

A NEW CIVIL RIGHT

**Telecommunications Equality
for Deaf and Hard of Hearing Americans**



K A R E N P E L T Z S T R A U S S

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Telecommunications

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for Deaf

and

Hard of Hearing

Americans

Karen Peltz Strauss

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For my husband Scott, whose extraordinary love, patience, and wisdom not only helped me write this book, but whose remarkable support and sense of humor has kept me afloat and brought joy and laughter to our first twenty-five years of marriage. No words can describe how wonderful it is to have you in my life.

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For the deaf and hard of hearing community, who have allowed me, a hearing person, to share in the beauty and warmth of your culture.

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FOREWORD

The struggle of people who are deaf and hard of hearing to gain meaningful access to telecommunications products and services over the past three decades is a complex and poignant story. Like other major movements to advance human rights, it is a story of great triumphs and painful defeats; headline-grabbing drama and behind-the-scenes deal-making; a few celebrated leaders, and many, many, unsung heroes. At last, we have a comprehensive chronicle of this movement.

This book is written by one of America's most prominent advocates for disability access. During her remarkable career, Karen Peltz Strauss has worked in and out of government to champion the rights of people who are deaf and hard of hearing. As a disability rights leader, she has had a role in every major breakthrough regarding telecommunications access for more than the past twenty years: from access to basic telephone service over TTYs, telecommunications relay services, hearing aid compatibility, closed captioning, and now high-speed broadband networks. She and countless numbers of deaf and hard of hearing advocates around the country have brought about changes that have revolutionized the way that deaf and hard of hearing people communicate with each other and the rest of the world.

This book examines how and why these changes took place when they did. In chronicling the forty-year history of the access movement, it provides an insider's perspective on how these successes were achieved, including strategies used and compromises made. It analyzes the forces within the deaf community that led to these developments, and the fascinating interplay of politics, policy and marketplace pressures.

Having served as general counsel and then chairman of the Federal Communications Commission during the administration of President Bill Clinton, much of this history has special resonance for me. Indeed, Karen Peltz Strauss and I served together at the FCC and worked side by side to significantly expand telecommunications access in a number of areas, including relay services (by authorizing video relay services, speech-to-speech relay services, and 711 dialing access), closed captioning (by requiring visual access to emergency television programming and extending the captioning mandates to digital TV), and hearing aid compatibility (by initiating the rulemaking that ultimately extended this mandate to digital wireless phones). The FCC's accomplishments during my tenure would not have been possible without her leadership, insights, and, above all, her credibility within the deaf and hard of hearing community.

This is a story that needs to be told. Most Americans have become aware of changes in the laws during the 1990s that made the physical world more accessible for people with disabilities. The general public is now very familiar with the Americans with Disabilities Act—the groundbreaking legislation enacted in 1990 that required ramps on

public buildings and curb cuts in streets. Yet the story of the movement for disability access to the electronic, or virtual world, has never comprehensively been told.

With the advent of the Internet, increasingly Americans live and work in a virtual world. It is not a world of bricks and mortar, ramps and curb cuts. It is a world made possible by trillions upon trillions of digital bits that move at the speed of light over fiber-optic cables and through the airwaves. It is an exquisitely complex world that it is every bit as real as the physical world. And it is just as important, because those who have access to this world and can navigate through it with ease have a huge advantage in our society and in our economy. Americans routinely go to the virtual world to buy products and services, to get college degrees, and to find jobs. They go there to seek medical care. They go there to shop and to socialize and to play games. Many even go there to find romance.

Notwithstanding the extraordinary technological gains made over the past decades, too many Americans with disabilities are still being denied access to communication that is only available through this virtual world. These Americans need access to technology that can bring them jobs and information and education in ways undreamed of just a few years ago. A principal challenge for leaders in our information-age economy is to make sure that wondrous new technologies uplift the lives of every American and bring us together—regardless of age or ability.

Martin Luther King, Jr., once said that “the arc of history is long, but it bends toward justice.” The history told in this book chronicles the struggles of some 28 million Americans who are deaf or hard of hearing to find justice in a society that for too long has ignored their basic right to communicate using our nation’s telecommunications networks. Much has been accomplished, but the struggle is far from over. The lessons learned in the past forty years and revealed in the pages of this book offer a compelling roadmap to those who are willing to take up this challenge in the decades to come.

