

November 2007

# DIGITAL TELEVISION TRANSITION

## Increased Federal Planning and Risk Management Could Further Facilitate the DTV Transition





Highlights of [GAO-08-43](#), a report to congressional requesters

## Why GAO Did This Study

The Digital Television Transition and Public Safety Act of 2005 requires all full-power television stations to cease analog broadcasting by February 17, 2009. Following this digital television transition, consumers who receive over-the-air television signals on analog sets will need to take action to be able to view digital broadcasts. The act also requires the National Telecommunications and Information Administration (NTIA) to create a program that subsidizes consumers' purchases of digital-to-analog converter boxes. This requested report examines progress made (1) by federal entities and others in facilitating the transition, (2) in educating consumers on the transition, and (3) in implementing the converter box subsidy program. GAO reviewed legal, agency, and industry documents; interviewed public, private, and other stakeholders; and convened an expert panel focused on consumer outreach.

## What GAO Recommends

GAO recommends that FCC, in conjunction with public and private stakeholders, develop a comprehensive plan for the various aspects of the DTV transition. In commenting on this report, FCC and the Department of Commerce (which contains NTIA) noted the steps they had taken to facilitate the transition, but neither indicated whether they agreed or disagreed with the recommendation. A more detailed discussion of their comments is in our report.

To view the full product, including the scope and methodology, click on [GAO-08-43](#). For more information, contact Mark L. Goldstein at (202) 512-2834 or [goldsteinm@gao.gov](mailto:goldsteinm@gao.gov).

## DIGITAL TELEVISION TRANSITION

### Increased Federal Planning and Risk Management Could Further Facilitate the DTV Transition

#### What GAO Found

The Federal Communications Commission (FCC) and NTIA, in conjunction with other stakeholders, have taken actions to facilitate the digital television (DTV) transition. FCC has primary responsibility to regulate the broadcast television industry and, as such, has set deadlines for broadcasters to upgrade station equipment and conducted periodic reviews related to the transition. NTIA has issued a contract for services related to its converter box subsidy program. Industry stakeholders, including broadcasters, have begun to prepare for the transition. Despite these efforts, GAO found no comprehensive plan or strategy to measure progress and results. Such planning includes managing and mitigating risks, which can help organizations identify potential problems before they occur and target limited resources. GAO has reported on the benefits of risk management in helping organizations involved in high stakes efforts similar to the DTV transition.

FCC, NTIA, industry, and other private sector stakeholders have made progress in educating consumers about the DTV transition, but these efforts are mostly in the planning phase, and challenges remain. Both FCC and NTIA have developed informational materials on the transition and begun reaching out to consumer and stakeholder groups. Private sector stakeholders are leading consumer outreach efforts on a voluntary basis. This includes developing a coalition of over 160 business, trade, and other organizations committed to providing consumers with information about the transition; planning public service announcements; developing Web sites; and encouraging media coverage. An expert panel GAO convened identified key practices for consumer education planning, including coordinating among stakeholders, constructing consistent messages, researching target audiences, and establishing metrics to measure success. The expert panel also noted that potential challenges for consumer outreach include prioritizing limited resources, educating consumers who do not necessarily need to take action, and reaching underserved populations. It remains unclear whether public-private sector interaction can ensure a consistent message to prevent consumer confusion.

NTIA has made progress in implementing a subsidy program for converter boxes, but the program faces challenges. The current program allows households to request up to two \$40 coupons toward the purchase of eligible converter boxes. While the program's outcome depends on the ability of NTIA and its contractor to encourage and coordinate the voluntary participation of retailers and manufacturers, NTIA remains ultimately responsible for the program. There is also uncertainty regarding retailer readiness and participation in the program, as well as potential challenges related to inventory planning. If retailers' participation is limited or delayed, consumers might face difficulties in redeeming their coupons for converter boxes, without which some might lose access to television programming.

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## Abbreviations

ATSC	Advanced Television Systems Committee
CEA	Consumer Electronics Association
DOC	Department of Commerce
DTV	digital television
FCC	Federal Communications Commission
GAGAS	generally accepted government auditing standards
IBM	International Business Machines Corporation
MHz	megahertz
NOAA	National Oceanic and Atmospheric Administration
NTIA	National Telecommunications and Information Administration
NTSC	National Television Systems Committee
Y2K	Year 2000 Computer Conversion

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United States Government Accountability Office  
Washington, DC 20548

November 19, 2007

### Congressional Requesters

By February 17, 2009, federal law requires all full-power television stations in the United States to cease analog broadcasting and broadcast digital-only transmissions, often referred to as the digital television (DTV) transition. A primary goal of the DTV transition is for the federal government to reclaim spectrum<sup>1</sup> that broadcasters currently use to provide analog television signals. The spectrum that the federal government will reclaim at the end of the transition is considered highly valuable because of its particular technical properties. In all, the DTV transition will free up 108 megahertz (MHz) of spectrum because digital transmissions require less spectrum than analog transmissions. The Federal Communications Commission (FCC) has reallocated 24 MHz of the spectrum for public safety purposes, which became a higher priority following the terrorist attacks of September 11, 2001. FCC will auction the remaining spectrum for commercial purposes, the proceeds of which, Congress had determined, will in part be allocated toward reducing the federal deficit.<sup>2</sup>

After the DTV transition, consumers who rely exclusively on over-the-air television signals viewed on analog sets<sup>3</sup> will not be able to view broadcast programming, possibly including important news information or emergency alerts, unless they take action. In particular, these consumers could (1) purchase a television capable of processing digital signals;<sup>4</sup> (2) purchase a digital-to-analog converter box that converts the digital signals to analog signals and enables their display on an analog set; or (3)

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<sup>1</sup>The radiofrequency spectrum is the part of the natural spectrum of electromagnetic radiation lying below 300 gigahertz. It is the medium that makes possible wireless communications, including cellular and paging services, radio and television broadcasting, radar, and satellite-based services.

<sup>2</sup>The Congressional Budget Office estimated auction proceeds from the spectrum currently used by broadcasters has an expected value of \$12.5 billion.

<sup>3</sup>These sets, which only have a National Television Systems Committee (NTSC) tuner, are only capable of receiving and displaying analog signals.

<sup>4</sup>Such a television would include an Advanced Television Systems Committee (ATSC) tuner.

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subscribe to cable, satellite, or other service that already converts digital signals into a format an analog receiver can process or will provide a remedy for their viewers. A number of governmental and private sector stakeholders are currently planning outreach efforts to educate consumers about this important transition to digital television. Furthermore, as required by the Digital Television Transition and Public Safety Act of 2005,<sup>5</sup> the National Telecommunications and Information Administration (NTIA), an agency of the U.S. Department of Commerce, created a digital-to-analog converter box subsidy program establishing that beginning January 1, 2008, households can request up to two \$40 coupons toward the purchase of such converter boxes. In August 2007, NTIA contracted with International Business Machines Corporation (IBM) to provide services for the subsidy program. The implementation of this program, in addition to a widespread consumer education campaign, will require the coordination of government agencies, manufacturers, retailers, broadcasters, and public advocacy groups.

You asked us to provide information on the progress of the DTV transition. We reviewed the progress made (1) by federal entities, in conjunction with other stakeholders, in facilitating the transition; (2) in educating consumers about the transition and any related challenges; and (3) in implementing a subsidy program for converter boxes and any related challenges. We are also reviewing technical issues related to the DTV transition and will report on progress and challenges in these areas in the near future.

To meet these objectives, we reviewed relevant laws and regulations, agency strategic plans, budgets, time lines, public comments, proposed reporting requirements, and the NTIA contract for the converter box subsidy program to determine the nation's progress toward digital television. We interviewed officials with FCC and NTIA, as well as a wide variety of industry and other private sector stakeholders with an interest in the transition, such as broadcasters, retailers, manufacturers, and advocacy groups. We discussed their roles in the transition and obtained information on their involvement with consumer education efforts and the NTIA converter box subsidy program. Further, we convened a panel of 14 experts representing public, private, and academic organizations to identify key practices for conducting consumer education. A more detailed discussion of our objectives, scope, and methodology is provided in

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<sup>5</sup>Pub. L. No. 109-171, title 3.

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appendix I. We performed our review from January 2007 through August 2007 in accordance with generally accepted government auditing standards.

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## Results in Brief

FCC and NTIA, in conjunction with other stakeholders, have taken steps to facilitate the DTV transition. FCC has primary responsibility to regulate the television broadcast industry for the federal government and has taken a number of actions regarding the transition. For example, FCC has proposed and set deadlines to upgrade station equipment to send digital signals. In addition, FCC has conducted periodic reviews to report on transition progress and held a workshop for interested parties to discuss transition challenges and issues. NTIA has statutory responsibility for the converter box subsidy program, and it has issued a contract for certain services related to that program's operation. Private sector stakeholders, including broadcasters, manufacturers, and retailers have also begun preparing for the transition. Despite public-private sector interaction designed to help facilitate the transition, we found that no comprehensive plan exists for the DTV transition. Among other things, a comprehensive plan can detail milestones and key goals, which provide meaningful guidance for assigning and coordinating responsibilities and deadlines and measuring progress. Such planning also includes assessing, managing, and mitigating risks, which can help organizations to identify potential problems before they occur and target limited resources. We have previously reported on the benefits of managing risks, including assisting other organizations involved in high stakes efforts similar to the DTV transition. For example, we credited one federal agency's success in weathering the potential for critical computer system failures during the Year 2000 Computer Conversion (Y2K), in part, due to reducing risks to facilities, systems, programs, and services during the critical rollover.

FCC and NTIA, along with industry and other private sector stakeholders, have made progress in educating consumers about the DTV transition. For example, FCC and NTIA have developed informational materials on the transition and begun outreach directly to consumer and stakeholder groups. Both agencies are also involved with the Digital Television Transition Coalition, a group representing over 160 business, trade, grassroots, and other organizations whose purpose is to provide consumers with information about the transition. Private sector stakeholders are voluntarily taking the lead on planning public service announcements, developing Web sites, and garnering media coverage on the transition. While federal and private stakeholders have taken these initial steps, the initiative is still largely in the planning stages, and

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widespread efforts have yet to be implemented. Further, because of the number of public and private sector entities involved in consumer education efforts for the DTV transition as well as the timing, coordination, and content of the messages they produce, consumers might become confused over what steps, if any, are necessary to avoid disruptions to their television viewing after the transition date. During an expert panel we convened, communications experts identified challenges to consumer outreach, such as prioritizing limited resources and ensuring that certain at-risk populations receive the information they need. In addition, the panel identified the key components of a consumer education campaign, such as the need to clarify the roles and responsibilities of all stakeholders and the importance of developing a consistent, clear message. At the time of our report, it remains unclear whether there will be sufficient public-private sector interaction to ensure a consistent message to prevent confusion or unnecessary purchases on the part of consumers.

NTIA has made progress in implementing the converter box subsidy program, including soliciting stakeholder comments, meeting with industry participants, and selecting IBM in August 2007 to provide services for the program. Despite NTIA's progress in implementing the subsidy program, the program still faces certain challenges. In particular, the program's outcome depends upon the coordination of multiple groups and necessitates the voluntary participation of retailers and manufacturers. As shown in figure 1, consumers can begin applying for converter box coupons starting January 1, 2008, with NTIA requiring full distribution of coupons to begin no later than April 1, 2008. Consequently, some consumers that request coupons in January might have to wait months to receive their coupons. Complicating matters is uncertainty regarding retailer participation and readiness and potential challenges related to inventory planning. With limited or delayed retailer participation, consumers might face difficulties in redeeming their coupons for eligible converter boxes during the designated time period.



