

Testimony of

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Before the

Committee on Commerce, Science and Transportation
United States Senate

**“Broadcast to Broadband: Completing the Digital Television
Transition Can Jumpstart Affordable Wireless Broadband”**

July 12, 2005

Thank you, Mr. Chairman and members of the Committee, for this opportunity to testify today. My name is Michael Calabrese, Vice President of the New America Foundation, a nonpartisan policy institute here in Washington. I direct New America’s Wireless Future Program, which is dedicated to promoting more efficient and fair access to the public airwaves.

I will focus largely on the opportunity to use this DTV legislation to advance the national interest in more rapid and affordable deployment of high-speed broadband access, particularly in rural and other underserved areas. Because the market value of the channels designated for auction vastly exceed the Committee’s budget requirements, I believe the Committee should use this bill to pursue policies that will be far more beneficial to the nation than a budget-driven bill that merely maximizes short-term auction revenues.

Several years ago we began urging members of this Committee to set a hard deadline for the end of the digital TV transition – and to make that deadline realistic by earmarking a portion of the resulting spectrum revenue to compensate consumers needing to purchase a digital-to-analog converter box. TV channels 52 to 69 have become a vast wasteland of underutilized airwaves that are urgently needed for both public safety and for wireless broadband services. On average, a high-power TV station operates on each of those channels in only 7 percent of the nation’s 210 local television markets; and in every market, a low and steadily shrinking share of American homes rely on over-the-air (OTA) reception at all (see Table 1 below).

Table 1: How U.S. TV Households Receive Television: 1994 vs. 2004¹

TV Households in the United States	Dec. 1994 (Millions)	Dec. 1994 (Share of All TV Households)	June 2004 (Millions)	June 2004 (Share of all TV Households)	Change (%)
Over the Air Only	31.5	33%	16.1	15%	-48.9%
Total MVPD Subscribers*	63.9	67%	92.3	85%	44.4%
<i>Cable</i>	59.7		66.1		
<i>DBS</i>	0.6		23.2		
<i>Other</i>	3.6		3.0		

*MVPD = Multichannel Video Programming Distributors are Cable, DBS, and other services

The Importance of Reallocating Airwaves from Broadcast to Broadband

The DTV transition no longer has anything to do with high-definition TV, or with U.S. competitiveness in TV manufacturing, as Congress was led to believe a decade ago. Today the true threat to American competitiveness is the lack of affordable, high-speed Internet access for millions of homes and small businesses. The U.S. has fallen from 3rd to 16th in broadband adoption worldwide over the past five years, according to the International Telecommunications Union (ITU). Last fall, a *Fortune* magazine cover story reported that “nearly everyone in South Korea has Internet access that puts Americans to shame.” In South Korean cities, “broadband is as basic a utility as water and electricity . . . ordinary households get faster Internet connections than all but the biggest U.S. businesses.” The typical cable and telephone broadband connection here is ten times slower than the 20 megabits-per-second speeds offered in South Korea for the same price or less. This “broadband gap,” if it continues, will result in slower rates of U.S. innovation, e-business creation, job growth and technological competitiveness in an increasingly digital world.

Table 2: International Broadband Adoption: Selected Rankings²

Rank	Country	Broadband subscribers per 100 inhabitants
1	South Korea	24.9
2	Hong Kong	20.9
3	The Netherlands	19.4
4	Denmark	19.3
5	Canada	17.6
16	United States	11.4

The DTV transition provides an opportunity for Congress to open a third and more affordable broadband pipe to homes and small businesses. Industry studies show that because TV band frequencies (700 MHz band) propagate easily through obstacles, such as walls and trees, access to these low frequencies can reduce the deployment costs for wireless networks by a factor of three or more compared to cellular bands above 2 GHz. Congress can choose to rely on the cable and telco wireline duopoly to trench fiber to every home and business – or at least those in locations that will be

¹ 2004 Data: FCC, "Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming: Eleventh Annual Report," January 14, 2005. Available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-13A1.pdf; 1994 Data: FCC, "Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming: Second Annual Report," December 11, 1995. Available at: <http://www.fcc.gov/Bureaus/Cable/Reports/>

² International Telecommunications Union, cited in *National Journal*, available at: <http://www.njtelecomupdate.com/lenya/telco/live/tb-QGBX1114459808856.html>

profitable to connect. Or we can open the broadband pipe the public already owns – the public airwaves – as a common carrier for communities, entrepreneurs and innovation.