William E. Kennard
Chairman, Federal Communications Commission
1997–2001

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I am deeply grateful to Al Sonnenstrahl, TDI's executive director between 1987 and 1996, whose energy, enthusiasm, and knowledge have both inspired and guided me for the twenty years that we have worked together, and whose ongoing willingness to step into uncharted waters (sometimes despite their unpopularity) contributed to so many of the victories described in this book. I am equally indebted to Judy Harkins, Gallaudet University researcher and professor, whose friendship, direction, and technical expertise I and so many others working to achieve telecommunications equality have come to depend upon, and whose encouragement motivated me to write this manuscript.

My special gratitude also goes to the many individuals who took time out of their active schedules to read and provide feedback on significant portions of the book: my husband, whose willingness to spend hours and hours patiently reading and expertly editing every line of this manuscript went far beyond any promises made in our marital vows; Dan Bart of TIA who never tired of meticulously combing through any of the drafts I sent his way; Larry R. Goldberg of NCAM, who answered my incessant questions over the past four years, and Elaine Hatcher and Ron Hatley of the former AT&T, who created bonds with disability advocates long before it was popular to do so. Special thanks also go to Claude Stout, current TDI executive director, for lending overall support and allowing me to comb through TDI's files for pictures and other archives.

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Larry Goldbergs in this history) for digging out NCLD's archives; to Phil Bravin, Jo Ann McCann, Jeff Hutchins, and Phil Collyer for your assistance on the captioning chapters; to Brenda Kelly-Frey, Pam Stewart, Ed Bosson, and Bob Segalman for guidance on portions of the relay history; to Peter Bennett, formerly of EIA, for providing extensive background material and reviewing my drafts on the early HAC years; to Paula Tucker, for providing technical support where it was needed; to my industry colleagues—Susan Mazrui, Laura Ruby, Rich Ellis, Ellen Blackler, Mary Brooner, Andrea Williams, and so many others too numerous to mention—we may not always agree on how to get there, but I believe in the end we all share a common goal; and to Spiegel and McDiormid (Jeff Berns) and Sprint (Mike Fingerhut), for the generous use of your law library in the preparation of this manuscript.

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INTRODUCTION

It is 8:45 p.m. on a Thursday night in 1970. Olivia, a deaf woman, tucks her six-year-old daughter Beth into bed for the night. After a lengthy day at work, Olivia is exhausted. She enjoys her job, but the days often seem endless, and leave her wanting a relaxing evening. Television is not a good option—without sound or captions, it is hardly worth the experience. Calling a friend over the telephone doesn't even enter her mind; neither she nor any of her deaf friends have a phone. On this particular night, she has some buttons to sew on her daughter's jacket, but decides that this can wait for another evening. She changes into her nightclothes, gets into bed, and reaches for her novel. After a few pages, she drifts off to sleep.

At dawn, she awakes to the push of an arm. Still drowsy, she opens her eyes to see Beth standing over her. She notices immediately the flush in her daughter's cheeks, and confirms the suspected fever at the touch of her daughter's forehead. She had a suspicion that this might happen. Just the day before, she and Beth had been forced to wait for Beth's school bus more than an hour in sub-zero temperatures. They only found out that their bus had broken down when a substitute bus arrived an hour later. Other families had been alerted of the breakdown by phone and had only ventured from the warmth of their homes in time to catch the rescheduled bus.

As she contemplates the severity of Beth's illness, Olivia turns over to wake her husband. When she realizes that he has already left for work, she assesses the tasks before her. She needs to notify Beth's school that her daughter will be out sick. She needs to call Beth's pediatrician to obtain medical advice. And she needs to inform her boss that she will not be able to work that day. Without a telephone, Olivia has no choice but to rely on neighbors for assistance in making these calls. The neighbors on the left had just helped call her insurance company a few days before. Not wanting to bother them again, she bundles up her sick daughter in her heaviest coat and heads for the neighbors to the right. But as soon as Olivia steps into the bitter air and sees the color turning on her daughter's face, she changes her plan. The two walk to Olivia's car and set out for the pediatrician. Olivia realizes that she has not informed her boss that she will not be coming to work, but there is nothing she can do about it.

* * *

It is 8:45 p.m. on a Thursday night in 2006. It is just before tax season, and Beth, Olivia's deaf daughter, has just returned from working late in her accounting firm. Beth's six-year-old son, Justin, jumps up and clings to her as she enters the door. After several intense days of dealing with demanding clients, Beth is exhausted and wants to take her mind off of work. She puts her son to bed and checks the TV listings. There are a number of new captioned sitcoms she has wanted to try out, but her premium cable station has a captioned movie she has always wanted to see. It is not scheduled to

begin for another thirty minutes. This gives Beth time to check her e-mail, visit some vacation spots on the Internet, do some on-line comparison shopping for a new car, and exchange a few instant message (IM) conversations.