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also said that FCC staff working on the DTV transition do not believe our report gives them adequate credit for all the tasks they have accomplished related to the transition, which was the reason the Chairman indicated he provided us with the draft document. Similar to the elements we recommended FCC develop in a comprehensive plan, this draft document compiles FCC actions and other activities related to the transition and includes four main sections—technical goals, policy goals, consumer outreach goals, and other critical elements. This document appears to be the first step toward developing and communicating a comprehensive plan for various aspects of the transition, per our recommendation. The draft document describes a variety of actions related to DTV. However, the document neither meets the requirements for a strategic plan, nor is it sufficiently transparent to guide stakeholders to meeting the DTV goals or in serving as a road map to facilitate effective collaboration between the various stakeholders to ensure the intent of the DTV transition. Because the draft document does not directly address our recommendation, is relatively long (96 single-spaced pages), and includes FCC’s actions related to technical matters not discussed in this report but which we will discuss in a subsequent report, we have chosen to characterize the document rather than include it in its entirety. We did not make any changes to our report based on the draft document we received from FCC. However, since interested parties might find the information provided by FCC useful, we are providing a Web link to the draft document, which is located at [FCC draft document](#) (or at <http://www.gao.gov/fccdraft.pdf>). Upon learning that we would not include the draft document in this report, the FCC Chairman submitted a letter, which we do include (see app. III), stating that generally accepted government auditing standards (GAGAS) requires us to publish FCC’s draft document. The Chairman also stated that he had significant reservations and concerns with the report’s approach and conclusions. However, he did not indicate whether he agreed or disagreed with our recommendation. We note that GAGAS does not require us to print in its entirety responses submitted by an agency in connection with our reports and allows us to characterize responses where suitable and to include or not include them as appropriate. Also, we are unable to evaluate the Chairman’s statement that he had reservations and concerns about our approach and conclusions, as neither his letter nor the draft document indicate the basis for his reservations and concerns. FCC’s response is reprinted in appendix III. In commenting on the draft of this report, the Department of Commerce (DOC) acknowledged the risks associated with the voluntary nature of industry participation in the converter box subsidy program and consumer outreach campaign, but stated that the solution is not the establishment of a digital transition czar or a single, government-mandated message. We did

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not recommend establishing a digital transition czar or a single, government-mandated message. DOC did not comment on our recommendation. Written comments from DOC are reprinted in appendix IV.

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## Background

The United States is currently undergoing a transition from analog to digital broadcast television, often referred to as the DTV transition. The transition will enable the government to reallocate valuable spectrum from analog broadcast to public safety and other purposes. Digital transmission of television signals provides several advantages compared with analog transmission, such as enabling better quality picture and sound reception, as well as using the radiofrequency spectrum more efficiently than analog transmission. With traditional analog technology, pictures and sounds are converted into “waveform” electrical signals for transmission through the radiofrequency spectrum, while digital technology converts these pictures and sounds into a stream of digits consisting of zeros and ones for transmission.

The Digital Television Transition and Public Safety Act addresses the responsibilities of two federal agencies—FCC and NTIA—related to the DTV transition. The act directs FCC to require full-power television stations to cease analog broadcasting after February 17, 2009. The DTV transition also involves preparation on the part of American households. This preparation will require citizens’ understanding of the transition and the actions that some might have to take to maintain television service. The specific equipment needs for each household to transition to DTV—that is, to be able to view broadcast digital signals—depends on certain key factors. As shown in figure 2, the method through which a household watches television, and whether it has already upgraded its television equipment to be compatible with digital television, will factor into the equipment needs of the household. While many households may need to take specific actions to ensure that they continue to receive television signals, others may not need to take any action. As we have previously reported, households with analog televisions that rely solely on over-the-air television signals received through a rooftop antenna or indoor antenna must take action to be able to view digital broadcast signals after the termination of analog broadcasting. Options available to these households include (1) purchasing a digital television set that includes a tuner capable of receiving, processing, and displaying a digital signal; (2) purchasing a digital-to-analog converter box, which converts the digital broadcast signals to analog so they can be viewed on an existing analog set; or (3) subscribing to a cable, satellite, or other service that provides the

necessary signal to eliminate the need to acquire a digital-to-analog converter box.

**Figure 2: Options for Viewing Digital Signals after the DTV Transition**

TV type	Signal source	Equipment needed
 Analog	 Over-the-air	 Digital-to-analog converter box
 Analog	 Cable or satellite	 Provider will address
 Digital	 Over-the-air	 Nothing
 Digital	 Cable or satellite	 Provider will address

Source: GAO analysis of NTIA data.

Recent surveys conducted by industry trade associations indicate that consumer awareness of the digital transition is low. The Association for Public Television Stations reported in September 2007 that 51 percent of participants surveyed were unaware that the transition was taking place. Another study conducted by the National Association of Broadcasters focused on households that primarily receive their television signals over-the-air—and will, therefore, be most affected by the transition—and reported that 57 percent of those surveyed were not aware of the transition. We are also in the process of conducting our own survey gauging, among other things, consumer awareness of the transition. We will discuss the results of our survey in a subsequent report.

To help inform consumers about the transition, in February 2007, eight private sector stakeholders launched the Digital Television Transition Coalition. These eight stakeholders are the Association for Maximum Service Television, Association of Public Television Stations, Consumer Electronics Association, Consumer Electronic Retailers Coalition, Leadership Conference on Civil Rights, LG Electronics, National

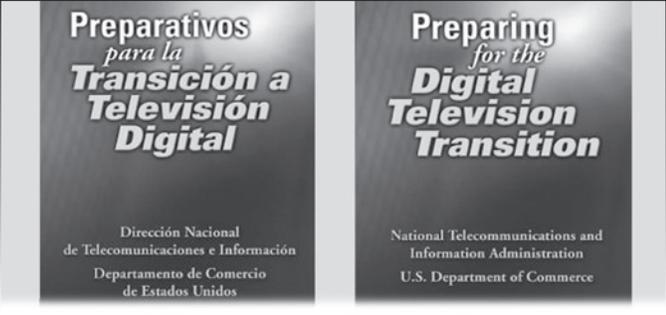
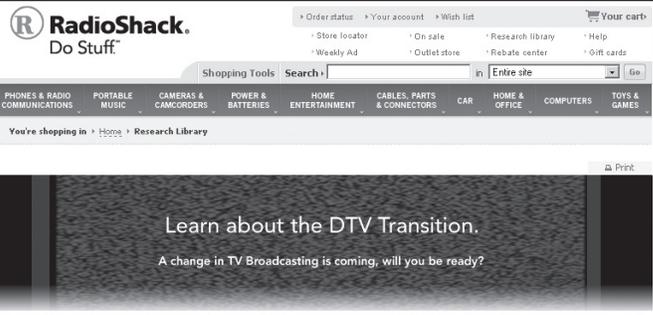
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Association of Broadcasters, and the National Cable and Telecommunications Association. These founding organizations comprise the coalition's steering committee and make decisions on behalf of the coalition. To better represent the interests of at-risk or underserved populations—such as the elderly—AARP later joined the steering committee. The coalition's mission is to ensure that no consumer is left without broadcast television due to a lack of information about the transition. Currently, the coalition has over 160 member organizations comprised of business, trade, and industry groups, as well as grassroots and membership organizations, and FCC.<sup>6</sup> See figure 3 for examples of consumer outreach materials.

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<sup>6</sup>While NTIA is not an official coalition member, the agency has been participating in coalition activities since its inception. The coalition, as well as FCC and NTIA, have created Web sites providing information on the DTV transition and converter box subsidy program. These Web sites are available for viewing at the following addresses: [www.dtvtransition.org](http://www.dtvtransition.org), [www.dtv.gov](http://www.dtv.gov), and [www.ntia.doc.gov/dtvcoupon](http://www.ntia.doc.gov/dtvcoupon).

**Figure 3: Examples of Consumer Outreach Materials about the DTV Transition**

 <p>Excerpt from DTV Transition Coalition information sheet (in English)</p>	 <p>Excerpt from DTV Transition Coalition information sheet (in Spanish)</p>
 <p>Excerpt from Consumer Electronics Association information sheet</p>	 <p>Excerpt from FCC information sheet</p>
 <p>Excerpts from NTIA brochures</p>	 <p>Screen shot from RadioShack Web site</p>

Sources: DTV Transition Coalition, CEA, FCC, NTIA, and RadioShack. These materials represent printed and online sources.

The Digital Television Transition and Public Safety Act directed NTIA to establish a \$1.5 billion subsidy program through which households can obtain coupons for the purchase of digital-to-analog converter boxes. In March 2007, NTIA issued a final rule that adopted regulations to implement the converter box subsidy program and, in August 2007,

selected IBM to provide certain services for the program. NTIA, in accordance with the act, established that beginning January 1, 2008, households can request up to two \$40 coupons toward the purchase of eligible<sup>7</sup> digital-to-analog converter boxes. Households requesting coupons must submit the name of the person requesting the coupon and a valid United States Postal Service address. A post office box will not be considered a valid address except in the cases of residents of American Indian reservations, Alaskan native villages, and other rural areas without home postal delivery.<sup>8</sup> Initially, any household is eligible to request and receive the coupons, but once \$890 million worth of coupons have been redeemed, and issued but not expired, NTIA must certify to Congress that the program's initial allocation of funds is insufficient to fulfill coupon requests. NTIA will then receive \$510 million in additional program funds, but any households requesting coupons during this second phase must certify that they do not receive cable, satellite, or other pay television service.<sup>9</sup> As shown in table 1, total possible program funding, which includes coupons redeemed, and issued but not expired, is \$1.5 billion.

**Table 1: Converter Box Subsidy Program Funding**

Dollars in millions			
	Funds available for coupons	Funds available for administrative costs	Total
Initial allocation	\$890	\$100	\$990
Additional allocation	\$450	\$60	\$510
<b>Grand total</b>	<b>\$1,340</b>	<b>\$160</b>	<b>\$1,500</b>

Source: GAO analysis of NTIA data.

The last day for consumers to request coupons is March 31, 2009, and coupons can be redeemed through July 9, 2009. As required by law, all coupons expire 90 days after issuance. The fully funded program could

<sup>7</sup>NTIA established technical and performance specifications that converter boxes must meet to be eligible for the subsidy program.

<sup>8</sup>These residents may have to provide additional information to identify the physical location of the household.

<sup>9</sup>There is up to \$510 million in additional funds, bringing total possible program funding to \$1.5 billion, which includes up to \$1.34 billion in coupon funds, and up to \$160 million in administrative funds.

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provide 33.5 million coupons.<sup>10</sup> After participants apply for a coupon, IBM will send the coupons to their address via United States Postal Service delivery. Consumers can redeem their coupons at participating retailers (both “brick and mortar” and online) for eligible converter boxes. Consumers can neither combine two \$40 coupons for the purchase of one converter box, nor can they return converter boxes for a cash refund of the coupon amount, or exchange the converter box for another product, except another coupon-eligible converter box. In order to participate in the program, retailers must apply and meet certain standards, such as being a consumer electronics retailer for at least 1 year and having systems and procedures that can be easily audited. NTIA and IBM are responsible for certifying retailers. NTIA also established technical standards that included permitted, required, and disqualifying features that converter boxes must comply with in order to be coupon eligible. Manufacturers wishing to certify their converter boxes as coupon eligible must submit a notice of intent to NTIA 3 months prior to submitting their test results and sample models of their converter boxes. Then, manufacturers must submit test results demonstrating that the converter boxes meet the performance specifications and features established by NTIA, as well as two sample models of the converter box. NTIA will review the test results and sample models and will approve or disapprove of a converter box based on consultations with FCC.<sup>11</sup>

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## Federal Entities and Other Stakeholders Are Facilitating the Transition, but Comprehensive Planning and Risk Management Is Limited

FCC and NTIA have taken numerous steps intended to facilitate the transition. Likewise, the private sector has begun efforts related to advancing the transition. However, despite these public and private sector efforts, we found that no comprehensive plan or strategy exists with which to track transition efforts and measure progress. Such planning includes managing and mitigating risks, which we have previously reported as assisting organizations involved in other high stakes efforts similar to the DTV transition.