Because of the urgent need to reallocate these frequencies, it is critical that that Congress not repeat the mistake of the Balanced Budget Act of 1997. In an effort to score revenue, the 1997 OBRA set a deadline for TV band auctions, but not a policy to ensure that the spectrum would be cleared by a date certain. As a result, in 2002 most of the auctions were canceled or generated very low returns for one primary reason: wireless firms are not willing to pay market prices for spectrum indefinitely encumbered by politically-powerful TV stations. But a credible hard deadline for channel clearance – one reinforced by a broad consumer compensation program – can spin straw into gold. In addition to cellular incumbents, many new wireless service providers are expected to bid on 700 MHz licenses, as they are so well suited for video, mobile and other consumer broadband applications. Based on recent private spectrum transactions and public bids – for cellular spectrum with far less valuable propagation characteristics – the 10 channels that could be licensed are expected to generate between \$15 and \$30 billion.³

The tremendous market value of the 10 channels (60 MHz) available for auction gives Congress the leeway to avoid passing another shortsighted, budget-driven bill. Because auctioning even 40 MHz of TV band spectrum will generate \$10 billion or more, we recommend that Congress use this opportunity to make three telecom policy investments with long-term benefits for the general public:

- A broad-based consumer converter box rebate that ensures all households that still rely on analog over-the-air reception are held harmless.
- The reallocation of 20 of the 60 MHz of spectrum available for wireless services to *unlicensed* broadband networks, as well as the opening of unassigned DTV channels in each market for sharing by low-power unlicensed devices.
- The earmarking of TV band auction revenue in excess of the CBO “score” into a trust fund to help finance the digital future of public broadcasting and e-learning technologies.

The “Last Granny Rule”: A Small Share of the Auction Revenue Can Compensate Consumers and Ensure No Additional Delay in Reallocating TV Frequencies

Because “free” TV has taken on the nature of an entitlement in American culture, legislation that makes analog TV sets obsolete will be keenly felt, even in middle-class homes, as a type of “taking.” This is the unwritten obstacle to ending the DTV transition that we have called the “Last Granny Rule”: even if the FCC or Congress sets a hard deadline, it will be subject to delay (or defeat) if a substantial share of voters relying on

³ See the market analysis by the Brattle Group, in the letter from William P. Zarakas and Dorothy Robyn, Principals, Brattle Group, to the Hon. Joseph Barton, May 18, 2005, available at <http://www.brattle.com/documents/News/News253.pdf>.

analog OTA view the government as making their TVs useless without the purchase of a converter box (or new DTV). Manufacturers, including LG/Zenith and Zoran, now estimate that in mass production, a digital-to-analog converter would sell for \$50.⁴

Table 3: The Cost of Four Options for a DTV Transition Consumer Subsidy⁵

Household Eligibility based on reliance on over-the-air (OTA) TV	Number of Households Eligible	Subsidy / Converter	Assumed Take-up Rate	Total Cost (100% Subsidy)	Cost as % of Likely Auction Value of Unencumbered Spectrum (\$20B) ⁶
Option #1 Only low-income OTA exclusives; Limit one set / household	7.09 m (44% of OTA-only households)	\$50	7.09 m (100 %)	\$355 million	1.8%
Option #2 All exclusive OTA households; Limit one set / household	16.1 m (15% of 108.4 m TV households)	\$50	16.1 m (100%)	\$805 million	4.0%
Option #3 All TV households; Limit one set / household	108.4 m (16.1 m OTA + 92.3 m non-OTA)	\$50	43.8 m (100% of OTA + 30% of non-OTA) ⁷	\$2.2 billion	11.0%
Option #4 (NAB Scenario)⁸ All OTA sets in all households	108.4 m (16.1 m OTA + 92.3 m non-OTA)	\$50	73 m (45m sets in OTA + 28m sets in non-OTA hh's)	\$3.6 billion	18.0%

