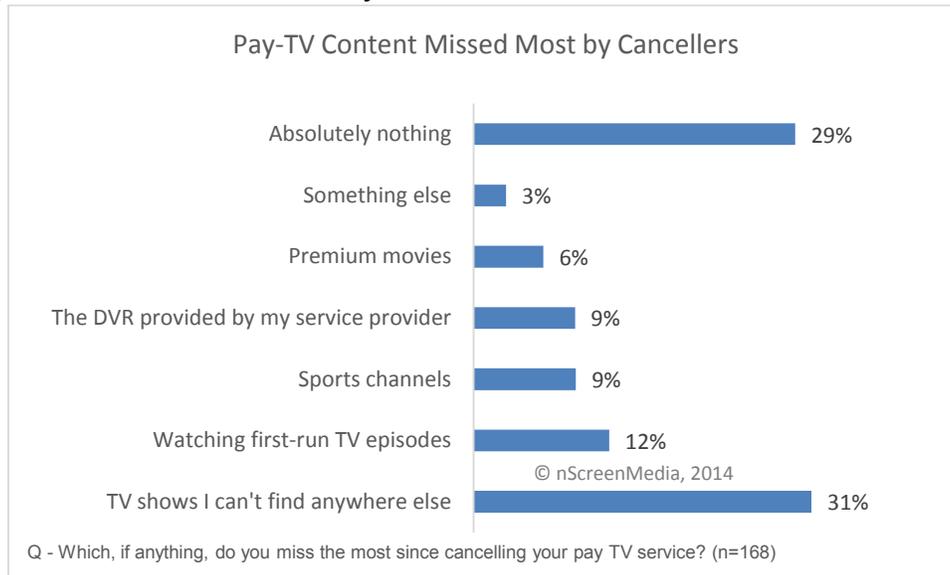


Figure 7 The content pay-TV cancellers miss the most

The monopoly pay-TV has on such first run shows as Breaking Bad, Game of Thrones and Mad Men is most acutely felt by pay-TV cancellers. 31% say they miss shows they can’t get anywhere else the most, with 12% citing first-run TV episodes. 9% cite sports channels and the operator provided DVR as what they miss most from pay-TV. Just 6% say they miss premium movies. 29% are adamant that they miss absolutely nothing at all.

The fact that just 9% cite sports as the thing they miss the most is noteworthy. Sports is generally considered one of the lynchpins of the pay-TV experience. For example, Monday and Thursday night football games in the US are available with a pay-TV subscription only. According to Nielsen, in the 2013/14 season, Monday night games drew an average audience of 13.7M viewers.^x Performance like this has helped ESPN command the highest licensing fees of all pay-TV channels: \$5.50 a month per subscriber.^{xi}

Clearly the impact of sports on the current group of pay-TV cancellers is much less than industry lore and data would suggest. This is likely because the group of cancellers self-selects for those less interested in sports. Those that prefer dramas and comedy can find plenty of online alternatives, while sports fans will struggle to find their favorite team without a pay-TV subscription.

6.3 DEVICES USED TO ACCESS VIDEO SERVICES

Now we are clear on the video services used by US broadband consumers, we will examine the devices they use to watch the video. Amongst broadband users, more people have a computer (98%) than have a TV (95%). DVD and Blu-ray players are the next most popular device, with 80% of survey respondents

reporting they have one. Smartphones are the 4th most popular device in our list, with 74% reporting that they own one. Game console penetration amongst broadband consumers is also very high, with 63% reporting they own and use at least one. Tablets are owned by 56% and connected TV devices, such as Apple TV and Roku, by 30%.