Eventually, Beth settles down to watch the movie with captions. It is enjoyable, but sleep overtakes her after the first hour. She is awakened in the morning by Justin, his face flushed with fever. She brings her son back to her own warm bed, tucks him in, and goes over to her camera-equipped computer to call her pediatrician through a video relay service. She learns that she does not need to bring her son to the doctor, and obtains the advice that she needs to effectively care for him at home. After bringing him a glass of water and setting him in front of his favorite cartoons, she goes back to her computer and connects to an Internet relay service to inform Justin's school about his illness. She then uses her pager to notify her husband, already at work, about the state of affairs. She asks him whether they can split the day, that is, whether he can return home midday so that she can attend some afternoon business meetings. When he confirms that he is able to do so, Beth sends a text message to her boss, so that he can switch the time of their meetings to the afternoon. Finally, she sends e-mails to her clients who are comforted to know that she will still be able to handle their affairs later in the day.

It is hard for any of us to imagine a world in which we could not, with ease, be able to communicate with anyone, anywhere, at any time. In today's high speed society, the ability to establish communication with someone else, at any time of the day or night—via a landline phone, a wireless phone, a computer, a text device, a pager, or any other device—has become commonplace.

Yet until the latter part of the twentieth century, the communication that most of America now takes for granted was completely cut off for millions of deaf and severely hard of hearing individuals. Without relay services, the Internet, text and paging devices, and hearing aid compatible telephones, there was no access to critical and basic telecommunications services that were needed for employment, education, recreational, professional, and social activities. A simple telephone call required reliance on a friend, a relative, or even a stranger, for help. Privacy and dignity were compromised and independence, sacrificed. It was quite common to have to depend on someone else—even one's own children—to make a call about sensitive and confidential matters that even involved financial decisions or medical treatment. If no one was available to make the call, the simplest of tasks, calling a repairman, learning a store's hours, or making a dinner reservation, became a major undertaking. A task that could be accomplished in a five-minute voice call became a long and traffic-ensnarled journey through a city.

The far-reaching consequences of not having telecommunications access can be illustrated by returning to the hypothetical story of Olivia. In the interest of attending to her daughter's serious medical needs, Olivia had rushed her daughter off to her doctor. In her haste, Olivia neglected to make arrangements for someone to call her employer, and consequently, failed to show up at work without notice. It was not the first time that the lack of telephone communication had prevented Olivia from notifying her employer of circumstances that caused her to be absent. A few months after this occurrence, when promotions and merit awards were distributed in Olivia's office, she was not among the employees who received recognition. Through no fault of her own, Olivia was perceived as an employee who was not regularly compliant

with her firm's employment guidelines. Scenes like this played out all over America. The inability to communicate by telephone came at great costs.

Olivia typically relied on newspapers to keep apprised of current events. But she could still remember how she felt when, just a few months before, she had sat with her husband huddled in front of their neighbor's TV to watch Neil Armstrong's momentous walk on the moon. Although awe-struck as the images of the astronauts unfolded, she and her husband could not help but feel that they were missing a great deal as the scenes played out without captions. Attempts to get neighbors to explain the precise details of what was happening were to little avail, as they sat mesmerized by the screen's images.

In the 1960s and 1970s, the lack of telephone access that was experienced by deaf and hard of hearing people was accompanied by the lack of access to an equally important communication medium—television. Without the distractions of computer games and the competition of multi-channel cable and satellite programming, it was quite common for hearing families across America to gather around their televisions on a nightly basis to watch their favorite television programs on broadcast TV. Viewers eagerly awaited the new talent of performers on Ed Sullivan's Sunday night variety show. They roared with laughter as they watched Lucy outsmart Ricky in each week's new episode of *I Love Lucy*. They sat in thrilling suspense as the *Twilight Zone* kept them glued to their seats. And they delighted in the antics of Archie Bunker as he exposed bigotry in America on *All in the Family*.

These television shows and hundreds more were not only entertaining; they provided Americans with knowledge about the society around them. In addition to information directly provided through news and public affairs programming, weekly series exposed Americans to cultural mores and societal norms. Dr. Kildare taught medical terminology, Perry Mason introduced legal jargon and courtroom procedures, and a plethora of other programs introduced our nation's youth to the professions to which they might one day aspire.