⁴ Leading manufacturers project a range of \$50 (LG/Zenith, Zoran) to \$67 (Motorola), assuming industry-wide demand of 10 million units. See "Tech Company Touts Solution to Quick DTV Transition," *Communications Daily*, May 2, 2005, and FCC MB Docket No. 04-210, *Media Bureau Staff Report Concerning Over-the-Air Broadcast Viewers*.

⁵ The FCC's *Report Concerning Over-the-Air Broadcast Television Viewers* notes that 14.98% of U.S. TV households rely exclusively on OTA, citing the 2005 MVPD Report. See: FCC, "Media Bureau Staff Report Concerning Over-the-Air Broadcast Viewers," February 28, 2005, and FCC, "Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming: Eleventh Annual Report," January 14, 2005. Available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-13A1.pdf

⁶ Market Value of unencumbered spectrum is at least \$20 billion at \$1.65 per MHz/pop, based on the FCC's valuation of the Nextel spectrum swap, and recent private cellular license sales, as above.

⁷ NAB/MSTV data indicates 28 million unwired sets are in use in the nation's 92.3 cable/DSL households. See NAB/MSTV, Comments, *In the Matter of Over-the-Air Broadcast Viewers*, August 11, 2004, MB Docket 04-210.

⁸ Option #4 is the solution most called for by the NAB, which assumes that a converter subsidy be made available for every analog TV set in all households that rely on OTA (i.e., all sets not connected to cable, DBS, or another subscriber service.)

By earmarking a relatively small share of the expected auction revenues for a consumer compensation fund, Congress can both protect vulnerable consumers while also ensuring potential wireless bidders that their business plans won't be disrupted by a voter backlash. As the table just above demonstrates, providing one \$50 converter box to each of the 16 million households that rely exclusively on OTA reception would cost about \$800 million. The cost of one converter box for each of the nearly 44 million households (including 28 million cable and DBS subscribers) that report relying at all on OTA reception is \$2.2 billion.⁹ In either case, the cost represents merely a fraction of the revenue that TV band auctions will raise *if, and only if*, bidders are confident the deadline for clearing those channels will not again be delayed.

Options for Making Consumer Rebate Generally Available

1. A consumer mail-in rebate

- Advantages: Rebate forms can be used to limit eligibility – or limit the number of subsidies per household – by tracking consumer information.
- Disadvantages: Consumers must pay up-front before getting a refund, which disproportionately impacts low-income and fixed-income households; the paperwork required to process rebate applications would be costly for both consumers and government; it may be impossible to limit the subsidy to low-income households without costly and intrusive cross-checking through IRS.

2. A qualified retailer rebate

- Advantages: Consumers are not required to pay anything up-front; offering the converter “free,” or at very low-cost (co-pay), eliminates “red tape” for the customer, reduces administrative costs and enhances satisfaction with process; participating retailers could be required to offer optional installation and/or technical support services.
- Disadvantages: Retailers cannot limit the eligibility, or number of converter subsidies, by household (individuals acquiring converters from multiple stores); limits could be enforced only by mailing a coupon to each eligible household (e.g., one per household via counties).

3. A refundable tax credit (refund occurs whether there is a tax liability or not)

- Advantages: Easier to confer a means-tested subsidy; reduces fraud by linking to consumer information; administratively efficient if done during a single tax year.
- Disadvantages: Lower take-up rate possible among low-income households who lack easy access to tax information, or do not file taxes at all; substantial time-delay between purchase and the tax refund; additional tax form complexity.