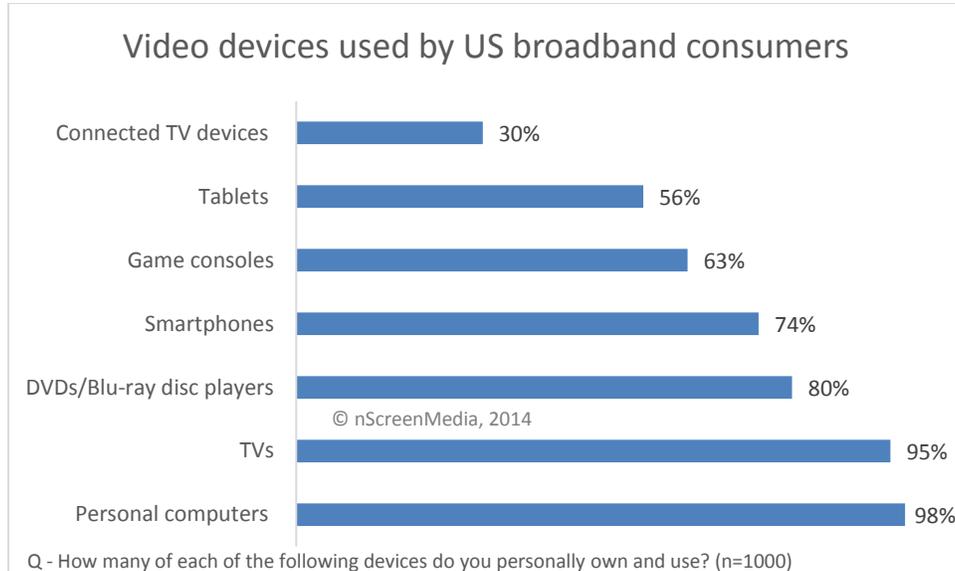


Figure 8 Video capable devices owned and used by US broadband consumers

For owners and users of each of these devices, the thinking seems to be “if one is good two must better.” For all the devices we asked consumers about, the majority of owners actually had two or more of them.

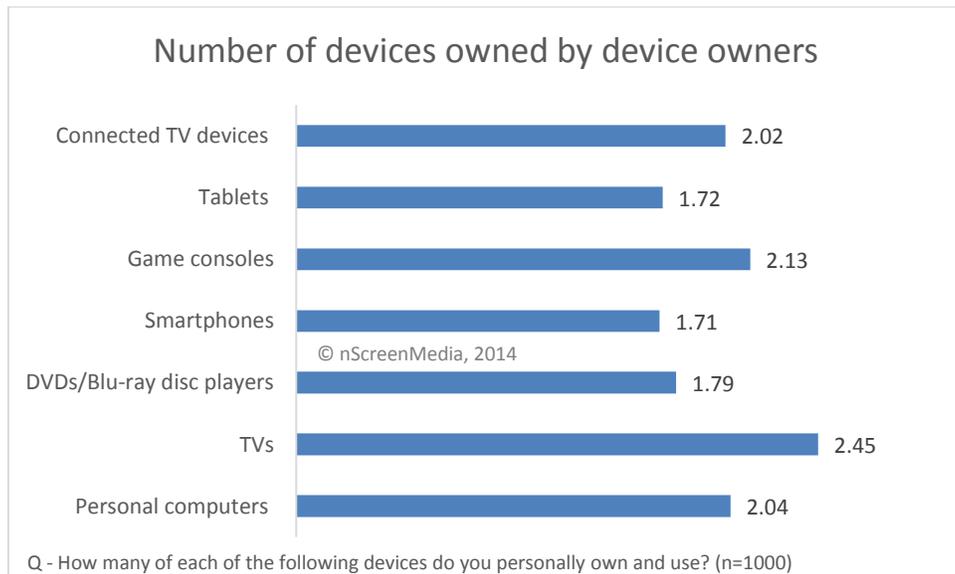


Figure 9 Device owners often own more than one of a device

It is, of course, very common for people to have a television in virtually every room in their house. Our survey found that TV owners, on average, have 2.45 sets. Game console owners on average own 2.13 of

the devices. Given that many games are exclusive to a particular platform (Halo on Xbox for example) and the passion of the audience, a committed gamer would need to own Xbox 360/One, PS3/4 and Wii U. Consumers also seem to end up owning more than one computer, 2.04 according to the survey respondents that own one. This is most likely the result of the short upgrade cycle for these devices and the long time the devices have been in consumer homes.

To go along with the 2.45 TVs, consumers that have adopted a connected TV device (like a Roku) seem to be buying one for each of their TVs. The average ownership of the devices is just over 2. With Chromecast costing just \$35, price is certainly not a barrier to adoption.

With consumers firmly entrenched in the upgrade cycle moving from DVD players to Blu-ray, it is not surprising that they own, on average, 1.8 players. Blu-ray players are now in 60 million U.S. households,^{xii} with the DVD player they replaced likely migrating to a second TV somewhere in the home.

Finally, tablets and smartphones have also been in market long enough to warrant upgrade. On average, owners have 1.7 of the devices. Wireless operators have been keen to use upgrading to next iPhone or Samsung Galaxy S phone to lock people into new 2 year agreements. Our data suggests this strategy is very effective.

6.4 FOCUS ON MILLENNIALS

The 18-29 year old age group (the millennials) differ from other groups, and the average, in several important ways. In this section we will highlight these differences.

