

Trends in America



Issue Brief

The Council of State Governments

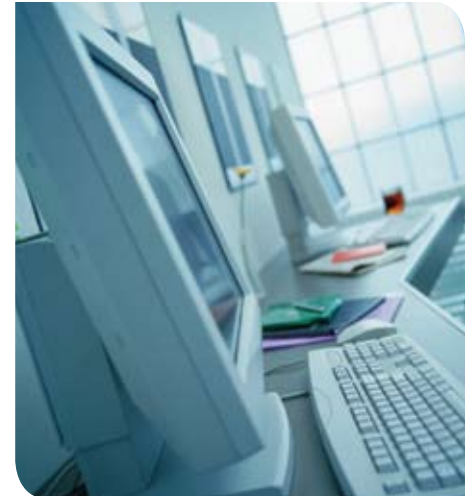
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STATE RESPONSES TO TECHNOLOGICAL OBSOLESCENCE

Technology has progressed rapidly over the past few decades, and it is difficult to deny the positive benefits of the technological revolution. Although technological advancement is considered primarily beneficial, it also presents major social and environmental challenges.

Innovation has led to a growing problem of technological obsolescence. The rate of obsolescence is increasing, often affecting

technologies younger than three years old. Americans who can afford to upgrade their computers and gadgets every few years are doing so, but at what cost? States are taking the lead to deal with the two greatest problems with technological obsolescence: electronic waste (e-waste) and the "digital divide," a term describing the growing technology gap between the information technology haves and have-nots.



The States Respond

Waste Elimination

According to the Environmental Protection Agency, as the U.S. becomes more dependent on electronic products to make life more convenient, the stockpile of obsolete products grows, creating a growing e-waste problem. In the fervor to develop better, faster, sexier technology, the U.S. has failed to plan for the resulting pile of unwanted devices. Electronic waste is the fastest growing category of landfill contributors. In 2005 alone, used or unwanted electronics amounted to approximately 1.9 million to 2.2 million tons. Of that, about 1.5 million to 1.9 million tons were primarily discarded in landfills, and only 345,000 to 379,000 tons were recycled.

There are no federal standards mandating proper disposal of electronics. Improper disposal of these electronic devices can lead to waste management and environmental issues not limited to local or regional areas. E-waste has become an international problem as some states and U.S. companies have begun to transport electronic waste to developing countries for landfill storage. This is especially problematic because the

toxic components in electronic devices contaminate water and soil with heavy metals such as lead and mercury.

Many industry professionals and state leaders agree that the solution to the growing e-waste problem will come from shared responsibility among manufacturers, retailers, consumers and government. Marc Pearl, executive director of the Consumer Electronics Retailers Coalition (CERC), suggests that the U.S. "needs to develop a nationally harmonized conservation and recycling plan for consumer electronics that will encourage manufacturers to design environmentally friendly products and consumers to have (their discards) reused, refurbished or recycled."

To this end, The Council of State Governments' Eastern Regional Conference and the Northeast Recycling Council launched a collaborative project in 2005 to develop a coordinated legislative approach to end-of-life electronics management in the Northeast. The resulting model legislation has generated much interest across the country because it is the first legislation to incorporate the ideas of manufacturers, retailers, consumer protection groups and state leaders.

The purpose of the model legislation is "to establish a comprehensive recycling system that ensures the safe and environmentally sound management of electronic devices and components and that encourages the design of electronic devices and components that are less toxic and more recyclable; and promotes the development of a statewide infrastructure for collection and recycling of end-of-life electronics."

Versions of the model legislation have been filed in Connecticut, Delaware, New Jersey, New York, Pennsylvania, Vermont, Puerto Rico and the U.S. Virgin Islands. Connecticut passed its version of the model legislation, and Minnesota passed e-waste legislation conceptually similar to the model. To date, 13 states have enacted e-waste legislation, and 23 states introduced e-waste legislation during the 2007 session.

In 2000, Massachusetts enacted the first legislation banning disposal of cathode ray tubes—leaded glass tubes found in old televisions and computer monitors—in landfills. The Massachusetts Department of Environmental Protection assisted in developing programs and infrastructure to ensure that residents and businesses

can recycle computers and televisions. The department's Web site offers suggestions to those seeking disposal solutions including recycling pickup and drop-off options.