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<sup>10</sup>Assuming the full administrative amounts are used for administrative expenses, with none of that amount going toward coupons.

<sup>11</sup>NTIA entered into a memorandum of understanding with FCC establishing that FCC will test converter box samples at NTIA’s direction.

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## FCC and NTIA Have Taken Steps to Facilitate the Transition

FCC has primary responsibility under the Communications Act of 1934, as amended, to regulate the television broadcast industry. As such, FCC is required to periodically review the progress of the nation's transition to digital television, as well as to generally encourage the use of television in the public interest. The Digital Television Transition and Public Safety Act defines the specific responsibilities of FCC and other government agencies in the transition but does not specifically include overall responsibility to ensure the success of transition efforts. The act directs FCC to start auctioning the licenses for spectrum recovered in the digital transition no later than January 28, 2008, and to deposit auction proceeds in the U.S. Treasury by June 30, 2008.

FCC has taken steps to facilitate the DTV transition. FCC proposed and set deadlines and other requirements for broadcast stations upgrading their equipment to send digital signals. In addition, FCC conducts periodic reviews to report on progress in the DTV transition, including analyzing and proposing procedures and rule changes necessary to complete the transition. The most recent review released in May 2007 included a number of proposals and requests for comments from stakeholders. For example, the review proposed construction deadlines for preparing for the transition, as well as requested comments on what FCC can do to facilitate broadcasters' meeting the DTV transition deadline and whether coordination is needed between broadcasters and cable/satellite companies to ensure a smooth transition. FCC also worked to coordinate with outside stakeholders on the transition, such as holding a September 2007 workshop to provide an opportunity for interested parties to jointly discuss transition challenges and related issues. Additionally, FCC mandated the inclusion of digital tuners<sup>12</sup> in television receivers. Originally issued in 2002, FCC revised this mandate in 2005 to require that all televisions imported into the United States or shipped in interstate commerce after March 1, 2007, include a digital tuner. As we have previously reported, this action will help increase the number of households with the equipment to receive over-the-air digital signals.<sup>13</sup> FCC has proposed further steps to facilitate the transition. For example, in its recent review of the DTV transition, FCC proposed requiring all full-power television stations to file a form, detailing the station's current

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<sup>12</sup>Digital tuners decode the digital signal and turn it into the picture that appears on the television screen.

<sup>13</sup>GAO, *Telecommunications: Additional Federal Efforts Could Help Advance Digital Television Transition*, GAO-03-7 (Washington D.C.: Nov. 8, 2002).

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transition status, additional steps necessary in order to be prepared for digital-only operations after the transition, and a time line to accomplish those steps. If adopted, this would provide a comprehensive, national snapshot of stations' efforts to prepare for the transition.

FCC has also taken a number of actions focused on the technical aspects of the transition, such as determining channel assignments for broadcast stations following the transition, and tracking stations' readiness to broadcast digitally. We are conducting related work on the technical aspects and challenges of the transition and will issue a separate report on this work in 2008.

The Digital Television Transition and Public Safety Act also assigned responsibility to NTIA for the related converter box subsidy program. NTIA has taken steps to implement the subsidy program, such as issuing a contract to IBM to implement the program. We discuss the other steps NTIA has taken to implement the subsidy program later in this report.

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## Industry Stakeholders Have Also Begun Preparing for the DTV Transition

Industry stakeholders, including broadcasters, manufacturers, and retailers have begun efforts to prepare for the transition. For example, the broadcasters have been overhauling and replacing their transmission facilities, such as transmission lines, antennas, and digital transmitters and encoders to enable them to broadcast digitally.<sup>14</sup> Depending on each broadcaster's situation, the transition might require new towers or upgrades to existing towers. Most television stations (approximately 90 percent) throughout the country are now providing a digital broadcast signal in addition to their analog signal. In other efforts, manufacturers have designed, and retailers carry, a wide array of televisions that can receive digital signals. The Consumer Electronics Association estimated that for 2007 estimated wholesale revenues for digital televisions would be \$26 billion. Manufacturers have also designed digital-to-analog converter boxes in order for analog televisions to receive and display digital signals. Manufacturers, broadcasters, and other private sector stakeholders are also assisting with consumer outreach efforts for the transition, which we will describe further later in this report.

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<sup>14</sup>FCC has not yet adopted general rules mandating low-power television to transition to digital broadcasting by February 17, 2009, or how these stations will operate thereafter. There are also more than 2,300 licensed low-power television stations operating throughout the United States.

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## Comprehensive Federal Planning and Risk Management for the Transition Is Limited

Despite efforts by the public and private sectors and ongoing coordination, we found that no comprehensive plan for the transition exists. FCC has included the DTV transition in its strategic plan for 2006 through 2011, as well as related annual performance reports. However, this particular plan is a high-level, agencywide plan, and FCC did not intend it to serve as a comprehensive plan or strategy for the overall transition. FCC officials were aware of planning information located in both its own and other organizations' documents. However, this information had not been coordinated in a comprehensive manner and was not accessible through any centralized planning document, rather it was scattered in parts of other documents across different organizations. We have previously reported on the benefits of having a comprehensive, centralized plan to facilitate program management and accountability.

Among other things, a comprehensive plan or strategy can detail milestones and key goals, which provide meaningful guidance for planning and measuring progress. Such plans can also establish deadlines for achieving objectives and assigning responsibility for program implementation. In recent months, there has been disagreement over federal agencies' roles and responsibilities for the transition. For example, officials at NTIA and FCC have different views on responsibilities related to the transition. In addition, FCC commissioners have expressed varying views to a congressional committee on the adequacy of the commission's activities and related responsibilities for the transition. We have previously reported on the importance of collaboration for issues cutting across more than one agency and in addressing complicated challenges like the DTV transition. Specifically, we identified agreeing on roles and responsibilities as a key practice of collaboration. We found no comprehensive plans for the overall transition that included these elements.

One aspect of comprehensive planning absent from transition efforts is assessing, managing, and mitigating risks. Several organizations we interviewed described potential risks to the transition. For example, one public broadcaster association said that one risk or "red flag" for transition efforts is whether various forms of media provide consumers with consistent and accurate information on the transition. Potential misinformation could create confusion among citizens, as well as in those organizations involved in the transition. Other risks cited included failing to reach certain consumers and existing funding proving inadequate for transition needs. Yet we found no examples of a formal risk assessment documenting these or other concerns, as well as potential solutions to mitigate them. FCC has risk assessment tools that it uses for internal activities. Assessing risks is also an element of FCC's annual performance

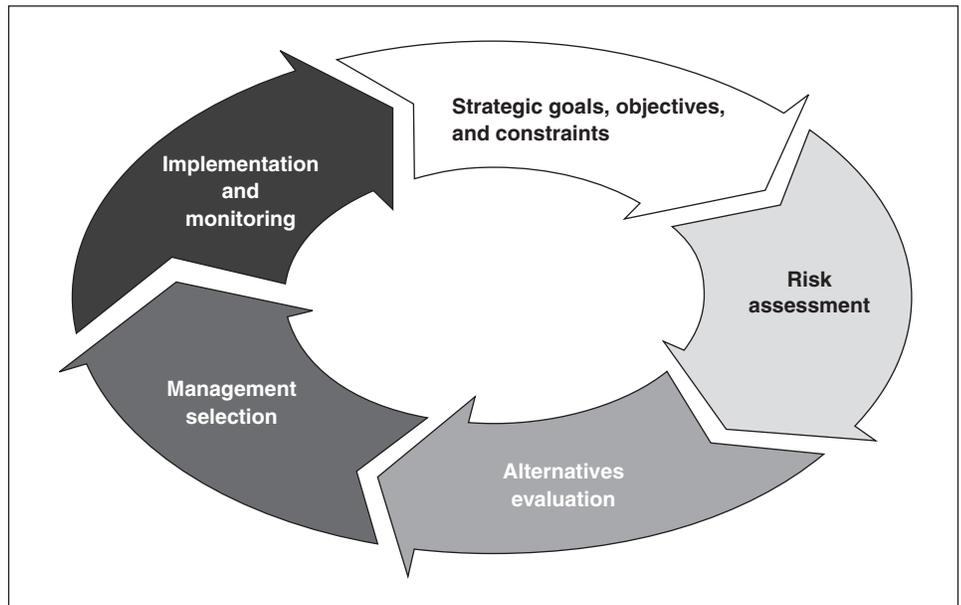
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report, and FCC told us it could explore applying risk assessment tools to ongoing transition efforts. NTIA has included risk management tools relevant to the transition, although this is only for its management of the converter box subsidy program. For example, NTIA required IBM to submit a risk management plan with its contract proposal, indicating how risks will be continually identified, documented, assessed, and communicated to project stakeholders and the criteria for risk management planning.

According to NTIA, it requires IBM to identify and assess risks associated with their ability to meet program objectives and to develop risk mitigation plans for high probability or high impact risks. NTIA said these risks are reviewed with IBM on a monthly basis. In addition, NTIA said it has established an internal risk management process to identify and assess other program risks and to develop risk mitigation plans for those risks considered to be high probability or high impact.

Managing risks can help target limited resources and ensure critical dates are met, an important benefit given the transition's 2009 deadline. We have previously described the purpose of risk management as identifying potential problems before they occur to mitigate adverse impacts. Figure 4 depicts a risk management cycle representing a series of analytical and managerial steps, which are sequential, that can be used to assess risk, assess alternatives for reducing risks, choose among those alternatives, implement the alternatives, monitor their implementation, and continually use new information to adjust and revise the assessments and actions, as needed. The approach is dynamic and can be applied at various organizational levels. A viable risk management approach can also affect outcomes beyond the public sector in achieving national goals, which also has applicability to the DTV transition and the involvement of public and private stakeholders.

**Figure 4: Risk Management Framework**



Source: GAO.

We have previously reported on the benefits of risk management in other high stakes efforts with similarities to the DTV transition. For example, like the DTV transition, Y2K involved a deadline when certain technology—computer systems—would face potential operational problems. In preparing the nation’s computer systems for Y2K,<sup>15</sup> we provided a guide that included risk assessments, oversight, and the common thread of accountability at all levels.<sup>16</sup> We credited one federal agency’s success in weathering Y2K, in part, due to reducing risks to facilities, systems, programs, and services during the critical rollover. Further, we have recently reported on the benefits of risk management in relation to the 2010 census, specifically in managing and overseeing contracts that are key to conducting a successful census.<sup>17</sup> Like the DTV

<sup>15</sup>Federal agencies faced the potential for critical computer system failures at the turn of the century due to incorrect information processing relating to dates. Possible disruptions of Y2K included delayed financial transactions, grounded flights, and lost power.

<sup>16</sup>GAO, *Y2K Computing Challenge: Day One Planning and Operations Guide*, [GAO/AIMD-10.1.22](#) (Washington, D.C.: October 1999).

<sup>17</sup>GAO, *2010 Census: Preparations for the 2010 Census Underway, but Continued Oversight and Risk Management Are Critical*, [GAO-07-1106T](#) (Washington D.C.: July 17, 2007).