6.4.1 Millennial Device Preferences

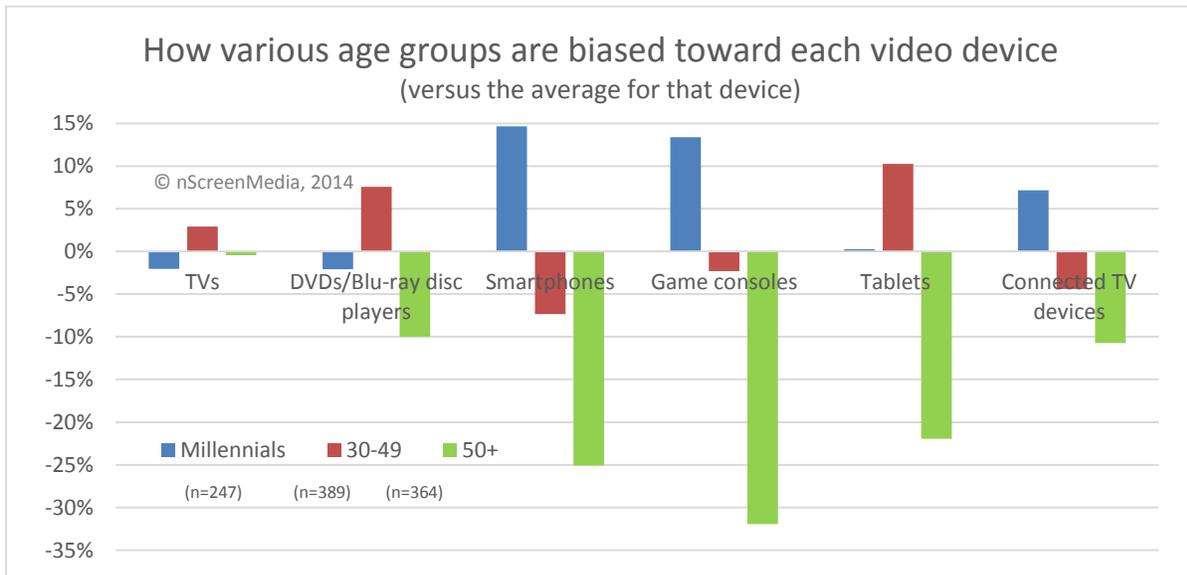


Figure 10 Millennials show strong bias toward connected devices versus the average for each device

The young strongly favor smartphones (15% more than average,) game consoles (13% more,) and connected TV devices (7%) over the other age groups. It should be noted, however, that does not mean they eschew more traditional devices. TVs and disc players are only preferred slightly less than average.

It's also interesting to note that tablets are not a preferred device of millennials. The 30-49 year olds seem to have taken to the tablet more fully than any other group.

6.4.2 Millennial Video Source Preference

In Figure 11 below, the amount an age group deviates from the overall average consumption of a particular video source is presented. For example, the 50+ age group consume 27% less Internet subscription video than average while the 30-49 consume 10% more and millennials 24% more.

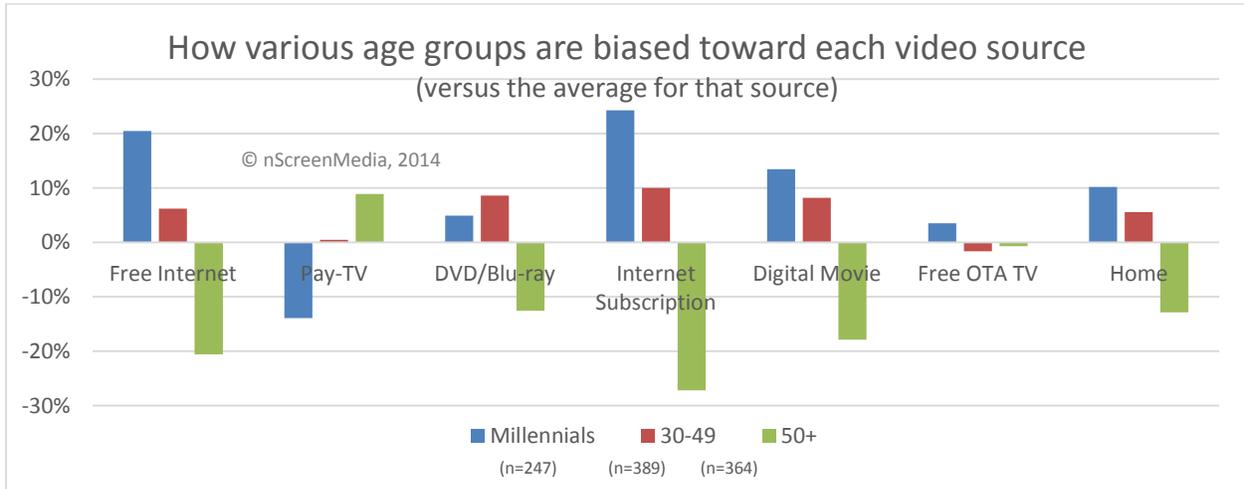


Figure 11 Millennials show strong bias toward Internet video sources versus the average for each source