But for people who could not hear, access to the first three decades of television programming was extremely limited. Without access to the audiotrack through captions, deaf and hard of hearing viewers could get only pieces of the programs that they watched. This prevented these individuals from learning basic facts that other people in America absorbed through routine television viewing. I remember one deaf client upset with the news that her routine medical tests had come back "negative." Having not had access to medical programs aired on TV, she did not realize that a "negative" test result was a good thing. On another occasion, a deaf college student reported a run-in with the police. Not having ever watched crime shows, he was unaware that he had a right to an attorney. By the time he came to our law offices, he had already signed a document waiving that right.

In the 1960s, the U. S. Congress began to think about ways to end discrimination against people with disabilities. But its focus at that time was largely on breaking down barriers of mobility, not communication. It is for this reason one of the first federal laws ever to address civil rights for people with disabilities was the Architectural Barriers Act of 1968, a law that focused only on the removal of physical barriers to buildings supported with federal funds. The civil rights of deaf and hard of hearing people to receive information carried over the airwaves and through the telephone networks had not yet been conceived.

It was not until the early 1970s, nearly a decade after the very first TTY was invented, that one can say that the movement by deaf and hard of hearing people to obtain full telecommunications access truly began to come to life. It is a movement whose passion and momentum often accomplished what everyone seemed to say was impossible. It is a movement for self-determination, one that consistently rejected the paternalistic attempts of telephone companies and federal regulators to make decisions about what was best for people who cannot hear. And it is a movement that continues to this day, in an ongoing struggle to ensure that new advances in telecommunications technologies do not eliminate gains spanning nearly forty years of advocacy. Throughout it all, advocates have shown the persistence and determination to follow each battle through to its successful outcome.

The odyssey for equal telecommunications access has been fueled by the failure of competitive market forces to produce and supply accessible products and services for people with disabilities. Over the past several decades, telecommunications policy has leaned toward allowing competition in a free marketplace to take its course, rather than impose heavy governmental regulation that is perceived to stifle innovation and progress. But the theories behind this approach—theories that have assumed that business incentives will, on their own, bring about innovative products to allow companies to capture greater shares of the market—have never been successfully applied to markets of people with disabilities, which tend to be small, segmented and disproportionately populated by low income wage earners. Where these competitive market forces have failed these populations, the government has had to step in.

Throughout the telecommunications access movement, individuals with hearing loss have waged two wars, one against the legal restrictions that have held them back from having full telecommunications access; the second against the attitudinal barriers that have unwittingly sustained these restrictions. It was not uncommon in the 1970s and even the 1980s for telephone companies to refer to the quest for equal telecommunications access as a “social service” issue or a charitable cause that society had an obligation to address. Rather than treat access as a routine component of their business practices, companies tended to single out accessible products and services as “special,” and thrust them into segregated categories that often failed to merit the same level of attention given to general public offerings. Even now, people with hearing loss sometimes have to fight against this patronizing approach, in attempts to convince industry and regulators to accept telecommunications access as a civil right to which they are entitled. To this end, deaf and hard of hearing advocates continue to push for all telecommunications products and services to be universally accessible, all the while seeking to ensure that hearing people do not unilaterally make decisions about what they need. Paul Taylor, one of the fathers of the telecommunications access movement, best explained the importance of this self-determination when he said, “it is impossible for those who can hear to fully understand how individuals have had to adjust their lives in response to cultural and language deprivations.”¹

The efforts to secure greater access to our nation’s telecommunications systems at the federal level has taken place through various forums and venues—through legislation enacted by the U. S. Congress, through the federal courts, and through the Federal Communications Commission (FCC), an independent regulatory agency that is charged with regulating telephone, television, radio, and to some extent the

Internet. Although often consumer-industry relationships were strained to the point where federal intervention was the only way to achieve resolution of an issue, there were also times when advocates were able to secure promises for improved access from companies through direct negotiation and collaboration.