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transition, private organizations are involved in carrying out important public goals, in this case, the next census. Finally, we have reported on the advantages of managing risks for homeland security programs, namely to target federal funding for homeland security to maximize results and mitigate risks within available resource levels.<sup>18</sup> Effectively targeting resources is important to the DTV transition since funding appears limited.

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## Progress in Consumer Education on the DTV Transition Has Been Made, but Widespread Implementation Is Not Yet Under Way

Federal and private stakeholders are making progress in educating consumers about the DTV transition, with both independent and coordinated efforts under way. Some private sector stakeholders are taking the lead on outreach efforts on a voluntary basis. Overall, at the time of our report, many consumer education efforts were still in the planning stages and had not been widely implemented. Industry, government, and academic experts participating in our expert panel identified potential challenges and key components in launching a consumer education campaign.

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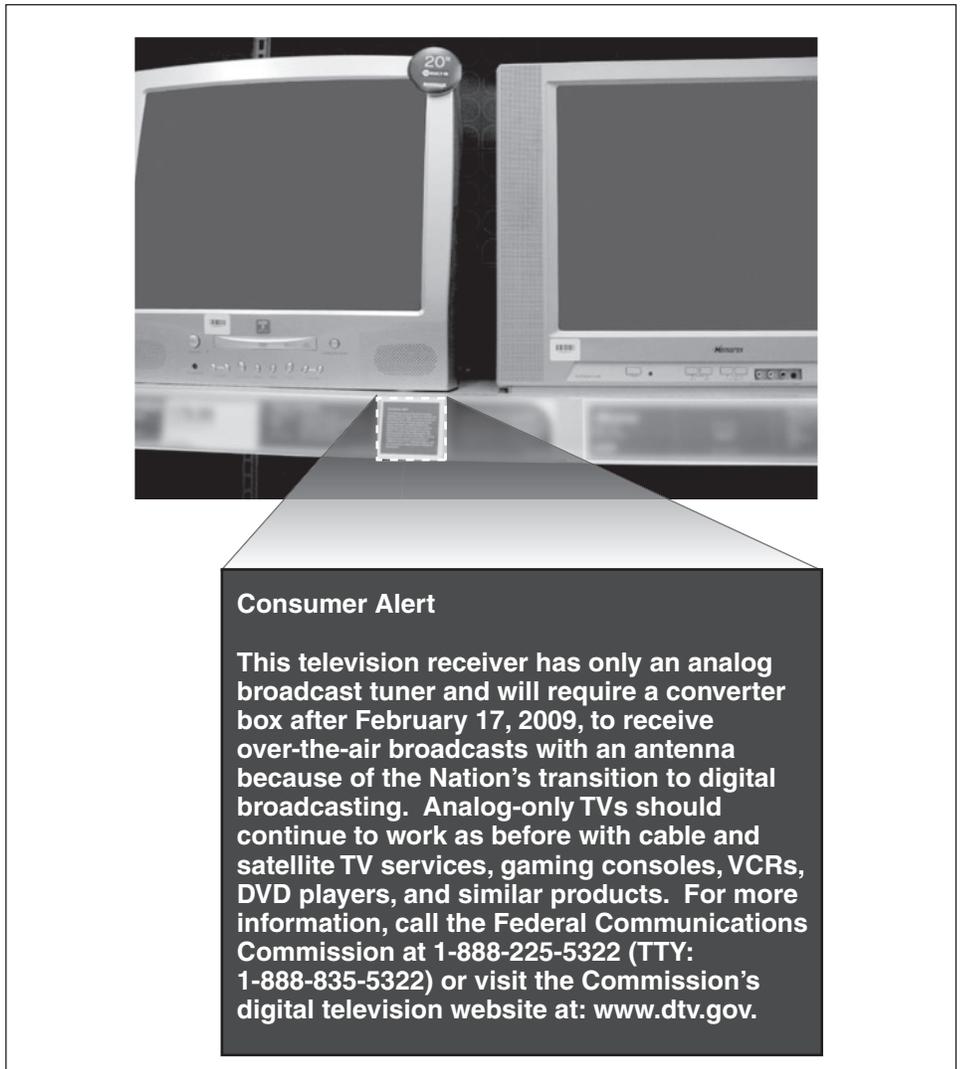
## Federal Stakeholders Have Begun Consumer Education Efforts

FCC and NTIA are both involved in consumer education about the DTV transition. For example, FCC has launched a Web site ([DTV.gov](http://DTV.gov)) which, among other things, provides background information on the DTV transition and answers common consumer questions. In addition, FCC has met with some industry groups, consumer groups, and other government agencies and participated in public events intended to educate audiences about the transition. FCC also joined the DTV Transition Coalition, whose goal is to provide consumers with information about the transition. Moreover, in April 2007, FCC adopted a rule requiring all sellers of television-receiving equipment that does not include a digital tuner to prominently display a consumer alert that such devices will require a converter box to receive over-the-air broadcast television after February 17, 2009 (see fig. 5).

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<sup>18</sup>GAO, *Strategic Budgeting: Risk Management Principles Can Help DHS Allocate Resources To Highest Priorities*, [GAO-05-824T](#) (Washington D.C.: June 29, 2005).

**Figure 5: Consumer Advisory Alerts for Analog Televisions**



Source: FCC.

To ensure that retailers are in compliance, FCC staff have inspected over 1,000 retail stores and Web sites and issued over 250 citations with potential fines exceeding \$3 million. In addition, FCC has issued notices to television manufacturers with potential fines over \$2.5 million for importing televisions without digital tuners. In June 2007, FCC announced that it had rechartered an intergovernmental advisory committee comprising 15 representatives from local, state, and tribal governments to help it address, among other things, consumer education about the DTV

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transition. Similarly, it rechartered a consumer advisory committee that will also make recommendations to FCC about the transition on behalf of consumers, with specific representation for people with disabilities and other underserved or at-risk populations. Finally, in August 2007, in response to a letter containing proposals on advancing consumer education submitted by members of Congress,<sup>19</sup> FCC released a notice of proposed rulemaking soliciting public comments on the proposals listed in the letter. These proposals include requiring television broadcasters to conduct on-air consumer education efforts and regularly report on the status of these efforts, requiring cable and satellite providers to insert periodic notices in customers' bills about the transition and their future viewing options, and requiring manufacturers to include information on the transition with any television set or related device they import or distribute in the United States. Each of the requirements mentions civil penalties for noncompliance. Another proposal on which FCC sought comment would have FCC work with NTIA to require that retailers participating in the converter box subsidy program detail their employee training and consumer information plans, as well as having FCC staff spot check the retailers for compliance. Also, FCC sought comments on a proposal requiring partners identified on FCC's DTV.gov Web site to report their specific consumer outreach efforts. The comment period on the notice of proposed rulemaking closed on September 17, 2007; the period to file any rebuttal closed October 1, 2007.

NTIA has also taken initial steps toward educating consumers about the transition. NTIA has statutory responsibility for the converter box subsidy program, for which Congress appropriated up to \$5 million for education efforts. According to NTIA, its education efforts are focused on the subsidy program and within that on five groups most likely to lose all television service as a result of the transition: (1) senior citizens, (2) the economically disadvantaged, (3) rural residents, (4) people with disabilities, and (5) minorities. NTIA has begun outreach to these groups through partnerships with private organizations, as well as other federal agencies. In addition, it has created "information sheets" for consumers, retailers, and manufacturers that outline the subsidy program and are available on its Web site. NTIA said it has provided informational brochures in English and Spanish to the public and provided a copy to every member of Congress and federal agencies that serve some of the

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<sup>19</sup>These suggestions were in the form of a letter sent to FCC and signed by various congressional representatives.

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populations noted above. The agency also created a consumer hotline<sup>20</sup> that provides information about the transition in English and Spanish, as well as TTY numbers that provide information in English<sup>21</sup> and Spanish<sup>22</sup> to the hearing impaired. In addition, in August 2007, NTIA contracted with IBM to implement a broad consumer education component about the program, and a draft of this consumer education plan was submitted to NTIA on September 15, 2007.

While public sector entities are planning and, in some cases, launching consumer education efforts, widespread and comprehensive efforts have yet to be implemented. FCC officials told us that its efforts to educate consumers about the transition are limited, in large part because it does not currently have specific funds directed at consumer education. In a July 2007 testimony to Congress, the FCC Chairman stated that the agency is “working, consistent with its statutory authority and budgetary capacity to ensure that no American is left behind in this part of the digital revolution.” In FCC’s fiscal year 2008 budget request, it has requested \$1.5 million for digital television consumer outreach specifically. FCC’s outreach initiative would primarily use the media, Internet, publications, and participation in forums, public events, and community education programs to disseminate information. In addition, to maximize DTV outreach effectiveness and efficiency, it intends to coordinate programs with NTIA and other government agencies with DTV transition involvement. NTIA also has not fully implemented education efforts about its subsidy program in large part because it is contracting out the consumer education component of its program and, as mentioned previously, the contract was only recently awarded, and plans were in the development stage at the time of our review.

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<sup>20</sup>1-888-DTV-2009.

<sup>21</sup>1-877-530-2634.

<sup>22</sup>1-866-495-1161.

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**Private Sector Stakeholders Are Taking the Lead on Consumer Education Efforts, but Actions Are Voluntary and Widespread Implementation Is Limited**

On a voluntary basis, some private sector stakeholders have begun planning and, in some cases, implementing measures to inform consumers about the DTV transition. One such private sector led effort is the DTV Transition Coalition, which encompasses over 160 organizations. According to the coalition, it has developed and consumer tested various messages about the transition, using surveys and focus groups of the affected consumers—the general population, senior citizens, minority groups, and over-the-air analog television households—to understand what messages are most effective in informing them about the transition. Subsequently, the coalition said it agreed upon one concise message that includes information about the transition itself, the rationale for the transition, and the ways consumers can effectively switch to DTV. In particular, the coalition suggests consumers can prepare for the transition by purchasing a DTV converter box, purchasing a new television set with a built in digital tuner, or subscribing to a pay television service such as cable, satellite, or telephone company video service provider. The coalition said its member organizations will distribute this information to their constituents, including senior citizens, the disabled, and minority groups. The coalition message will also be delivered to media outlets.

In addition to coordinated efforts within the coalition, private sector stakeholders also have independent education efforts under way. For example, a number of industry associations host Web sites that inform consumers of, among other things, common consumer questions about the transition, how to check if the television they own is digital-ready, and how to dispose of analog television sets. The Consumer Electronics Association (CEA) has launched a number of Web sites, one of which provides online education for retailers and their sales associates. Another CEA Web site informs consumers how to connect their television equipment, and CEA officials told us it will include guidance on how to connect a converter box to a television. One national retailer told us that it added a feature to its registers so that when a consumer purchases an analog television, a message about the DTV transition is printed on the bottom of the receipt. The National Cable and Telecommunications Association has created public service announcements about the transition in both Spanish and English, which are being aired by cable operators and networks in markets throughout the country. The National Association of Broadcasters also has plans to launch a public service announcement campaign related to the transition by the end of 2007, which will air on its local television broadcasting affiliates, independent stations, and broadcast networks.