⁹ NAB/MSTV data indicates 28 million unwired sets are in use in the nation's 92.3 cable/DSL households. Approximately 30% of subscription TV households would thus have any use for a converter subsidy. *See* NAB/MSTV, Comments, *In the Matter of Over-the-Air Broadcast Viewers*, August 11, 2004, MB Docket 04-210.

We believe that a means-tested compensation program is neither administratively practical nor fair. Verifying eligibility requires access to tax return information – which rules out rebating the subsidy directly to retailers. A mail-in application (Option 1 above), premised on the consumer’s estimate of family income, would raise concerns about privacy and accuracy. While a refundable tax credit (Option 3 above) could piggy-back the existing individual tax return process by adding a line for a single tax year, consumers would need to pay first, wait months for a refund, and be able to show a proof of purchase if audited. It would also deter low-income earners not required to file.

Because the auction of the *public’s* airwaves will generate more than enough revenue to compensate consumers, it seems only fair to offer at least one rebate to each household. Indeed, the government’s failure to require warnings on analog TVs purchased during the past five-to-ten years will only heighten the perception among the middle-class that they should be compensated for a policy change that forces them to purchase a converter box or new digital TV. Although the 18-month transition in Berlin, Germany relied on a means-tested subsidy – the government purchased and distributed DTA converters directly to 6,000 very low-income households – more affluent households also immediately received a far greater number of digital OTA channel selections in return for purchasing a converter or new DTV.

If the Committee does not choose to means-test the consumer rebate, we believe that on balance it will be most cost-efficient to reimburse “qualified” retailers (Option 2 above). These retailers would need to agree to offer converters certified by the FCC, to limit the consumer share of the cost (e.g., a small “co-pay”), and to provide a degree of technical support. If eligibility is limited to one rebate per household, a coupon could be mailed to each household. If possible, any rebate program should give consumers the choice to use it to offset the cost of a converter box, a new digital TV, or even a satellite dish or cable set-top box, since any of these devices will preserve access to broadcast channels and serve the policy purpose of the DTV transition.

The DTV Transition Should Facilitate Both Licensed and Unlicensed Wireless Broadband Deployment, Particularly in Rural Areas

New wireless networks are extending more affordable broadband access to new communities in every state, spurring economic development and helping to bridge the digital divide. Clouds of wireless connectivity now cover college campuses and downtown business districts – “hot zones” that expand on the WiFi “hot spots” now offering unwired Internet connections at 18,000 locations nationwide.¹⁰ These zones, in turn, are becoming clouds, extending ubiquitous broadband access to entire towns and counties. Commercial wireless Internet service providers (WISPs) are connecting homes, farms and small businesses to broadband at distances of up to 30 miles. Municipal networks – in small towns like Chaska, Minnesota, and in rural villages like Coffman Cove, Alaska – are blanketing under-served areas with high-speed Internet access at affordable prices. In other towns – such as Scottsburg, Indiana – public-private

¹⁰ “Warp Speed for Wireless Networks,” *Business Week*, June 21, 2005.

broadband networks have saved jobs by keeping businesses from moving out. And in other towns – such as Granbury, Texas and San Mateo, California – these same networks serve as mobile communications systems for police and other public safety agencies.

