

Lessons Learned: U.S. DTV Transition

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U.S. Goals

- Improve broadcast sound and picture
 - High Definition
 - 5.1 Surround Sound
- Accommodate new services
 - Program guides
 - Additional TV channels
 - Mobile
- Recover large amount of high-quality spectrum for mobile services



U.S. TIMELINE

Early 1990s: Industry begins competition for U.S. digital standard

1996: “Grand Alliance” adopts ATSC as the DTV standard

1996-97: Congress grants each broadcaster an additional temporary 6 MHz channel for DTV transition and establishes a transition end date

1997: FCC adopts service rules and creates Table of Allotments for additional channels

1998: First DTV station on air

U.S. TIMELINE (CONT.)

2002: Manufacturers required to include digital tuner in TV sets

2004: Deadline set for stations to broadcast at full service, consumer education initiative begins

2006: Congress establishes “hard deadline” of **February 17, 2009** and creates subsidy program for DTV converter boxes

2007-08: FCC finalizes DTV Table of Allotments and procedures for construction applications

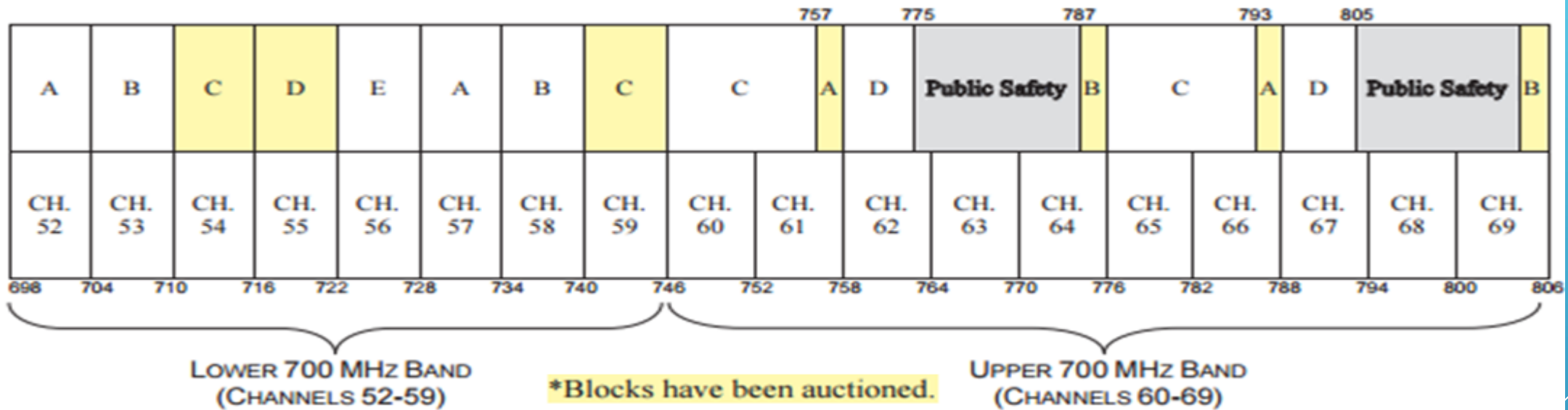
2008-09: Subsidy coupons issued for DTV converter boxes; focus begins on consumer outreach and education

June 12, 2009: Digital switchover

2015: Digital conversion deadline for low-power TV, class A, translator stations

700 MHz BAND PLAN

FIGURE 1: REVISED 700 MHz BAND PLAN FOR COMMERCIAL SERVICES



- ✓ Ensures Public Safety
- ✓ Large Blocks of Spectrum
 - Up to 10 MHz wide available for commercial use

TRANSITION SUCCESSFUL

Transition completed on June 12, 2009!

- ✓ Relatively few problems on and after the transition deadline
- ✓ Many post-transition reception problems were resolved by consumers performing a “double rescan” on their converter box.
- ✓ Other problems were resolved by consumers through “trial and error” relocation of indoor antennas or by upgrading their antennas.
- ✓ UHF reception was as good or better than expected, and VHF reached viewers further out than UHF, as expected.