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Despite ongoing education efforts, since these actions are voluntary, the government cannot be assured of the extent of private sector efforts. For example, in a 2004 review, FCC deferred requiring retailers to label analog-only television equipment with information about the transition, leaving retailers and manufacturers to educate consumers voluntarily. Later, FCC determined that retailer and manufacturer efforts did not adequately inform consumers how analog-only television equipment would be affected by the transition and in 2007 implemented a labeling requirement. Moreover, given the different interests represented by industry stakeholders, messages directed at consumers vary and might lead to confusion. For example, in addition to providing information about why the transition is occurring, industry stakeholders also have incentives to provide consumers with information on a wide host of technology equipment or services that consumers could purchase, at varying costs. Advocates for the elderly, disabled, and non-English speaking households told us that they are concerned that their members will become confused by the options and end up purchasing equipment they do not need or more expensive equipment than necessary to maintain their television viewing.

Similar to progress made by public sector entities, widespread and comprehensive efforts have yet to be implemented by the private sector. Representatives from private sector organizations have told us there are several reasons why they are waiting to fully launch their consumer education campaigns. For example, they do not want to start too early and possibly lose the attention of consumers later on. Another reason is that they are awaiting key events to be finalized, such as when converter boxes will be available for purchase, so that education efforts can be complete. A number of nonprofit organizations told us that a lack of dedicated funding hampers their ability to educate and provide outreach to their constituents.

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### Expert Panelists Identified Potential Challenges and Key Components in Launching a Consumer Education Campaign

We convened an expert panel to discuss consumer education issues applicable to the DTV transition. These issues included potential challenges that may obstruct efforts and the key planning components of a consumer education campaign that will help to overcome some of those challenges. Expert panel members, as well as other private and public sector officials highlighted several challenges, as follows:

*Prioritizing limited resources.* With limited time and financial resources, it is likely to be a challenge for stakeholders to determine how best to allocate those resources within the campaign—for example, whether to target a smaller audience over a set period of time, versus targeting a

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broader audience over a shorter period of time. One expert noted, “There is a necessity of focus when you have limited resources. Rather than try to do too much and dilute your campaign, tighten it in and take your best shot.”

*Educating consumers who do not necessarily need to take action.* Many of the outreach efforts will be focused on educating consumers on what to do to keep their television sets from going dark after the termination of analog broadcasts. However, a large proportion of U.S. households will not need to do anything—for example, because they have cable or satellite television service that will enable their analog set to continue to display programming. Because many messages focus on the actions that households that rely on over-the-air analog broadcasting need to take, consumers unaffected by the transition may become confused and purchase equipment they do not need. In our past work looking at a similar digital transition in Germany, we have described this potential confusion to cable and satellite households as a challenge of educating consumers about the transition.<sup>23</sup>

*Reaching underserved populations.* Conveying the message to underserved populations—for example, senior citizens, disabled, those residing in rural areas, or non-English speaking households will provide an added challenge. For example, many groups outreaching to consumers about the transition are doing so on Web sites, which may not be available to people who lack Internet access or are less technically savvy. Another challenge is providing information in a wide variety of formats, such as in different languages for non-English speaking consumers and in text, video, voice, and Braille for the disabled. Overall, a challenge of consumer education is that those households in need of taking action may be the least likely to be aware of the transition.

Furthermore, representatives from organizations representing underserved groups that we contacted relayed consumer education challenges that their members could face. A broad concern is that television sets will go dark on the transition date without adequate education about the transition and, for people in these groups, their televisions may be their sole source for receiving emergency and other

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<sup>23</sup>GAO, *Telecommunications: German DTV Transition Differs from U.S. Transition in Many Respects, but Certain Key Challenges Are Similar*, [GAO-04-926T](#) (Washington D.C.: July 21, 2004).

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local information. However, we heard these populations may be hard to locate and, therefore, expensive to reach. While representatives from a number of these organizations noted that they are in the best position to provide outreach to these groups, they also noted that they do not have the budget to target them comprehensively. AARP representatives expressed concern that retailers will downplay the various options—such as cable and satellite service and converter boxes—and try to convince consumers to purchase digital televisions. According to representatives from AARP and the Association for Public Television Stations, Americans over the age of 65 are more likely to receive their television programming through over-the-air analog broadcasting than those under 65. Regarding consumer education related to the converter box subsidy program, representatives from multiple organizations noted that education about the availability of coupons is especially important for underserved households for whom a television is an essential item, not a luxury item. Insofar as the subsidy will be administered on a first-come, first-served basis, there is a concern that these populations will be the last to hear about the program, putting them at a disadvantage for obtaining a coupon before the fund is depleted.

*Aligning stakeholders.* Panel members and other industry representatives also noted the challenge of aligning stakeholders—some who are natural competitors—to work together. In our past work, we have reported that federal agencies engaged in collaborative efforts—such as the DTV transition—need to create the means to monitor and evaluate their efforts to enable them to identify areas for improvement. Reporting on these activities can help key decision makers within the agencies, as well as clients and stakeholders, to obtain feedback for improving both policy and operational effectiveness.<sup>24</sup>

In addition to highlighting potential challenges, the expert panelists identified the key practices that are important to planning a consumer education campaign that will motivate consumers to take the steps needed to avoid television viewing disruptions, as well as help to alleviate identified challenges along the way (see table 2).

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<sup>24</sup>GAO, *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, [GAO-06-15](#) (Washington, D.C.: Oct. 21, 2005).

**Table 2: Key Practices for Consumer Education Planning**

<b>Key practice</b>	<b>Description</b>
Define goals and objectives	Define the goals of the communications campaign, e.g., to increase awareness or motivate a change in behavior. Define the objectives that will help the campaign meet those goals.
Analyze the situation	Analyze the situation, including any competing voices or messages, related market conditions, and key dates or timing constraints. Review relevant past experiences and examples to identify applicable “lessons learned” that may help to guide efforts.
Identify stakeholders	Identify and engage all the key stakeholders who will be involved in communications efforts. Clarify the roles and responsibilities of each stakeholder, including which entity or entities will lead overall efforts.
Identify resources	Identify available short- and long-term budgetary and other resources.
Research target audiences	Conduct audience research, such as dividing the audience into smaller groups of people who have relevant needs, preferences and characteristics, as well as measuring audience awareness, beliefs, competing behaviors, and motivators. Also, identify any potential audience-specific obstacles, such as access to information.
Develop consistent, clear messages	Determine what messages to develop based on budget, goals, and audience research findings. Develop clear and consistent audience messages; test and refine them.
Identify credible messenger(s)	Identify who will be delivering the messages and ensure that the source is credible with audiences.
Design media mix	Plan the media mix to optimize earned media (such as news stories or opinion editorials) and paid media (such as broadcast, print, or Internet advertising). Identify through which methods (e.g., advertising in newspaper ads), how often (e.g., weekly or monthly) and over what duration (e.g., 1 year) messages will reach audiences.
Establish metrics to measure success	Establish both process and outcome metrics to measure success in achieving objectives of the outreach campaign. Process metrics assure the quality, quantity, and timeliness of the contractor’s work. Outcome metrics evaluate how well the campaign influenced the attitudes and behaviors of the target audience(s) that it set out to influence.

Source: GAO analysis of expert panel discussion.

While still too early to evaluate the coalition’s consumer education efforts, the coalition has employed strategies consistent with the key practices identified by the expert panel. For example, the coalition has identified stakeholders and conducted focus groups to test and refine its consumer messages. However, at the time of our report, it remains unclear whether public-private sector interaction can ensure a consistent message to prevent confusion or unnecessary purchases on the part of consumers. Moreover, the absence of comprehensive planning to assess and mitigate risks associated with the transition, including outreach efforts, may increase the potential for at-risk populations not adequately preparing for the transition.

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## NTIA Has Taken Steps to Implement a Subsidy Program for Converter Boxes, but Challenges Remain

NTIA has made progress in implementing the converter box subsidy program, including soliciting stakeholder comments and concerns, and selecting IBM in August 2007 to provide services for the program. However, the program faces challenges. In particular, the program's outcome depends on the coordination of several groups, and necessitates the voluntary participation of retailers and manufacturers. Moreover, uncertainty about retailers' participation, as well as readiness and potential challenges related to inventory planning, could hinder consumers' access to subsidy-eligible converter boxes.

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## NTIA Has Selected IBM to Implement the Converter Box Subsidy Program, but NTIA Remains Ultimately Responsible for the Program

NTIA completed several tasks related to the converter box subsidy program before it awarded the contract to IBM. In July 2006, NTIA issued a notice of proposed rulemaking inviting public comments on converter box manufacturing standards, the coupon application and redemption process, household eligibility, and ways of minimizing waste, fraud, and abuse. NTIA received 113 comments, including comments from manufacturers, retailers, media companies, advocacy groups, and professional services firms. As part of this process, NTIA also met with and received presentations from industry stakeholders. In addition, in July 2006, NTIA issued a request for information to conduct market research on the implementation of the converter box subsidy program. Specifically, NTIA asked vendors to comment on NTIA's proposed project objectives, time frames, corporate capability; proposed products, services, and solutions; and experience and cost estimates. NTIA released the final rule on the converter box subsidy program and issued a request for proposals for services related to the subsidy program in March 2007. A contract was awarded on schedule to IBM on August 15, 2007.

Although NTIA contracted with IBM to provide services for the converter box subsidy program, NTIA remains ultimately responsible for meeting the program's objectives. The contract is performance-based, which means that while NTIA requires IBM to meet certain outcomes and objectives, IBM is responsible for determining the specific means for doing so, including developing performance metrics.<sup>25</sup> NTIA remains responsible for ensuring that IBM meets the program objectives by determining that the performance metrics tie to the program objectives and by overseeing IBM's performance. The Office of Management and Budget's Office of

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<sup>25</sup>For performance-based contracts, the Federal Acquisition Regulation allows contactors to develop performance measures.

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Federal Procurement Policy identified managing the contractor's performance as the final step of its "Seven Steps to Performance-Based Acquisition," and this included adjusting staff roles and responsibility, assigning accountability for managing the contractor's performance, and regularly reviewing the contractor's performance in a working group. In addition, we have previously reported that agencies using performance-based contracting for complex, unique, and risky services need to maintain strong government involvement to mitigate risks.<sup>26</sup> We have found that effective contractor management and oversight includes having adequate resources and properly trained personnel, conducting ongoing surveillance throughout the performance period of the contract, and creating an official record of the contractor's performance.<sup>27</sup> To assist the agency in the implementation and oversight of the program, NTIA designated existing staff and is hiring new staff for contract management activities, and has required IBM to submit a quality assurance and surveillance plan for measuring its performance. Also, NTIA requested that IBM develop a Web-based electronic "dashboard" that provides real-time access to program status and performance measures, such as consumer coupon requests, retailer participation, and program financials. In addition, the National Oceanic and Atmospheric Administration (NOAA) is providing acquisition support to NTIA, which includes acting as the contracting officer, and temporarily locating NOAA acquisition staff in NTIA offices to provide acquisition expertise and assist NTIA personnel in managing the contract. IBM submitted a draft project management plan with its proposal. While IBM will determine the specifics of the consumer outreach plan and the technical solution for distributing and redeeming coupons, NTIA remains ultimately responsible for managing IBM's performance to ensure the program's successful completion.

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<sup>26</sup>GAO, *Contract Management: Guidance Needed for Using Performance-Based Service Contracting*, [GAO-02-1049](#) (Washington D.C.: Sept. 23, 2002).

<sup>27</sup>GAO, *Defense Acquisitions: Tailored Approach Needed to Improve Service Acquisition Outcomes*, [GAO-07-20](#) (Washington D.C.: Nov. 9, 2006) and *Contract Management: Opportunities to Improve Surveillance on Department of Defense Service Contracts*, [GAO-05-274](#) (Washington D.C.: Mar. 17, 2005).