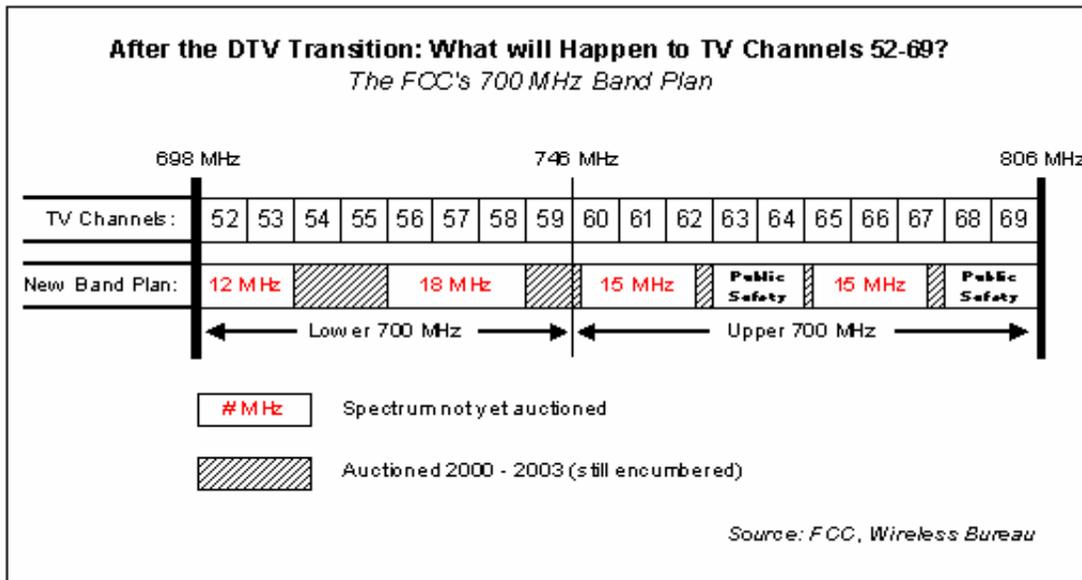
What all of these innovative broadband networks have in common is the tiny sliver of *unlicensed* frequencies they use to transmit signals. In fact, far more homes and small businesses now rely on wireless Internet services delivered over unlicensed spectrum, while very few last-mile broadband connections (and zero municipal wireless hot zones) have been deployed on licensed bands. Thousands of mostly rural commercial internet service providers (WISPs), and dozens of municipalities and non-profit community networks, already use the crowded 2.4 GHz unlicensed band to deploy wireless connections to hundreds of thousands of businesses and consumers. Unlicensed spectrum has spurred billions of dollars in economic activity, saved jobs, and opened up new opportunities for local economic development, particularly in rural areas.

Wi-Fi is just the beginning of a wireless paradigm shift – a radio revolution premised on shared, *unlicensed* access to the airwaves that will determine if the U.S. will be a leader or a laggard in the next generation of Internet technologies. Like licensed cellular providers, who need more and better spectrum to meet the growing demand for wireless data services, an allocation of low-frequency spectrum for shared, unlicensed access will promote the deployment and lower the cost of Internet access provided by entrepreneurial WISPs and community networks. The problem is that the WiFi band (2.4 GHz) is small, uneconomical and shared with well over 200 million consumer devices, from microwave ovens to cordless phones and baby monitors. Opening returned (and unassigned) TV band spectrum for WISP and community access on an unlicensed basis will greatly stimulate broadband deployment, rural access and growth in America's high-tech sector.

We recommend that Congress use the DTV transition to encourage *both* licensed and unlicensed wireless broadband networks as competitive alternatives to wireline cable and DSL offerings. DTV transition legislation can accomplish this in two ways:

First, from the 60 MHz (10 channels) in the 700 MHz band now designated by the FCC for auction and exclusive licensing, the FCC should be directed to reallocate 20 MHz for shared, unlicensed use under Part 15 rules. Even if only 40 MHz is auctioned for exclusive use, this is in addition to the 90 MHz reallocated for auction next year under the Commercial Spectrum Enhancement Act signed into law just last December. In the low-frequency, high-penetration frequencies below 2 GHz (the “beachfront” spectrum), 26 MHz is currently allocated for unlicensed devices versus roughly 290 MHz for licensed cellular services.¹¹

¹¹ In the nearby but less valuable 2-3GHz band, the ratio of licensed cellular to unlicensed spectrum is less than the ratio below 2GHz, but still more than two to one. The unlicensed WiFi band at 2.4GHz has 83.5MHz of spectrum, but the licensed cellular bands, mostly at 2.5GHz, occupy more than 200 MHz of spectrum.