As can be plainly seen, millennials strongly favor all digital media sources. They consume 24% more Internet subscription video than average, 20% more free Internet video and 14% more digital movies and shows. Note also that they watch 10% more home videos than average. As we saw in section 6.4.1 above, the 18-29 year olds' preferred device is the smartphone. In the sister report to this one, Store My Stuff, we also saw how photo and video storage on smartphones and cloud services was very important to millennials.^{xiii} The propensity of the young to shoot and share more video is likely the reason they watch significantly more home videos than average.

The laggards in the digital media domain are those 50 years of age or older. This group might be thought of as the stalwarts of the pay-TV ecosystem, as this is the only category where they consume much more than average. Nielsen agrees with this conclusion. The company reports that the average adult watches 36 hours 56 minutes of traditional TV each week, while the 50-64 age group watches 7 hours more than that.^{xiv}

6.4.3 Millennial Pay-TV Ownership

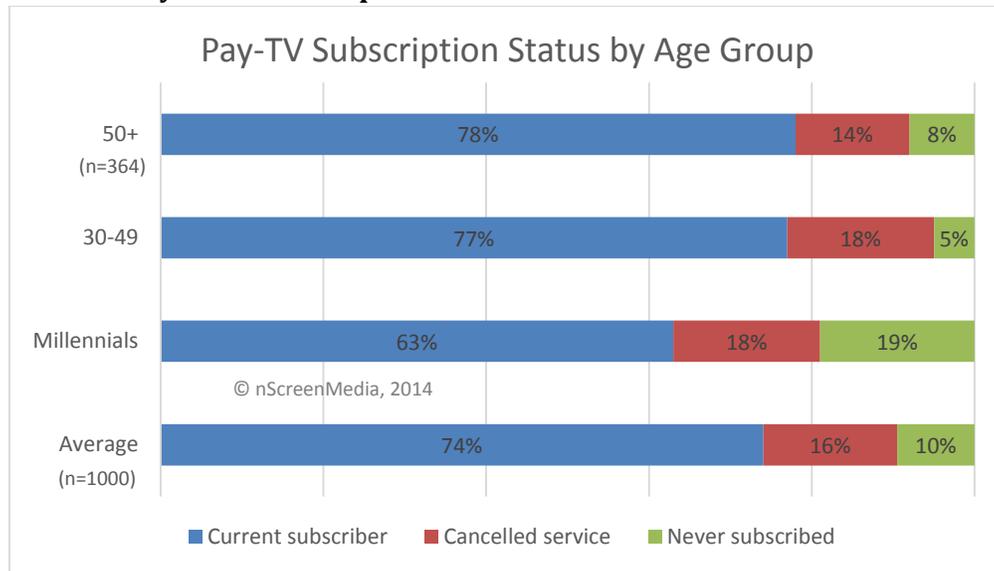


Figure 12 Pay-TV subscription status by age group

Millennials put considerably less stock by pay-TV than the rest of the population. Just 63% of 18-29 year olds with broadband report also having pay-TV. That is 11% below the average ownership and 14% lower than the 30-49 year olds. This substantial difference is probably due to the 19% that have never subscribed to the service, since cancellation rates amongst millennials are identical to the 30-49 year olds.

This data suggests that if pay-TV operators can get millennials to subscribe, they will behave much the same as other age groups (since cancellation data is the same between the two groups.) The trick is to get them to subscribe in the first place.

The biggest barrier, as we saw in section 6.2.1, is the cost of pay-TV service. This is explicitly what some operators are trying to rectify with new formulations of the pay-TV offering. For example, Dish Networks’ Chairman Charlie Ergen recently announced the company will deliver a version of their pay-TV service to subscribers over the Internet at a price of \$20-\$30 a month.^{xv} The company has already obtained an OTT license for a broad swath of content from Disney. Commenting further on the approach, Mr Ergen said:

“OTT is an experiment. It’s a skinned-down version of pay TV targeted at a different class of people that we don’t believe we or Disney are getting today.”

7 CONCLUSIONS/FINAL WORDS

Pay-TV providers have their work cut out winning back customers that have decided to cancel service. With 84% saying they are at least somewhat happy with their decision to cancel, it will take a radical approach to win them back. They also face challenges with millennials, as there is an unusually high number that have never subscribed to pay-TV.