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**Program Outcomes Depend on the Careful Coordination and Voluntary Participation of Several Groups, Some of Which May Face Challenges**

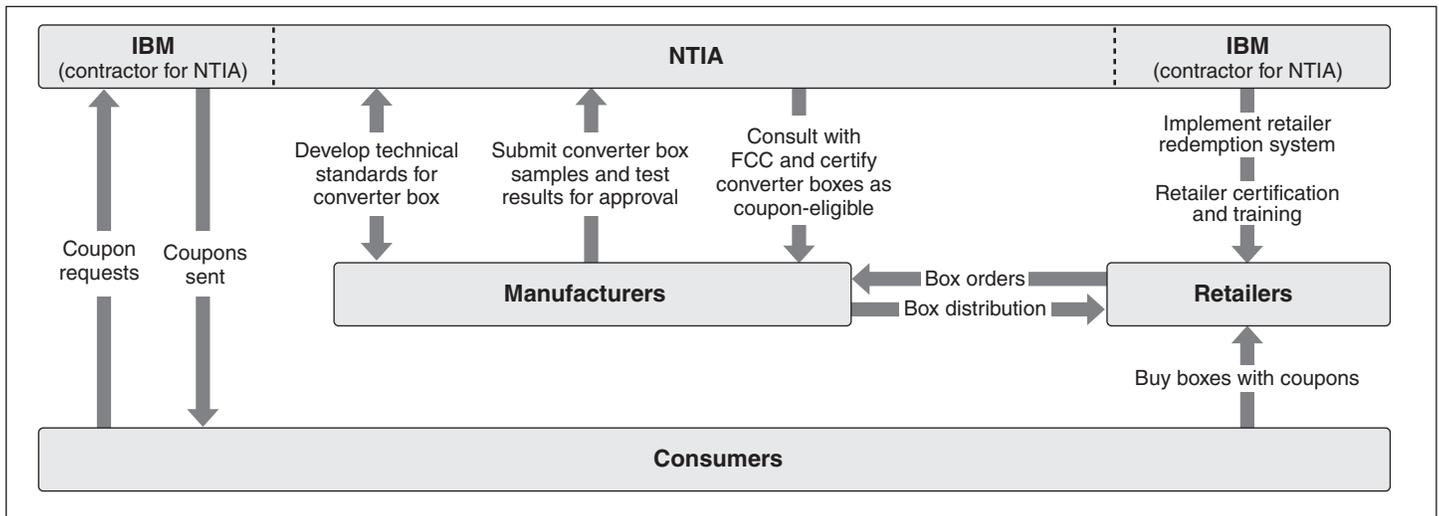
The subsidy program's outcomes depend on the coordination and participation of NTIA, IBM, converter box manufacturers, retailers, and consumers. Figure 6 depicts the necessary, interrelated actions for the subsidy program. Manufacturers and retailers are voluntarily participating in the program, as NTIA does not have the authority to require their participation. According to NTIA, IBM has developed the technical solution for the program, which covers determining how consumers will request, receive, and redeem coupons, and how this will affect retailers' current point-of-sale systems.<sup>28</sup> In addition, manufacturers are creating converter boxes and submitting them to NTIA, which, in consultation with FCC, will review the results and determine whether the converter box meets the technical standards required of coupon-eligible converter boxes. In addition, IBM will certify eligible retailers where consumers can use their coupon for eligible converter boxes. NTIA and IBM will test IBM's solution for distributing and redeeming coupons. According to NTIA, one part of this testing will occur in December 2007, and includes processing a limited number of coupon requests, distributing a limited number of coupons to consumers, and having the coupons redeemed for eligible converter boxes by participating retailers.<sup>29</sup> NTIA and IBM will also be conducting consumer outreach specific to the program.

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<sup>28</sup>Point-of-sale systems record purchases, payments, returns, and exchanges, as well as send the individual transactions to the company's internal inventory and accounting systems. They can also include an external component of 'in real time' communication with financial institutions, merchant banks, or other sources to identify the validity of the method of payment and authorize utilization of that method (credit card, debit card, gift card, check, etc).

<sup>29</sup>The entire testing period runs from August 16, 2007, to March 31, 2008. It is possible that the contractor could move out of the start-up phase before March 31, 2008. April 1, 2008, is the date by which the coupon operational period must begin; thus, March 31, 2008, is the latest possible end date for the testing period.

**Figure 6: Coordination of Groups Involved in the Subsidy Program**



Source: GAO.

Retailers could face challenges that might limit or delay their participation in the subsidy program. At the time of our review, several retailers we contacted expressed concerns about the possibility of a redemption system that would affect their point-of-sale systems, noting that modifying these systems can be time-consuming, resource-intensive, and expensive, and can affect their other financial systems. Retailer representatives told us they will need more information about the contractor’s technical solution and that March or April of 2008—3 to 4 months after consumers can begin requesting coupons—is a more likely time frame for retailers to be ready to participate in the program. In addition, retailers have pointed out that participating in the converter box subsidy program could require a considerable amount of effort for a one-time program with a product that has a limited shelf life<sup>30</sup> and low profit margin. The extent to which point-of-sale system modifications will be necessary and the potential impact on retailers will remain unknown until IBM presents its technical solution.

In addition, the unique nature of the converter box program and the limited time between the emergence and the depletion of demand for the converter boxes may present challenges for retailers and manufacturers in predicting demand and planning inventory accordingly. For example,

<sup>30</sup>Retailers we contacted noted that demand for the converter boxes would likely peak just before the transition and rapidly fall afterward.

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retailer and manufacturer representatives noted that it is possible that demand could rapidly increase just before the transition and may then suddenly drop after February 17, 2009. This uncertain demand, as well as uncertainty about the extent of retailers' participation in the program, could affect the number of converter boxes that manufacturers produce and the corresponding availability of coupon-eligible converter boxes in stores. While a manufacturer and a consumer group we contacted expressed concern that retailers are not required to carry a certain level of inventory in their stores, a retailer trade association told us that requiring retailers to have a certain level of converter boxes in stock would be a large disincentive to participate in the program. However, manufacturers we contacted noted that their production of converter boxes would depend on receiving orders from retailers. These manufacturers could not tell us how many boxes they would produce or the expected retail cost of the boxes.

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### Challenges to Private Sector Participation Might Affect Consumers' Access to Converter Boxes

Uncertain retailer participation and converter box availability might affect consumers' access to converter boxes. Specifically, whether and when retailers participate may be affected by IBM's technical solution for accepting and redeeming coupons and the corresponding impact on retailers' point-of-sale systems. As previously noted, some retailer representatives have stated that they are more likely to be prepared to participate in the program in March or April 2008.

In accordance with the Digital Television Transition and Public Safety Act, consumers can begin applying for coupons starting January 1, 2008. In addition, NTIA requires full distribution of coupons to begin by April 1, 2008. Although IBM plans to distribute a limited number of coupons from January through March 31, 2008, unless they receive a coupon as part of the test solution, some consumers that request coupons in January may have to wait months to receive coupons. NTIA has stated that IBM will determine how to inform consumers requesting coupons in January 2008 when they will be able to redeem their coupons.

In addition, since retailers' participation in the subsidy program is voluntary, and currently uncertain, some manufacturer, advocacy, and retailer representatives we contacted expressed concern about consumers' ability to find participating retailers that are able to redeem coupons and have converter boxes in stock. Although the final rule does not require remedies if certain geographic areas lack participating retailers, NTIA requires IBM to measure retailers' participation by geographic area and intends to investigate areas with unusual

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participation patterns. In other words, if there is a large number of coupon requests from a small rural city, but no participating retailers in that area, NTIA may investigate the issue, but it does not have the authority to require retailers to participate. In addition, NTIA does not have the explicit authority to require that participating retailers maintain a certain level of inventory. Thus, it is uncertain whether consumers with coupons will be able to locate a participating retailer with converter boxes in stock. Some retailer and advocacy groups we contacted have pointed out that this could pose a challenge to certain groups, such as rural residents with limited access to retail outlets, or elderly and low-income populations for whom multiple trips to a store could be burdensome. Furthermore, some tribal groups have noted that tribal members living far from retailers will need to be able to purchase a coupon-eligible converter box online or direct from retailers and have it shipped to their homes. An advocacy group and a retailer we contacted noted that while online ordering could help address this issue, it might not be a viable option for some vulnerable groups. In addition, an online retailer told us they would need to assess the extent to which IBM's technical solution will affect their existing systems before deciding whether to participate.

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## Conclusions

The federal government has an interest in a smooth DTV transition since a primary goal of the transition is for the government to reclaim the spectrum that broadcasters currently use to provide analog television signals. The government is expected to be afforded billions of dollars in revenues from the spectrum auction. Moreover, the return of the spectrum will ease the spectrum scarcity facing public safety first responders and engender economic growth and consumer value from spectrum redeployed to wireless services. The approaching deadline for the DTV transition has heightened efforts among public and private organizations to ensure that the United States achieves a smooth transition to digital television by February 17, 2009. FCC, NTIA, and private sector organizations have begun important efforts toward this end, including policy and technical decisions and outreach to consumers on the options that they can take to maintain access to their television programming. These efforts are ongoing, and the involvement of multiple organizations in assisting with the transition is a positive demonstration of the commitment of public and private stakeholders to meet the 2009 deadline.

In an undertaking as complicated as the DTV transition, careful planning—including managing and mitigating risks—is needed to help organizations track and complete their transition efforts. Managing and mitigating risks is especially important as the transition's success will rely on participation

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by both the public and the private sectors, effective collaboration among these groups, targeting resources to reach citizens of various demographics across the country, and meeting critical dates to achieve results before the legislatively set deadline to turn off analog signals. Current public and private sector efforts might be adequate to ensure a smooth transition, free of consumer disruptions. However, not having a comprehensive plan for the DTV transition limits the government's ability to measure efforts against planned goals, set milestones, and assess risks. This raises uncertainty, including whether consumers, particularly underserved and otherwise vulnerable populations, will have the information necessary to respond to the transition and to maintain their access to television programming. Furthermore, a comprehensive plan could help identify gaps or other areas for improvement that further planning and risk management could address. Voluntary transition efforts combined with the absence of responsibility for facilitating the overall DTV transition means that accountability for a successful transition cannot be assured. Since FCC has the broadest telecommunications responsibilities in the federal government, it is in the best position to increase assurance of a successful transition through increased attention to high-level comprehensive planning, performance measurement, and risk mitigation efforts.

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## Recommendation for Executive Action

To help facilitate the DTV transition through comprehensive planning and risk management, in consultation with public and private stakeholders, we recommend that the Chairman, FCC, develop and communicate a comprehensive plan for the various aspects of the DTV transition, encompassing technical, policy, consumer outreach, and other critical elements. The plan should include (1) detailed goals, milestones, and time frames that can be used to gauge performance and progress, identify gaps, and determine areas for improvement; (2) strategies for collaboration between public and private sector stakeholders to agree on roles and responsibilities; (3) a description of reporting requirements to track stakeholder efforts against planned goals; and (4) strategies for managing and mitigating risks to avoid potential problems and target federal resources.

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## Agency Comments and Our Evaluation

We provided a draft of this report to FCC and the Department of Commerce (which contains NTIA) for comment. FCC did not directly indicate whether they agreed or disagreed with our recommendation. The Chairman of the FCC provided us with oral comments indicating he appreciated the role that we played in reviewing government programs.