Second, the bill should direct the FCC to complete its pending rulemaking (Docket 04-186) that would open unassigned TV channels below Channel 52 for unlicensed public access, subject to rules designed to avoid risk of harmful interference to the dwindling number of over-the-air DTV consumers. Even after the DTV transition, Channels 2 through 51 – 288 MHz of prime spectrum – remain designated exclusively for TV broadcasting. Yet only about seven TV stations are licensed to operate at full power in each market, on average. Even fewer stations operate in some rural markets. As former FCC Chairman Michael Powell recognized when he initiated the notice of proposed rulemaking last year, the unassigned “white space” can be opened, on a market-by-market basis, for shared, unlicensed use by operators using equipment certified by the FCC to ensure there is no interference with licensed DTV stations on nearby frequencies.

Unfortunately, this rulemaking has drawn intense opposition from the broadcast lobby, which would rather keep open the possibility of owning or using today’s wasted guard band spectrum in the future. To ensure that this vast “white space” wasteland is used for affordable broadband and wireless innovation more broadly, we recommend that Congress adopt findings to that effect and direct the FCC to complete the proceeding within six months.

Auction Revenue Above the ‘Score’ Should be Designated to Capitalize a Trust Fund for the Digital Future of Public Broadcasting and E-Learning Technology

While reclaiming spectrum for public safety and advanced wireless services is critical, we urge Congress to take advantage of the resulting auction revenue windfall to ensure that our nation’s public service media can thrive in this digital future. Public broadcasting is uniquely positioned to be a leading part of the solution to many of the fundamental challenges facing our society. It can harness digital technologies to expand

public media services in education, homeland security, public health and civic affairs that would not otherwise be available on commercial channels – and it can create wholly new and dynamic approaches over both added digital channels and over the Internet and other new media platforms. Nowhere is an enhanced role for public service media more vital than for early childhood learning, as well as for learning lifelong. America’s classrooms and homes could better boost academic achievement if they had ready access to the high-quality multimedia resources that are needed to engage teachers and students in information age learning.

Over the past six months I have had the honor of directing the Digital Future Initiative, a panel of prominent leaders from both inside and outside of the public broadcasting system, has been meeting to consider how public broadcasting should reshape its role and exploit emerging digital technologies to meet critical public needs, particularly in education. This Digital Future Initiative, co-chaired by Jim Barksdale, the former CEO of Netscape, and Reed Hundt, former Chairman of the Federal Communications Commission, will issue a report by September that will describe why an investment in a modernized and expanded public service media system would be so beneficial for the nation. We hope you will consider this need in thinking about the value of reinvesting spectrum revenue to enhance the nation’s digital future.

Any auction of the people’s airwaves should be seen as an opportunity to invest in the digital future of our public media and educational institutions. As noted earlier, because the TV band auctions are likely to yield more revenue than the Congressional Budget Office will officially project, we recommend that the proceeds exceeding the CBO “score” be earmarked to capitalize a trust fund to finance ongoing investments in both educational media and e-learning content and applications. Legislation that does exactly this was introduced by two members of this committee in May. Senators Snowe and Burns, along with Senators Dodd and Durbin, have introduced a trust fund proposal that would be funded from earmarked spectrum revenue – the Digital Opportunity Investment Trust (DOIT) Act. The DOIT Act calls for the creation of a trust to finance, among other things, the digitization of materials stored in museums and libraries, as well as research and development to improve digital educational content, media and methods. The DOIT Act includes an annual 21% set-aside to public broadcasting entities for digital educational content development.¹² That Act should be incorporated into the DTV transition legislation.