Operators are trying new approaches to appeal to these two groups. We have already mentioned Dish's \$20-\$30 package slated to launch in the fall of 2014. Other operators are looking to their broadband to help make pay-TV services more appealing.

Verizon and AT&T are both trialing broadband anchored packages including HBO. For \$50 a month, Verizon will provide 50 mbps broadband, local TV channels and HBO. AT&T provides 18 mbps broadband, basic TV and HBO for \$39 a month.^{xvi}

Given that just 6% of pay-TV cancellers said they missed premium movies, it's unlikely that these packages will have a broad appeal in the cord-cutter group. Amongst millennials that have never had pay-TV, the combination of broadband and HBO Go access could be enough to at least get them to dip their toe into the pay-TV waters.

The remarkable growth in the use of Internet video in our daily lives is easy to rationalize as an adjunct to our "real" video diet: television. However, this would be a mistake. The data provided here, and in the previous report Store My Stuff, show how our fundamental behaviors and expectations have shifted radically in a relatively short period of time.

Consider that more broadband users watch free Internet video than pay-TV. The ubiquitous smartphone, and to some extent the tablet, is helping us fill the spaces in our lives with video. An idle moment is a chance to catch a quick news update, or sports highlight. And those idle moments are as likely to happen in front of the TV, during an ad or break in the action, as anywhere.

TV can no longer stand alone. It is but a part of an expanding video ecosystem. Can there be a better example of this expanding ecosystem than Disney's purchase of Maker Studios?^{xvii} When a mainstream content provider seeks to leverage the expertise of the king of the online video short, it's clear the world has shifted in a very fundamental way.

Finally, it is interesting to reflect on the transition of home videos. The video camera brought us the means to easily record the various stages of our lives, but this seems to be changing in the digital age. The ubiquity of smartphones and ease of sharing video through social media and the cloud have come together to allow us to create a narration of our lives as we live them.

Andy Warhol is often quoted as saying: "In the future, everyone will be world-famous for 15 minutes."² It appears that future is now.

² Although there is doubt he ever actually said it.

This paper is made possible by the generous contribution of:



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Broadcasters will continue fight to define online role

The fights between [broadcasters and Aereo](#) and [CBS and Dish Network](#) illustrate the changing world for over-the-air TV channel providers. Online is very different to the heavily regulated broadcast and cable worlds, and broadcasters will fight tooth-and-nail to control their role in it.

In the world of over-the-air delivery, broadcasters have learned how to prosper in a heavily regulated market. In exchange for the exclusive use of the scarce resource of the public airways, they accepted FCC regulation to ensure they served, at least somewhat, in the public interest. When cable came along, government stepped in to make sure local broadcasters were carried on the systems with “must-carry” legislation, and nominally compensated for their content. Every three years, broadcasters can opt out of “must-carry” and require retransmission consent from pay TV operators and negotiate their own deal.

It’s fair to say the big four broadcasters and their affiliates have prospered under this system, and local broadcasters made a pretty decent living. However, the Internet threatens to upset the cozy world that has grown up over the last 80 years. And that is why broadcasters are ready to go to the carpet with anyone that attempts to usurp their authority for self-determination online.

To be successful online broadcasters are going to have to completely reinvent the way they think about their business. Broadcast channels are, in a large part, the result of the medium upon which they are delivered. The requirement that they serve the public interest led them to be generalists; providing a mix of entertainment, news and local interest content. The restriction of broadcasting itself led to strict show timings and advertising formats.

Online, there is no government regulation of content providers, and it’s hard to see how any scheme could be brought to bear to enforce a “public interest” standard. Most web content providers tend to specialists, zeroing in on a particular content genre or audience. Bandwidth to deliver is not scarce and anyone with a website has a means to deliver content to any of the 90+million US broadband households. And the necessity to adhere to a specific broadcast time and show length is an anathema to the online video viewer.

With this as the backdrop, is it any wonder that broadcasters swore to fight Aereo to the bitter end? Sure, they were upset about the fact that they were not being compensated, but allowing a tiny tech upstart to define their online existence would have been a total disaster. Particularly since Aereo was leading with a broadcast channel, which has questionable value online. Similarly with CBS and Dish. During the negotiations, CBS was already planning to deliver a more modern approach, with broadcast channel and on-demand library. Why let Dish deliver a product less fit for online consumption?