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The Chairman also provided us with a draft document that he said represented the commission's actions over a number of years to meet the DTV transition. Regarding our recommendation, the Chairman said FCC does not have a formal plan in place that is publicly available, but that the various orders contained in FCC dockets amount to a plan. The Chairman also said that FCC staff working on the DTV transition do not believe our report gives them adequate credit for all the tasks they have accomplished related to the transition, which was the reason FCC provided the draft document. Similar to the elements we recommended FCC develop in a comprehensive plan, this draft document compiles FCC actions and other activities related to the transition and includes four main sections—technical goals, policy goals, consumer outreach goals, and other critical elements. For these sections, the document includes items such as goals, progress and performance, milestones, time frames and steps, reporting requirements, and risks and related mitigation strategies. This document appears to be the first step toward developing and communicating a comprehensive plan for various aspects of the transition, per our recommendation. However, because the draft document does not directly address our recommendation, is relatively long (96 single-spaced pages) and includes FCC's actions related to technical matters not discussed in this report but which we will discuss in a subsequent report, we have chosen to characterize the document rather than include it in its entirety. We did not make any changes to our report based on the draft document we received from FCC. During our review, we asked FCC officials on several occasions if they had a plan, and FCC could not reference or provide us with an overall plan that could be used to manage and coordinate aspects of the DTV transition or to measure progress. We applaud FCC for its efforts to compile this information and recognize that FCC has taken numerous actions related to the transition, as we state in our report. Thus, we disagree with the Chairman's contention, and that of the FCC staff, that we did not recognize the work of FCC staff in facilitating aspects of the DTV transition. Regarding the compilation of FCC actions and other activities in the draft document, we agree that FCC had this information in numerous documents collected over the past several years in FCC dockets, as stated by the Chairman, and we cite the results of this work throughout our report. We believe compiling this information into a single document is beneficial for Congress, the public, and private sector stakeholders. Thus, as discussed earlier, while we do not believe this document is appropriate for inclusion in our report, the draft document describes a variety of actions related to DTV, and contains some information on goals, milestones, and risk mitigation efforts. Since interested parties might find the information provided by FCC useful, we are providing a Web link to the draft document, which is located at [FCC](#)

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draft document (or at <http://www.gao.gov/fccdraft.pdf>). We note, however, that significant portions of the document simply review past actions as opposed to analyzing current and future needs to meet the deadline or ensure nationwide access to television. Thus, the document neither meets the requirements for a strategic plan, nor is it sufficiently transparent to guide stakeholders to meeting the DTV goals or in serving as a road map to facilitate effective collaboration between the various stakeholders to ensure the intent of the DTV transition. To fully address our recommendation, we believe more remains to be done to finalize a comprehensive plan. For example, the completed milestones and activities in the draft document include the year they were achieved, but some milestones currently in progress have no estimated completion dates. Setting completion date goals for all outstanding activities would assist in gauging performance and measuring future progress for the transition. Additionally, providing clear measurable performance metrics would assist all stakeholders in determining progress. In addition, while the document includes some strategies to mitigate risks, it is not always clear what risks the mitigation strategies are intended to address. Moreover, some risks are raised but have no related mitigation strategy. FCC also does not indicate whether all goals related to the DTV transition are accounted for and whether any gaps exist in efforts by the government or the private sector to achieve transition objectives. It is also unknown how FCC identified these risks and mitigation strategies and whether a risk assessment process or other tool was used. Upon learning that we would not include the draft document in our report, the FCC Chairman submitted a letter, which we do include (see app. III), stating that generally accepted government auditing standards (GAGAS) requires us to publish FCC's draft document. The Chairman also stated that he had significant reservations and concerns with the report's approach and conclusions. However, he did not indicate whether he agreed or disagreed with our recommendation. We have met the GAGAS requirements of including the commission's comments by summarizing important aspects of the response. We note that GAGAS does not require us to print in its entirety responses submitted by an agency in connection with our reports and allows us to characterize responses where suitable and to include or not include them as appropriate. Specifically, sections 8.31 and 8.33, respectively, note that a summary of comments are acceptable and that agency responses should be "fairly and objectively evaluated," as appropriate. Also, we are unable to evaluate the Chairman's statement that he had reservations and concerns about our approach and conclusions, as neither his letter nor the draft document indicate the basis for his reservations and concerns. FCC's response is reprinted in appendix III.

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In its comments, DOC acknowledged the risk associated with the voluntary nature of industry participation in the converter box subsidy program and in the consumer outreach campaign. However, DOC stated that the solution is not the establishment of a digital transition czar or a single, government-mandated message. We did not recommend establishing a digital transition czar or a single, government-mandated message. DOC noted that a multiplicity of messages and sources of information is critical to a well-informed consuming public. DOC also noted NTIA's progress in implementing the converter box subsidy program, such as certifying converter boxes, encouraging retailer participation, and collaborating with stakeholders to reach the over-the-air population. DOC did not comment on our recommendation. Written comments from DOC are reprinted in appendix IV. In addition to the written comments, NTIA provided us with technical comments, which we incorporated as appropriate.

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As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to interested congressional committees; the Chairman of the FCC; and the Secretary of Commerce. We also will make copies available to others upon request. In addition, the report will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions concerning this report, please contact me on (202) 512-2834 or [goldsteinm@gao.gov](mailto:goldsteinm@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix V.



Mark L. Goldstein  
Director, Physical Infrastructure Issues

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*List of Requesters*

The Honorable Edward J. Markey  
Chairman  
The Honorable Fred Upton  
Ranking Member  
Subcommittee on Telecommunications  
and the Internet  
Committee on Energy and Commerce  
House of Representatives

The Honorable Joe Barton  
Ranking Member  
Committee on Energy and Commerce  
House of Representatives

The Honorable Herb Kohl  
Chairman  
Special Committee on Aging  
United States Senate

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# Appendix I: Objectives, Scope, and Methodology

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The objectives of this report are to provide information on the progress of the digital television (DTV) transition and, in particular, the progress made (1) by federal entities, in conjunction with other stakeholders, in facilitating the transition; (2) in educating consumers about the transition and any related challenges; and (3) in implementing a subsidy program for converter boxes and any related challenges.

To meet these objectives, we reviewed statutes, regulations, and federal agency planning documents that broadly define the role of the Federal Communications Commission (FCC) and the National Telecommunications and Information Administration (NTIA) in the DTV transition. In addition, we reviewed strategic plans for both FCC and NTIA, FCC periodic reviews and orders related to the transition, and testimony statements of FCC, NTIA, and officials from broadcasting, retail, manufacturing, cable, and advocacy groups. Further, we spoke with a wide variety of stakeholders in the transition, including FCC and NTIA officials, as well as the nine steering committee members of the DTV Transition Coalition: AARP, Association for Maximum Service Television, Association of Public Television Stations, Consumer Electronics Association, Consumer Electronic Retailers Coalition, Leadership Conference on Civil Rights, LG Electronics, National Association of Broadcasters, and the National Cable and Telecommunications Association. We also interviewed five retailers, the North American Retail Dealers Association, two additional converter box manufacturers, the Satellite Broadcasting and Communications Association, a television station that has completed its transition to digital, four state broadcaster associations, and two additional special interest groups that act on behalf of underrepresented populations. We also attended two meetings of the DTV Transition Coalition.

Further, we convened a half-day panel of 14 senior management-level experts in strategic communications to identify and come to consensus on key planning components for consumer education and outreach. The panel succeeded in agreeing upon the key phases of a public education outreach campaign. Additionally, the panel discussed key components of the implementation and measurement phases of an outreach campaign. We selected these experts based on their experience overseeing a strategic communications or social marketing campaign or other relevant expertise. The experts represented private, public, and academic institutions: AARP, Academy for Educational Development, American Legacy Foundation, APCO Worldwide, Edelman, Fleishman-Hillard, GolinHarris, Issue Dynamics Inc., Ogilvy, PodTech (representing Sweden's DTV transition), Population Services International, Porter Novelli, Food and Nutrition

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Service within the U.S. Department of Agriculture, and the Darden School of Business at the University of Virginia.

Finally, to learn about the subsidy program, we reviewed comments submitted to NTIA regarding the proposed program rules. We reviewed NTIA's Request for Proposal for administering the program, questions submitted to NTIA from prospective bidders, NTIA's answers to those questions, and the NTIA contract for the converter box subsidy program. However, NTIA awarded the contract in August 2007, which was at the end of our audit work. Thus, our review was preliminary, and adequate time has not yet passed for us to evaluate the contractor or NTIA's performance in administering the contract. We also interviewed the National Oceanic and Atmospheric Administration, the agency acting as NTIA's contracting officer for the program. To determine important practices in administering performance-based contracts, we reviewed the Office of Federal Procurement Policy's "Seven Steps to Performance-Based Services Acquisition," as well as prior GAO reports. We conducted our review from January 2007 to August 2007 in accordance with generally accepted government auditing standards.

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# Appendix II: Key Planning Components, Implementation Challenges, and Evaluation Elements of Public Education Outreach

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The DTV transition presents a communications challenge that is relatively unique—inform the U.S. population, and particularly affected subgroups within that population, about an issue that will require some households to take action within a fixed period of time. Although the DTV transition is a communications challenge, the process for informing the public about this issue is similar to the course of action that occurs in many public education outreach campaigns, particularly those looking to affect a behavior change. These public education campaigns typically have three fundamental stages: planning, implementation, and evaluation. In order to determine the extent to which a campaign has reached its goals, the steps that comprise each stage must be understood.

We convened a panel of strategic communications and social marketing experts on June 28, 2007, to better understand the steps that comprise a consumer education campaign. The panel focused on communications campaigns that are intended to elicit a one-time action or behavior change. The objectives of the panel were to (1) achieve consensus on key practices of the planning stage of the campaign process; (2) understand what, if any, potential challenges might obstruct the implementation of consumer education efforts when moving from principles to practice; and (3) understand some of the key ways to evaluate the campaign on process and outcomes.

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## Key Practices for Planning an Effective Consumer Education Campaign

We asked the panelists to write their own list of the key elements of a consumer education campaign. Once they completed writing their list, each expert shared one of their items and the discussion continued around the table until all had given one key element. Panelists were then encouraged to share other elements on their list that had not yet been shared, or others they thought of during the discussion. At the end of the session, there were 40 discrete elements that had been suggested by panelists and then discussed.

The panel agreed to allow us to contact them at a later date to reach consensus on the key elements of the planning stage of a consumer education campaign. In the week after the panel concluded, we analyzed the 40 proposed elements and collapsed them into 11 broader categories. Each of the panelists was then sent an e-mail showing the 11 categories with their corresponding definitions, and a description of how each of the 40 items fit into the 11 broad categories. The panel was requested to provide feedback in the form of an agreement with the 11 categories created or to offer suggestions about how they would modify those categories. We received comments from 11 of the 14 panelists and the

nonresponse from the other 3 was viewed as consensus with our analysis. Based on the panelists' feedback, we created a final list of 9 key practices for planning a consumer education campaign. As discussed previously in this report, these key practices (in no particular order) are (1) define goals and objectives, (2) analyze the situation, (3) identify stakeholders, (4) identify resources, (5) research target audiences, (6) develop consistent, clear messages, (7) identify credible messengers, (8) design media mix, and (9) establish metrics to measure success. While this list was created with the DTV campaign in mind (focusing on a one-time behavior change), the goal in creating this list was that it could be used to provide a framework for evaluating other consumer education outreach programs as well.

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### Key Implementation Challenges That Might Obstruct Consumer Education Efforts

In this panel session, participants were asked to draw upon their previous experiences with public education campaigns to identify key challenges they have faced when moving from the principles of the planning stage to the practices of the implementation stage. As discussed previously in this report, the following challenges were the four that stood out as the most pressing implementation challenges: (1) prioritizing limited resources, (2) educating consumers who do not necessarily need to take action, (3) reaching underserved populations, (4) aligning stakeholders.