Finally, while broadcasters lobby for multicast must-carry rights, they oppose any expansion of their public interest programming obligations. The U.S. stands apart from the developed world in giving commercial broadcasters free must-carry rights *and* the option to negotiate payments from cable and DBS systems (retransmission consent).¹³

¹² See the Digital Opportunity Investment Trust Act, introduced in the Senate (as S.1023) on May 12, 2005 by Senators Dodd (D-CT), Snowe (R-ME), Durbin (D-IL), and Burns (R-MT), and in the House (as HR.2512) on May 19, 2005 by Representatives Regula (R-OH), Markey (D-MA), and Gillmor (R-OH).

¹³ See J. H. Snider, “Should DTV Must-Carry Be Expanded, Sunset, Or Preserved As-Is?” (Washington, DC: New America Foundation, May 2005), especially Appendix A: “A Comparison of European Union and U.S. Must-Carry Regulations.”

Licensees should be required to use DTV's enormously increased capacity to expand the coverage of diverse viewpoints and of local civic affairs and election contests. In exchange for their far more valuable DTV licenses, Congress could require broadcasters to air a minimum of three hours per week of local civic or electoral affairs programming.¹⁴ Studies have shown the many ways in which broadcasters fail to deliver meaningful coverage of local civic and electoral affairs:

- Local public affairs accounts for less than one half of one percent of all programming on local television stations, according to a 2003 study.¹⁵
- Elections below the presidential level receive meager coverage. During several weeks leading up to the 2002 midterm elections, most newscasts on local TV stations contained virtually no election coverage at all.¹⁶
- While cutting campaign coverage, broadcasters are airing more – and making more money from – paid political advertising than ever before. In the 2004 elections, candidates, parties and independent groups spent \$1.6 billion on TV ads in the nation's 100 largest media markets— more than double the \$771 million spent in 2000.¹⁷

We believe that like the current minimum standard for airing children's educational programming, a license renewal processing guideline that called on stations to air a minimum amount of programming related to local civic issues and elections, under their own editorial control, would not present constitutional problems. Alternatively, commercial broadcasters should pay an annual spectrum user fee to finance a trust fund for the digital future of public broadcasting and educational content more broadly.¹⁸

Conclusion

Local TV broadcasting, perhaps the most profitable legal business in America today, has arguably received the largest government subsidies in U.S. history. Yet there is no end in sight to the digital TV transition. Every year this delay imposes an opportunity cost of

¹⁴ The Public Interest, Public Airwaves Coalition (PIPAC), of which the New America Foundation is a member, has proposed to the FCC a quantifiable and verifiable public interest test. For more information, visit the Campaign Legal Center's PIPA Coalition website at: <http://www.ourairwaves.org/fcc/>.

¹⁵ See "Broadcasters 'Black Out' Public Affairs Programming, New Study Finds," Alliance for Better Campaigns Press Release, October 22, 2003. Available at: <http://www.bettercampaigns.org/press/release.php?ReleaseID=50>

¹⁶ See "Most Local TV Newscasts Are Ignoring the 2002 Mid-Term Elections," Alliance for Better Campaigns Press Release, October 16, 2002. Available at: <http://www.bettercampaigns.org/press/release.php?ReleaseID=37>

¹⁷ See "Political Ad Spending on Television Sets New Record: \$1.6 Billion," Alliance for Better Campaigns Press Release, November 24, 2004. Available at: <http://www.bettercampaigns.org/press/release.php?ReleaseID=65>

¹⁸ Former FCC General Counsel Henry Geller has proposed monetizing broadcasters' public interest obligations in this manner. See Henry Geller and Tim Watts, "The Five Percent Solution: A Spectrum Fee to Replace the 'Public Interest Obligations' of Broadcasters," (Washington DC: New America Foundation, May 2002).

tens of billions of dollars on taxpayers and consumers who are deprived of both payment for commercial use of the public airwaves and the economic value that spectrum-starved wireless broadband services providers could provide more efficiently at low frequencies.