Unlike in the traditional television world, the Internet affords broadcasters no special privileges enshrined in law. They are just one of any number of other content providers fighting for the viewers’ attention. This is a battle Netflix, Funny or Die and even we here at nScreenMedia fight on a daily basis. It is just too risky for a broadcaster to allow anyone else to fight that battle on their behalf.

Why it matters

Television broadcasters have enjoyed a privileged position, supported by laws and access to scarce broadcast resources, in the delivery of their content to consumers.

None of these privileges extend online. Broadcasters will have to fight for their audience like every other web content provider.

Broadcasters will fight any attempt to usurp their ability to position their content online as they see fit.

Many local independent TV channels will not survive transition to online

Earlier this week I wrote a piece discussing how the role of the broadcaster will shift dramatically as viewers move online. CBS, NBC, ABC, Fox and their affiliates have major resources they can bring to bear to help build out their online presence, but what about the small independent local broadcasters? How will they fair online?

With the rise of cable in the 1970s and 1980s, [the Congress recognized](#) that small local TV stations were vulnerable to losing market share if not carried by the local cable provider. Government recognized that a strong local voice in broadcasting was important to the communities served. This led to “must-carry” rules which forced cable companies to deliver all local channels within a 50-60 mile radius of the cable company’s service area. Though “must-carry” regulations have been challenged in court, they still provide a measure of protection for many local TV channels on pay TV systems.

So, local broadcasters have enjoyed privileged access to consumer homes via their broadcast signals and through local pay television providers for the last several decades or more.

In the web world, local broadcasters enjoy no such privileged access. They must compete for the online video viewer’s (OVV) attention, just like any other OTT video service. Should this be a concern to government? Are important local voices being silenced in the transition to online, as in the early days of cable? If we can count on strong net neutrality regulation, I think the answer to this question has to be no.

Network affiliates are able to leverage the assistance of the major corporation online. For example, when a consumer brings up the Watch ABC or CBS All Access apps to watch live television she is redirected to a live stream of the local (to her location) affiliate. However, this relationship does not extend much beyond the live broadcast stream. For on-demand shows through the web apps affiliate branding is weak at best. As well, Watch ABC provides no help at all in delivering the affiliates local news and weather on-demand.

Most affiliates have already established their own websites and apps to deliver the local shows online. They are leveraging the broadcast channel to tell current viewers where to find the channel’s content online, and are investing in paid search so that when a user types “local news” into Google they show up first in the list of sites.

And they will need to do all this and more if they are to survive. News and weather are rapidly becoming a commodity online with a host of websites providing it. Even local news is becoming more competitive. Newspapers, which have long suffered at the hands of television news, are finding ways to integrate video into their web sites and apps. Even regular folks are getting into the act. Citizen journalists, armed with a smartphone and a microphone, are covering the news in their neighborhoods.

For an independent station there is no help at all. Many have no online presence, and of those that do often provide little content and a very poor experience. Much of the content is available elsewhere online. For example, a TV station that exists on a diet of re-runs will find that much of that content is available online through pay services such Netflix and Hulu and free services like Crackle. Ethnic TV channels may be better covered online, since a web provider can take advantage of the Internet to build a much larger audience than a local channel can.

As it stands today, the future looks tough for local affiliate broadcasters and downright bleak for local broadcasters. As consumers move online for their TV entertainment, many local TV channels simply will not survive the transition. And those that do will find their business radically changed.

Why it matters

Government has provided special protections to local TV broadcasters to ensure they continue to serve the local community.

In the web world, these broadcasters enjoy no such protections.

They will find stiff online competition for all the content that they provide, and will have to fight hard to survive.

Given strong net neutrality regulation, if these local TV stations fail to make the transition online there will be many local web providers to replace them.

[REDACTED]

From: Dox Doxiadis [REDACTED]
Sent: Thursday, January 22, 2015 8:36 PM
To: [REDACTED]
Subject: Re: Regulation of the Market for Video Content and Distribution – Response to White Paper #6

To be brief: communities around the country need Public Access television, as well as PEG channels in general. to present their message independent of commercial considerations. Please show your support for continuing freedom of expression, and help preserve this valuable resource.

Dox Doxiadis
Mountain View, California

[REDACTED]

From: [REDACTED]
Sent: Thursday, January 22, 2015 5:36 PM
To: CommActUpdate
Cc: [REDACTED]
Subject: Support For Public Access—Public, Educational or Governmental Programming

To: House Energy & Commerce Committee

I am the President of the Eagan High School (EHS) Boys' Hockey Booster Club and I am writing to you today regarding your upcoming discussions relating to deregulation and whether to no longer require cable companies to provide public access channels or make PEG (public, educational, governmental) fee payments to support public, educational or governmental programming. I am representing 32 different families who are a part of the EHS hockey community and who appreciate local programming. We don't agree that the private sector alone would cover what needs to be covered locally. PEG supports localism in ways that other media cannot, and assists not just with building a sense of community, but fosters local programming and provides transparency into the actions of government.