In an effort to allow the struggles of the past to serve as lessons for the future—and to avoid re-inventing any wheels while doing so—this history chronicles the trail of federal laws and regulations that led to telecommunications access, sharing tales of extraordinary successes and occasional defeats. It is a tribute to all of the tireless advocates who achieved these victories against all odds. This history primarily focuses on proceedings that took place on the federal level, with occasional references to state and local events that helped to trigger national action. But no history on telecommunications access would be complete were it not to recognize the remarkable role that individuals at the grassroots level played in shaping the national disability telecommunications agenda, as well as the countless engineers who poured days and nights into finding accessibility solutions. Although this book recognizes many leaders for their notable contributions, far more in local communities—or even behind the scenes at the national level—were equally important in triggering the national events that played out. Over the years, hundreds, if not thousands, had both the vision of a better future and the willingness to see it through. While the absence of your names in these chapters may be my oversight, it in no way lessens your amazing achievements.

Note

1. Paul Taylor, letter to Michael Djovne, Robert Richardson, and Angela Campbell, September 20, 1989.

I

A Movement Is Born

Most wars are fought in the trenches . . . the place where the 'little guy' goes head to head with his adversary . . . with victory many times going to the combatant with the most heart, determination, and willpower. . . . Yes, the war for access must continually be fought at many levels, and it requires the dedication, knowledge, commitment, and perseverance of a great many advocates—both organizations and individuals.

—Dr. Roy E. Miller,

“Fighting for Access in the Trenches”

FEW INVENTIONS have had as much impact on everyday life as has the telephone. Surprisingly, Alexander Graham Bell’s creation grew out of his interest in finding a way to improve communication by and with people with hearing loss. A teacher of deaf children and the son and husband of deaf women, Bell could never have anticipated that his experimentation with telegraphs would create isolation and hardship for the very people he was trying to assist. Bell filed his patent for the telephone in 1876; it would be almost ninety years before the invention of the TTY would begin to close the enormous chasm in communications that the telephone created for people who are deaf and severely hard of hearing.

Prior to the 1960s, Western Union, United Press International (UPI), American Telegraph and Telephone (AT&T) and other telecommunications companies and news services typically used machines called teletypewriters to exchange text communications. The devices relied on a technology called “5 level Baudot,” a format for data transmissions that had existed since the invention of the telephone itself. Limited in its speed and characters, Baudot could not keep up with the computing needs of the 1960s that were being met through more modern computer equipment and data communications. In order to meet the sophisticated demands of an increasingly computer-literate society, companies decided to replace the obsolete teletypewriter machines with more advanced technologies that used a format known as “8 level ASCII.”¹ The latter format offered additional characters, faster speeds, and more complex features for an advancing telecommunications society.

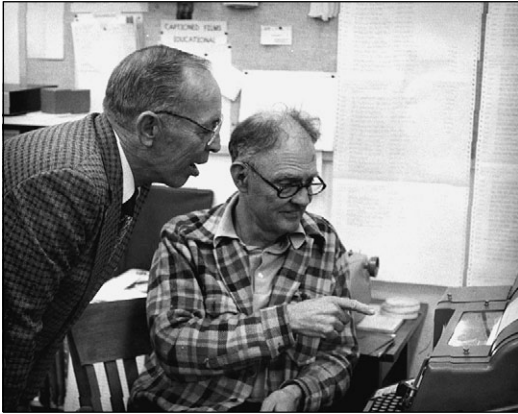
Epigraph. Roy E. Miller, “Fighting for Access in the Trenches,” *GA-SK* 35 (January/March 2004): 4.

At the same time that the shift to these more modern devices was taking place, a deaf engineer named Robert Weitbrecht was exploring ways to facilitate telephone communication by the deaf community. Weitbrecht obtained a discarded teletype machine from a deaf orthodontist named Dr. James Marsters and in 1964, designed an acoustic coupler (modem) that connected standard telephones to the outdated teletypewriters. The coupler changed the electrical signals coming from the teletype into tones and then back again into electrical signals, enabling text to be sent directly over the telephone network from one party to another. Weitbrecht and Marsters employed the financial backing and acumen of a third individual with hearing loss, Andrew Saks, to gather and recondition enough additional surplus teletypes to create a small network of teletypewriter, or TTY, users. In 1967, the three men formed Applied Communications Corporation (APCOM), the first company created specifically for the purpose of researching, developing and marketing telecommunications devices for deaf people.