We urge Congress to foreclose any further delay by setting a fixed deadline for the return and clearance of TV Channels 52-69. The best means to this end is a broad-based consumer converter box rebate that ensures all households that still rely on analog over-the-air reception are held harmless. The resulting certainty will ensure the public receives full market value from the auction of a portion of the return channels. However, we also strongly recommend that roughly one-third (20 MHz) of the TV band spectrum reallocated for wireless services be reserved for shared, unlicensed wireless broadband, which is particularly important for extending affordable Internet access to rural and other under-served areas.

Finally, we recommend that auction revenue that exceeds the CBO “score” be designated to capitalize a trust fund to finance the digital future of public broadcasting and for e-learning services, such as in the proposed Digital Opportunity Investment Trust legislation.

Thank you again for this opportunity to testify. I will be most happy to respond to any questions or to assist staff as the Committee develops its own solution to this important problem.

Summary: Testimony of Michael Calabrese
Vice President & Director, Wireless Future Program, New America Foundation
Senate Committee on Commerce, Science and Transportation
July 12, 2005

TV channels 52 to 69 have become a vast wasteland of underutilized airwaves that are urgently needed for both public safety and for wireless broadband services. Because of the urgent need to reallocate these frequencies, it is critical that that Congress not repeat the mistake of the Balanced Budget Act of 1997, a bill which set a deadline for TV band auctions, but not a policy to ensure that the spectrum would be cleared by a date certain. A credible hard deadline for channel clearance – one reinforced by a broad consumer compensation program – can spin straw into gold. Recent private spectrum transactions demonstrate that the 10 returned TV band channels (60 MHz) available for auction are expected to generate between \$15 and \$30 billion. We recommend that Congress avoid passing another shortsighted, budget-driven bill and use this opportunity to make three policy investments with long-term benefits for the general public:

1. A broad-based consumer converter box subsidy that ensures all households that still rely on analog over-the-air reception are held harmless.

We believe that a means-tested compensation program is neither administratively practical nor fair. Because the auction of the *public's* airwaves will generate more than enough revenue to compensate consumers, it seems only fair to offer at least one rebate to each household. If the Committee does not choose to means-test the consumer rebate, we believe that on balance it will be most cost-efficient to reimburse “qualified” retailers, who would need to agree to offer converters certified by the FCC, to limit the consumer share of the cost (e.g., a small “co-pay”), and to provide a degree of technical support. If eligibility is limited to one rebate per household, a coupon could be mailed to each household. If possible, any rebate program should give consumers the choice to use it to offset the cost of a converter box, a new digital TV, or even a satellite dish or cable set-top box, since any of these devices will preserve access to broadcast channels and serve the policy purpose of the DTV transition.

2. The reallocation of 20 of the 60 MHz of spectrum available for wireless services to *unlicensed* broadband networks, as well as the opening of unassigned DTV channels in each market for sharing by low-power unlicensed devices.

The lack of affordable, high-speed Internet access for millions of homes and small businesses in the US is a threat to American competitiveness. The U.S. has fallen from 3rd to 16th in broadband adoption worldwide over the past five years. We recommend that Congress address this “broadband gap” by using the DTV transition to encourage *both* licensed and unlicensed wireless broadband networks as competitive alternatives to wireline cable and DSL offerings. First, from the 60 MHz (10 channels) now designated for auction and exclusive licensing, the FCC should be directed to reallocate 20 MHz for shared, unlicensed use. Second, the FCC should be instructed to complete its pending rulemaking (Docket 04-186) that would open unassigned TV channels below 52 for unlicensed public access, subject to rules for avoiding interference.

3. Earmarking TV band auction revenue in excess of the CBO “score” into a trust fund to finance the digital future of public broadcasting and e-learning technologies.

Any auction of the people’s airwaves should be seen as an opportunity to invest in the digital future of our public media and educational institutions. The proceeds exceeding the CBO “score” could be earmarked to capitalize a trust fund to finance ongoing investments in both educational media and e-learning content and applications. We recommend that the Digital Opportunity Investment Trust (DOIT) Act, introduced by Senators Snowe and Burns in May, which earmarks spectrum revenue for these purposes, be incorporated into the DTV transition legislation.