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### Key Elements for Measuring Campaign Effectiveness

The final session of our expert panel was a discussion about the role of evaluation in a strategic communications campaign. While the evaluation phase is typically considered a distinct component, it can be integrated into all parts of a campaign. The evaluation process for a public education campaign is typically thought of in three phases: (1) inputs, which includes the investments of the evaluation, such as resources, staff, partners, and technology; (2) outputs, which monitors the performance of the contractor or service provider in conducting the program; and (3) outcomes, which evaluates the impact of a campaign at different time intervals. This process is often represented schematically by a logic model, which is an evaluation tool used to describe a program's components and desired results and explain the strategy—or logic—by which the program is expected to achieve its goals.<sup>1</sup>

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<sup>1</sup>For additional information on how logic models are used in a public outreach campaign, see GAO, *Program Evaluation: Strategies for Assessing How Information Dissemination Contributes to Agency Goals*, [GAO-02-923](#) (Washington D.C. Sept. 30, 2002).

Because the panelists were not evaluation experts, per se, but rather practitioners who used evaluation and measurement in their own campaigns, the focus of the discussion was primarily on the role of the outcomes measurement phase. There was also a brief discussion of outputs measurement. This discussion was not as in-depth as it may have been with a panel of evaluation experts. The practitioner perspective, however, yielded some valuable insight to the process.

The panelists agreed that evaluation is an essential element of any public education campaign. In fact, panelists believed that evaluation is a “must do” even with limited resources. Panelists suggested that, with limited resources, a government outreach campaign must work with stakeholders that also have a vested interest in the issue, in order to leverage both the work and funding. One panelist noted that, in the case of the DTV transition, there are “two giants with a vested interest—the media and the consumer electronics industry.” The panelist suggested that the federal government coordinate its efforts with these and other interest groups to conduct most of the outcomes evaluation. Furthermore, panelists stressed the importance of having a clear understanding of the goals and objectives of the campaign when designing the metrics that comprise the evaluation component. Once the goals are clearly defined, planners can establish the necessary targets to measure the effectiveness of a campaign.

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## Panel Selection and Representation

In selecting the panelists, at the institutional level, we sought to represent a broad spectrum of relevant expertise, including people from private sector communications firms; special interest groups with relevant experience in reaching out to special needs populations; government agencies with relevant experience in communicating one-time messages or information requiring a behavior change; academic experts in marketing or social marketing; and relevant nonprofit organizations. At the individual level, selection of the panelists was based on the following criteria:

- relevant experience in comparable outreach campaigns, either based on experience in communicating comparable messages or experiences in communicating to comparable populations;
- Vice President or Senior Vice President level or above; if not applicable, individuals who have led relevant outreach campaigns;
- recognized as an expert by peers;

- recommended as an expert by peers;
- several years of experience in the professional/academic field; and
- based in or around Washington, D.C. (because we are unable to pay any costs for participation, including travel costs).

The following organizations were represented on the expert panel:

- *Strategic communications firms*: APCO Worldwide; Edelman Worldwide; Fleishman-Hillard; GolinHarris; Issue Dynamics, Inc.; Ogilvy; and Porter Novelli;
- *Academic institutions/nonprofits/associations*: AARP; Academy for Educational Development; American Legacy Foundation; Population Services International; University of Virginia, Darden School of Business; and
- *Government agencies*: Swedish Government; U.S. Department of Agriculture, Food and Nutrition Service.

# Appendix III: Federal Communications Commission Response



OFFICE OF  
THE CHAIRMAN

FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON

Mr. Mark L. Goldstein, Director  
Physical Infrastructure Issues  
U.S. Government Accountability Office  
Washington, DC 20548

Dear Mr. Goldstein:

I have reviewed the Draft Report relating to the Digital Television Transition and take seriously the findings and recommendations included therein. I have significant reservations and concerns with the reports approach and conclusions.

On October 29, 2007, I met with you and presented the Federal Communications Commission's (the FCC or Commission) written response to the Draft Report.

The Commission objects to the GAO's refusal to include an unedited copy of the Commission's written comments when it publishes its final report. *Government Auditing Standards* require the GAO to "include in their report a copy of the officials' written comments." See U.S. Government Accountability Office, *Government Auditing Standards* at section 8.33 (Jan. 2007) ("*Government Auditing Standards*" or "*Yellow Book*"). In addition, the GAO's published procedures for conducting its work with Federal agencies require the GAO to include an agency's written comments in the final report. Specifically, the GAO's *Agency Protocols* states that "[a]n agency's electronic or hard-copy written comments are typically reproduced in an appendix to the issued report." U.S. Government Accountability Office, *Agency Protocols* at 22 (Oct. 2004) ("*Agency Protocols*"). We have even offered to pay for the inclusion and publication of our response.

The purpose for the requirement to publish an agency's written comments is clearly stated in the GAO's *Government Auditing Standards*: "Including the views of responsible officials results in a report that presents not only the auditors' findings, conclusions, and recommendations, but also the perspectives of the responsible officials of the audited entity and the corrective actions they plan to take." *Government Auditing Standards* at section 8.32. By failing to reproduce the Commission's written comments in an appendix, the GAO's final report will be denying the Commission an important avenue for expressing its view of the GAO's report.

Over the course of the past year, the Commission has committed extensive resources to working with the GAO on this and other matters. We estimate that the Commission has devoted more than 6,100 staff hours responding to the GAO's requests and has provided more than 13,650 documents to the GAO. We estimate that American taxpayers have paid more than \$500,000 for the Commission to respond to these requests. In light of the costs incurred to

Page 2 Mr. Mark L. Goldstein

respond to the GAO's requests, as well as the GAO's standards cited above, the GAO should publish the agency's unedited written comments in its final report.

Finally, we note that, should the GAO continue to refuse to publish the Commission's written comments, *Government Auditing Standards* require the GAO to modify its published statements that it performed its engagement in compliance with *Government Auditing Standards*. Specifically, the GAO's *Yellow Book* states that "[w]hen auditors do not comply with all applicable [government auditing] requirements, they should include a modified [government auditing] compliance statement in the audit report." See *Government Auditing Standards* at section 8.31. The GAO should inform readers of this report that it did not comply with all applicable *Government Auditing Standards* in this instance.

Sincerely,



Kevin J. Martin

# Appendix IV: Comments from the Department of Commerce



**THE SECRETARY OF COMMERCE**  
Washington, D.C. 20230

October 15, 2007

Mr. David M. Walker  
Comptroller General  
Government Accountability Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Mr. Walker:

Thank you for the opportunity to comment on the Government Accountability Office's Report entitled, "Digital Television Transition: Increased Federal Planning and Risk Management Could Further Facilitate the DTV Transition," GAO-08-43. With a successful digital transition American consumers will continue to have access to free, over-the-air television. Completion of the transition by 2009 will make valuable spectrum available for more broadband and public safety services. The Department of Commerce (DOC) is committed to the success of this transition through its role in the Digital-to-Analog Converter Box Coupon Program.

One of the risks you identify in the report is the voluntary nature of the participation of industry in the Coupon Program, and more particularly, in educating the American public about the digital transition. While the DOC certainly understands this risk, the solution is not the establishment of a digital transition czar or single, government-mandated message. The broadcasting, consumer electronics, cable, and satellite television industries and consumer advocates have as much incentive and as important a role in the education of consumers as any government agency does. There are a variety of ways that a consumer can achieve a digital transition, and thus, each of these industries will use a different message to ensure that consumers understand all of these choices. A multiplicity of messages and sources of information is critical to a well-informed consuming public. The stakeholders in the transition are in the forefront of the education effort through their individual commitments as well as collaborations like the Digital TV Transition Coalition.

The Department's National Telecommunications and Information Administration (NTIA) has made significant progress in implementing the Coupon Program, much of which is due to the close collaboration of these stakeholders. In addition to issuing final program rules with significant input from industry and consumer advocates, NTIA has awarded a program administration contract to IBM and its partners and has already certified a number of converter boxes with more to be expected as testing continues. The consumer electronics retailing community has also begun making important commitments. At the Department's recent Digital Television Expo, Radio Shack announced that its 4,400 stores will participate in the Coupon Program and engage in a consumer education effort.

Mr. David M. Walker  
Page 2

NTIA's own efforts will largely be directed at educating the public about the availability of coupons to assist with the purchase of converter boxes, if needed. A key component of the recently awarded IBM contract is the development of a consumer education campaign. NTIA is paying particular attention to people who rely on over-the-air television to ensure that they are aware of the end of analog broadcasting and are prepared to adapt to the required changes. NTIA has identified five target groups for its consumer education efforts because these groups use over-the-air television more than the general population: (1) seniors and older Americans; (2) the economically disadvantaged; (3) rural residents; (4) people with disabilities; and (5) minorities. For maximum impact, NTIA is leveraging its effort by partnering with a diverse range of stakeholders that also serve these target groups, including over 145 organizations and federal government agencies and departments. By way of example, on October 3, 2007, the Family, Career and Community Leaders of America (FCCLA) announced a partnership with Best Buy to engage FCCLA's 220,000 student volunteers in 7,000 communities to educate consumers about the Coupon Program. These are the kinds of diverse public-private partnerships that we expect to proliferate throughout the transition.

Again, thank you for the opportunity to share the DOC's comments on the GAO Report. The DOC remains committed to a smooth and seamless transition for consumers to digital broadcasting through the successful implementation of the Coupon Program.

Sincerely,



Carlos M. Gutierrez

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# Appendix V: GAO Contact and Staff Acknowledgments

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## GAO Contact

Mark L. Goldstein, (202) 512-2834, or [goldsteinm@gao.gov](mailto:goldsteinm@gao.gov)

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## Staff Acknowledgments

In addition to the individual named above, other key contributors to this report were Sally Moino, Assistant Director; Matthew Cail; Colin Fallon; Simon Galed; Bert Japikse; Crystal Jones; Joshua Ormond; Andrew Stavisky; and Margaret Vo.

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# Related GAO Products

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*Digital Television Transition: Preliminary Information on Progress of the DTV Transition.* [GAO-08-191T](#). Washington, D.C.: October 17, 2007.

*Digital Television Transition: Preliminary Information on Initial Consumer Education Efforts.* [GAO-07-1248T](#). Washington, D.C.: September 19, 2007.

*Digital Television Transition: Issues Related to an Information Campaign Regarding the Transition.* [GAO-05-940R](#). Washington, D.C.: September 6, 2005.

*Digital Television Transition: Questions on Administrative Costs of an Equipment Subsidy Program.* [GAO-05-837R](#). Washington, D.C.: June 20, 2005.

*Digital Broadcast Television Transition: Several Challenges Could Arise in Administering a Subsidy Program for DTV Equipment.* [GAO-05-623T](#). Washington, D.C.: May 26, 2005.

*Digital Broadcast Television Transition: Estimated Cost of Supporting Set-Top Boxes to Help Advance the DTV Transition.* [GAO-05-258T](#). Washington, D.C.: February 17, 2005.

*Telecommunications: German DTV Transition Differs from U.S. Transition in Many Respects, but Certain Key Challenges Are Similar.* [GAO-04-926T](#). Washington, D.C.: July 21, 2004.

*Telecommunications: Additional Federal Efforts Could Help Advance Digital Television Transition.* [GAO-03-7](#). Washington, D.C.: November 8, 2002.

*Telecommunications: Many Broadcasters Will Not Meet May 2002 Digital Television Deadline.* [GAO-02-466](#). Washington, D.C.: April 23, 2002.

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