California enacted the Electronic Waste Recycling Act in 2003 to help fund the collection and recycling of certain electronic waste. The goal of the legislation is to fund and encourage proper disposal of e-waste. Major reforms include:

- collection of an e-waste recycling fee at the point of sale of electronics;
- reduction in hazardous substances used in the manufacture of products sold in California;

- distribution of funds to cover the cost of electronic waste collection and recycling; and
- the recommendation of environmentally preferred criteria for state agencies' electronic purchases.

California is using the Web to spread information about the program. The Web site eRecycle.org gives visitors valuable information in both English and Spanish about why and how they should recycle electronics. The site directs consumers, retailers and manufacturers to pages explaining in layman's terms what the state requires and how to comply.

Oregon recently passed House Bill 2626, which created a statewide program for recycling computers, televisions, laptops and monitors. The bill, which received bipartisan and industry support, requires manufacturers that sell products in the state to finance free, convenient and environmentally sound recycling services for electronic wastes. Beginning in 2009, Oregon manufacturers must either participate in the recycling program designed by the legislation or initiate their own system. The hope is that providing free recycling to consumers will encourage participation, but the bill also includes a landfill ban

on televisions, computers, laptops and monitors effective Jan. 1, 2010. Under the legislation, a \$500 fine will be charged to anyone caught trying to toss recyclable electronics to the curb.

Digital Divide

As members of the middle and upper classes in the developed world acquire new technology products, the chances the poor will ever catch up becomes more unlikely. This phenomenon, the digital divide, affects education and economies in rural and poverty-stricken areas. This gap between the information rich and information poor disproportionately impacts rural communities; however minority, low income and less educated urban dwellers also suffer the consequences. Use of computers and the Internet have become necessities to work, business, education and civic engagement.

All technology access is not created equal. Though the digital divide appears to be shrinking with increased saturation of technology, this is an oversimplification of the problem. There are a variety of barriers that prevent the use of technology. Possession of computer and network connection (material access), interest and comfort level (mental access), education and social support (skills access), and time and usage opportunities (usage access) all affect the use of available technology. An effective solution to the digital divide will have to combat all these issues. To date, most state-run programs deal strictly with material access.

In his 2007 State of the State address, New York Gov. Eliot Spitzer declared the digital divide a high priority, saying "we must ... recognize that access to affordable, high-speed broadband is just as important in today's economy as access to a paved road, to a telephone line or to reliable electricity. But here in New York, we face a digital divide. If you're a child growing up in South Korea, your Internet is 10 times faster at half the price than if you're a child growing up in the Southern Tier or the South Bronx."

Libraries—sometimes the only providers of Internet access in rural communities—fill much of the gap between the e-haves and have-nots. States with largely rural populations are encouraging the telecom industry to develop broadband infrastructure just as they did with telephone lines in the 1920s.

In 2004, Kentucky Gov. Ernie Fletcher announced his plan to provide full broadband access to all Kentuckians. Connect Kentucky, a public-private partnership, aims to be a national model for states facing similar access issues. In 2001, only 60 percent of Kentucky households had the option of subscribing to high speed Internet, but with Connect Kentucky, that proportion has risen to 94 percent. By the end of 2007 Kentucky will be the first state in the nation to have full broadband coverage.

In 2001, Maine became a pioneer in narrowing the digital divide. Maine was the first state to provide seventh and eighth graders, as well as their teachers, with laptops for schoolwork. That project utilized the state-funded Maine Learning Technology Initiative. The laptop program was the brainchild of former Gov. Angus King, who seven years ago announced his plans to connect the state's 34,000 seventh

and eighth graders and their teachers to a wireless network via laptop computers. In 2001, the state's legislature approved a budget that included \$37 million for a four-year program. The program has since evolved into an international model.

Maine's program was extended for another four years in 2005 with little debate and was granted an increased budget of \$41 million. The state Department of Education partnered with Apple Inc. to provide school children and teachers with 38,000 new iBook laptops, training and technical support.