Many of our parents use our local programming to keep in touch with our community by viewing a myriad of sports events, City Council meetings, graduation ceremonies, among other things. We don't want just a smart phone version for that key City Council decision but, rather, an actual permanent record with professional cameras. PEG pays for the equipment (not the salaries) used for providing that public access programming. The little over \$2 per month we pay in PEG fees (in Eagan) is worth it to get access to Council and Commission meetings, music in the park, high school sports games, locally originated content, etc. Our Varsity Hockey Head Coach, Mike Taylor, says it quite succinctly:

"As a citizen, educator, parent, and coach in this district, I believe ETV is the linchpin holding us together as a community. As a citizen, I think it is a key to allow the elderly to be able to keep up on the actions of our local government, as many can't travel to attend local government meetings. As an educator, I see students using ETV as an avenue of studying the workings of local government and current events. As a parent, I like to be able to keep up on school board events and meetings when I am unable to attend. As a coach, I think it is very important to share with the community what our youth are doing and for the community to see the dedication and talent of our young people."

Thank you for your consideration regarding this important issue.

Sincerely,
Jill Raymond
President, Eagan High School Boys' Hockey Booster Club

[REDACTED]

From: Tom Garrison [REDACTED]
Sent: Friday, January 23, 2015 7:17 PM
To: CommActUpdate
Subject: Regulation of the Market for Video Content and Distribution - Response to White Paper #6

Attention: The Honorable Fred Upton, 2183 Rayburn House Office Building
The Honorable Greg Walden, 2185 Rayburn House Office Building
& Members of the House Energy & Commerce Committee

RE: **Regulation of the Market for Video Content and Distribution – Response to White Paper #6**

My name is Tom Garrison, Executive Director of Eagan Television (E-TV) an award winning public access station in Eagan, MN offering a full range of public, educational and governmental programming.

I write in response to questions contained in White Paper # 6: **“Cable systems are required to provide access to their distribution platform in a variety of ways, including program access, leased access channels, and PEG channels. Are these provisions warranted in the era of the Internet?”**

Eagan is the 9th largest city in Minnesota and had a long tradition of bringing cable viewers local content they can't get from anywhere else. No other local media covers every City Council meeting, every City advisory commission meeting, and high school sports games and local parades and summer music in the park. It is also a stimulating forum for candidate debates and unfiltered opportunities for local candidates to get free air time in their own words to make candidate statements and for young people to experiment making their own programming and for the Eagan Fire Department to demonstrate fire safety techniques.

We appreciate the opportunity to respond to the question above. There are a number of assumptions inherent in the question above.

1. Is the requirement on cable systems to carry PEG programming burdensome?
2. Do cable companies utilizing the public rights of way have public obligations?
3. Can internet distribution simply replace cable access with no loss of capability or reach?
4. Is this an area of “deregulation” or consumer protection?

On behalf of our residents and subscribers who have also contacted you, we would answer as follows:

1. Is the requirement on cable systems to carry PEG programming burdensome?

First of all, most of the PEG requirement is on the consumer. They are the ones that pay a small monthly fee to ensure local programming has the equipment it needs to cover and make transparent the actions of government, the games and the concerts and such. In more than 25 years we have never had a PEG fee complaint from a consumer. It is their money, not the cable company's. At worst, in return for the billions of dollars the industry receives, they are required to make some channel availability accessible to the public, and process and remit the PEG fees paid by subscribers. Their prices, unlike phone, gas, or electric services are completely unregulated. Even though cable service is routinely the top one or two in consumer complaints, no federal or state agency is staffed to take those complaints. Additionally, the cable companies—at their option—are allowed to pass on to the public an FCC regulatory fee for the cost of regulatory compliance. Industry revenues are almost triple what they were in 1999. In Eagan's case, should the cable company complete renewal of even a 10-year franchise, and using conservative 2011 industry numbers, Comcast (or its successor if they are allowed to leave MN) will achieve \$136.08 million in revenues over the life of a new franchise. That's just for cable. If you add in Internet and telephone that's another \$133,333,333. Even assuming there is a burden for passing

along the consumers own local PEG fee to us, is there a burden in supplying some spectrum for local channels and interests compared to the enormous sums that are reaped? That is simply not the case.