DOMESTIC OUTREACH EFFORTS

FCC spent nearly **\$130 million** on consumer outreach

- Consumer education (print, TV and radio announcements)
- One-on-one assistance with installation of converter boxes, “boots on the ground” by FCC staff
- Publications were developed in English and Spanish & key publications were translated into 29 languages
- FCC used existing toll-free call center.
- <http://www.DTV.gov>

NTIA spent **\$1.3 billion** for coupon program

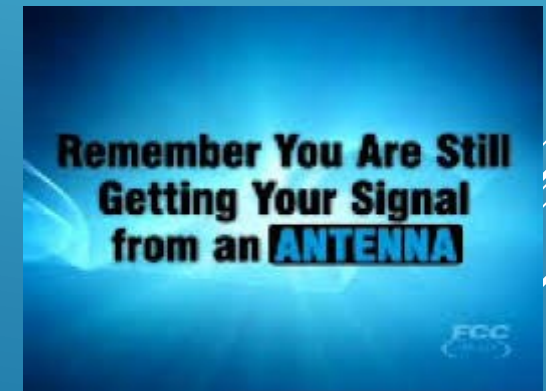
- Subsidy coupon was used to purchase a digital-to-analog converter box
- Two coupons per household
- Worth \$40 each

TV broadcasters spent **\$1.2 billion** on outreach

- Public service announcements
- Consumer publications
- Public appearances



DOMESTIC OUTREACH EFFORTS



CROSS-BORDER COORDINATION

DTV band plans and digital dividend spectrum must be coordinated with neighbors

–Harmonize if possible!

–Start early!

–Bilateral coordination requires taking into account:

- Different transition timelines
- Development of channel plans to permit each country to transition at its own pace
- Potentially different technologies

DTV Transition - Lessons Learned

What Worked?

Outreach:

- Industry coordination with broadcasters, as well as manufacturers, retailers – early and ongoing, national and local
- Federal government coordination – NTIA, other agencies that have regular contact with consumers (e.g., posters in post offices)
- Local governments – challenge to get their attention early but establishing local relationships was key
- Local organizations that focus on elderly, low income, non-English-speaking
- Awareness of transition was very high

DTV Transition - Lessons Learned

What Worked?

Consumer Assistance:

- Local walk-in centers, including at retailers and local stations, for information and to sign up for coupons
- FCC-trained Call Centers available 24/7 on toll-free number with up-to-date referral information
- Demonstrations of how to set up equipment at workshops
- Contractors to help consumers in their homes
- Post-transition work with our partners to develop new antenna guides based on post-transition experience posted on <http://www.DTV.gov>



DTV Transition - Lessons Learned

What Worked?

Technical Considerations:

- We set a hard deadline
- But we delayed our deadline when it was clear we were not ready
 - Delay the deadline if you need to in order to get it right, but don't delay too long as you might lose momentum
- Post-transition work with our partners to develop new antenna guides based on post-transition experience
- We conducted early test transitions in a few markets

DTV Transition - Lessons Learned

What Could Have Gone Better?

- Earlier and more transition test markets might have helped in the final transition planning
- Simplified installations and antenna adjustments would have eased the burden on elderly and those uncomfortable with technology
- Ensure people had the appropriate antennas
- Understand differences among equipment, both TVs and boxes, in order to explain how to solve problems (e.g., double rescan)
- Managing expectations of those who had poor analog but now have no digital reception
 - Coverage footprint got smaller from transitioning to digital, and some viewers on the edge of coverage lost the station signal

Other Considerations

- Funding for outreach and contracts (e.g., call center and in-person assistance) should be anticipated and budgeted early in the process.
- Educational materials and training should be developed well in advance and updated as test market experience identifies the need for revisions.
- Coordination with neighboring countries and obtaining bilateral agreements should be scheduled early in the process to address technical issues and identify mutual sharing solutions.
- Technical issues with lower VHF channels (poor reception)

Thank You!

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