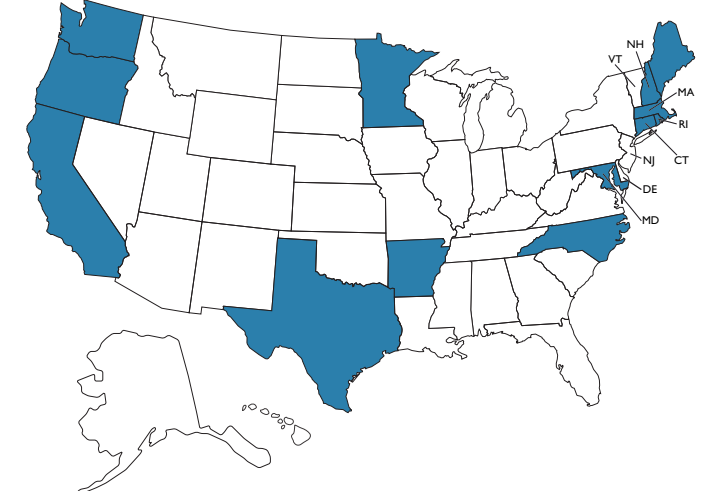
Maine educators attribute the success of the program to the professional training provided to teachers. A key component of the program offers teachers continuing technology-driven education to help them create new ways of integrating the laptops into their curriculum, regardless of the subject. In conjunction with the initiative and the Maine Department of Education, Apple provided professional development for all teachers, principals and tech coordinators for the 2006-2007 school year. In addition, school principals take part in two-day leadership workshops focused on integrating and evaluating the use of technology in their own schools.

Comparison of State E-Waste Laws

Legislative Element	AR	CA	CT	ME	MD	MA	MN	NH	NC	OR	RI	TX	WA
Funding Mechanism													
Consumer-paid advance recycling fee (ARF)		X											
Producer pays			X	X			X		X	X		X	X
Flat Fee					X								
Collection & Recycling Standards or Restrictions													
Landfill ban	X	X	X	X		X	X	X		X	X		
Export restriction		X	X										
Ban on prison labor							X					X	X
Recycling standards			X	X								X	X
Mandatory recycling goals							X						
Product Requirements or Restrictions													
Product label to identify manufacturer or brand		X	X	X	X		X		X	X		X	X
Provisions tied to the European Union Directive (ROHS) regarding the use of certain hazardous substances		X					X						

Source: Congressional Research Service (CRS)

States with E-waste Laws



Source: The Council of State Governments



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Maryland enacted legislation similar to Maine's in July 2007. House Bill 540 established the Laptop Computer Distribution Program that will provide a laptop computer to every seventh grader in a public school in Maryland. The state will provide 70 percent of the cost of the program with the remaining 30 percent to be funded locally. According to Maryland's Department of Legislative Services, local boards of education choosing to participate in the laptop program must develop technology plans consisting of:

- vision statements;
- strategies that will be used for integrating the program into the local infrastructure;
- curricula and administration;
- projections of the resources needed

to implement the program and the costs that would be incurred to implement the program;

- mechanisms and timelines to monitor progress toward plan targets; and
- methods for evaluating the effectiveness of the program.

Maryland will begin implementing this program in 2008 with laptop distribution in 2009.

Moving Forward

The technology revolution of the past few decades has brought positive changes to society and new avenues for education and enrichment for many. But at the same time, it has also brought new challenges to all levels of government.

To date, many state responses to the digital divide have focused on distribution

of hardware or infrastructure installation, which are the first steps to technological literacy. Starting school-aged children out on the right foot with access to computers will give them a decided advantage in higher education and the job market after graduation. Gaps exist, however, in state-funded technology programs for adults. Extending technology education services beyond the education system, into underprivileged communities and rural areas, are the next steps.

Public-private partnerships and inter-governmental cooperation are essential to finding solutions and addressing both the digital divide and e-waste problems.

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Trends in America

The most dominant characteristic of the 21st century is not just change, but the rate of change. Understanding change is the first step toward identifying and implementing effective responses. Trends in America Issue Briefs are designed to help state leaders promote positive change through forward-looking policies and strategic investments.