2. Do cable companies utilizing the public rights of way have public obligations?

Ultimately, Congress and the FCC must make those calls, but we are talking about strengthening communities by being able to transparently provide access to the actions of City Councils and County and School Boards, educational content produced by our youth that people want to see, music in the parks for seniors and shut-ins. Homeland Security has recognized that the network of public access stations is yet one more vital way to communicate emergency messages. The companies are utilizing the public rights of way within our communities, and it is reasonable to expect that they give something back that benefits the public.

3. Can internet distribution simply replace cable access with no loss of capability or reach?

Many municipalities are starting to stream video content to the public, as is Congress. But it takes broadcast quality equipment to most clearly capture the important moments and minutes in a community's history. PEG funding pays for that vital equipment. Without that equipment funding, Congress would be shuttering local public access stations catering to local interests. To compare what a broadcasting production truck with field cameras and a switcher can produce to what a resident could capture on their iPhone is to do a disservice to the hours of programming recorded by PEG access centers annually. As it is, cable systems have been taking away lower priced channel offerings from consumers by bonding them together as HD channels and charging more for them, with local PEG channels often still distributed in less desirable analog signals. Municipalities and PEG access centers would be hard pressed to capture and cablecast vital local programming (that our public has told us again and again they want) without the equipment PEG fee revenue provides. One thing more. There is an assumption within the assumption, that everyone has Internet connectivity. Indeed, according to our latest resident survey, 11% of Eagan residents do NOT have access to the Internet at home or work, and another 3% only have access at work. Internet distribution only would harm public access to local programming.

4. Is this an area of "deregulation" or consumer protection?

As pointed out previously, what hasn't been deregulated is a cable company's ability to pass along to consumers the cost of its regulatory compliance with the telecommunications laws of this nation. In Eagan, consumers are not asking for PEG fee deregulation, especially when they know that some of our staff time is made specifically available to help our residents make expedited complaints to the cable company when they have been unable to get those complaints resolved through the normal customer service channels, which have consistently been poorly ranked by JD Powers and other rating agencies. In more than 25 years we have never had a PEG fee complaint from a consumer. Our assistance helps both the consumer and the cable company when complaints are resolved quickly, avoiding additional consumer frustration, service cancellations and churn.

We would respectfully request that the Members of the House Energy & Commerce Committee consider these points and maintain both PEG fees and the availability of appropriate PEG channel capacity in a technical quality equal to what consumers expect from their other local broadcast channels. To do otherwise is to do harm to consumers, local communities, and the availability of programming that speaks to local needs.

Cordially Yours,

Tom Garrison
Eagan Television
Eagan, MN

Tom Garrison | Local Franchise Administrator and Executive Dir. of Eagan Television | City of Eagan
City Hall | [REDACTED]



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[REDACTED]

From: Rosemary Dosch [REDACTED]
Sent: Monday, January 19, 2015 3:56 PM
To: CommActUpdate
Cc: [REDACTED]
Subject: Regulation of the Market for Video Content and Distribution- Response tp White Paper #6

I an a member of Eagan Women of Note, a community choir whose formal concerts have been recorded by Eagan TV and broadcast to the public. I also sit on the Board of Directors and am responsible for setting up engagements at nursing homes, veterans' facilities, and community organizations throughout the area. When Eagan TV broadcasts our concerts, these groups enjoy our music on television and are also eager to have us perform in person at their facilities. We delight in bringing music to those who cannot get out to attend our formal concerts.

Please continue to support public television in order to allow us and others to continue our work in the community. Our veterans and elders deserve the joy that music brings.

Rosemary Dosch
Eagan Women of Note
Engagements Chair



50 Oliver Street
Suite 201a
Easton, MA 02356

January 23, 2015

The Honorable Fred Upton
2183 Rayburn House Office Building
Washington, DC 20515

The Honorable Greg Walden
2185 Rayburn House Office Building
Washington, DC 20515

Re: Regulation of the Market for Video Content and Distribution – Response to
White Paper #6

PEG channels have been extremely valuable in Easton, Massachusetts. Last year our community media center, ECAT, Easton Community Access Television helped produce and facilitate over 550 hours of locally produced original programming. Produced by and for Easton, these shows represented a variety of viewpoints and demographics - from 9 year old to 95 year olds. On complicated community issues, the PEG cable channels helped ensure government transparency on zoning and regulation issues. Along with student leadership development, the PEG channels also broadcast high school sports and concerts.

Our Town officials, residents and businesses have embraced this vital and unique community resource. In our five years of existence we have created a new and trusted local resource through our PEG channels.

Sincerely,
Jason Daniels
Executive Director
Easton Community Access Television



www.eastoncat.org