Unfortunately, the deaf community showed an initial reluctance to acquire the new TTYs. The early machines cost several hundred dollars, a considerable amount of money for a population whose economic means generally fell below the national average. Additionally, the devices were noisy, unwieldy, and unattractive. Each teletype weighed anywhere from 75 to 200 pounds and measured nearly four feet high and two feet wide. Communication on these nascent machines was also painfully slow; keys often stuck together and users needed to press the return key after each and every line. Most deaf consumers questioned the utility of spending so much money for an inferior piece of equipment that provided only limited telephone access to an occasional friend or relative. Accustomed to doing without telephone access, many in the deaf community were also unsure that they needed or even wanted the changes that such access might bring.²

The initial lack of enthusiasm among most members of the deaf community did not dampen the excitement of the few who did decide to take the initial TTY plunge. These individuals understood that, despite its many drawbacks, the potential of the TTY to serve as a communication tool for the deaf community far surpassed any previous inventions. Many years after acquiring one of these devices, one deaf leader reminisced, “I can still remember how thrilled I was to get my ‘TTY monster’ in the mid-60s and how few people I could call then.”³

By 1966, only eighteen TTYs were in operation in the entire United States. More than a year later, still fewer than fifty TTYs had been installed, as compared with 100 million telephones nationwide.⁴ A good number of these TTYs were located in St. Louis, Missouri, where, in 1966, Paul Taylor, a deaf engineer at the McDonnell-Douglas Aircraft Company, and his wife, Sally, set up a private telephone circuit with Sally’s parents, also TTY owners. Although Sally’s parents lived only two blocks away, the Taylors justified the expense because it meant “peace of mind” in the event of an emergency.⁵ Enamored with the ability to communicate by telephone, Taylor founded a local advocacy group called Telephone/Teletype Communicators of St. Louis. He then successfully convinced Western Union Telegraph to donate surplus teletype machines and teach the members of his advocacy group how to recondition and install the couplers. These early years commenced Taylor’s lifelong efforts to improve telecommunications access by deaf people, efforts that—more than two decades



Robert Weitbrecht shows off his TTY modem to an admirer.

later—helped to culminate in the successful passage of provisions in the Americans with Disabilities Act (ADA) boldly advancing that access.

There were other reasons for the sluggish acceptance of TTYs. Although 1964 is celebrated as the year of the TTY modem's creation, during the first four years that the modem existed, AT&T was reluctant to release its obsolete teletypewriters to Weitbrecht and other deaf consumers. AT&T's hesitation had nothing to do with not wanting to help the deaf community. Rather, fearful of losing its monopolistic control over the telephone network, AT&T had a policy that prohibited *anyone* from connecting outside equipment to its network. More specifically, AT&T's tariff, a document filed with the federal government that defined the scope and provisions of the company's telephone services, stated that "no equipment, apparatus, circuit or device not furnished by the telephone company shall be attached to or connected with the facilities furnished by the telephone company, whether physically, by induction or otherwise."⁶ AT&T believed that its responsibility to operate and maintain the telephone system should give it "absolute control over the quality, installation, and maintenance of all parts of the system."⁷ The company was afraid that if it permitted independent equipment manufacturers to use its network, they would resist making changes that AT&T believed were needed to further develop its telephone system. Instead of establishing a TTY network, AT&T encouraged deaf customers to use its Bell system Data-Phone Service to conduct text phone conversations. This service, started in 1968, had been created to enable people in the business world to transmit data and facsimile to one another over computers. But deaf consumers did not consider this a realistic alternative, especially when AT&T refused to reduce its Data-Phone rates to make them economically feasible.

Members of the deaf community believed that AT&T's restrictive interconnection policy was imposing unreasonable constraints on the spread of TTYs. Fortunately, they were not the only ones who believed the company's tariff to be unfair. In the mid-1960s, Carter Electronics of Dallas, Texas, requested permission from AT&T to connect its private mobile radio device, the Carterfone, to AT&T's network. AT&T rejected this request in December of 1966, prompting Carter Electronics to file a formal complaint with the Federal Communications Commission (FCC). In June of 1968, the Commission struck down AT&T's policy for being both "unreasonable"

and “unduly discriminatory.”⁸ The Commission ruled that AT&T had no right to deny the connection of other equipment to its telephone network if the connection did not cause any harm to AT&T’s operations or the use of the telephone system for other people. In fact, this was the second time that the FCC had reached this conclusion. In an earlier case involving a device called the Hush-a-phone, the FCC had already held that telephone companies could not prohibit foreign attachments to their networks if those attachments were beneficial to the user and not detrimental to others.⁹

After the *Carterfone* decision was released, AT&T had no more excuses not to donate its surplus machines to the deaf community, and began entering into agreements with the Alexander Graham Bell Association for the Deaf (AG Bell) to donate hundreds of surplus TTYs through its local Bell telephone affiliates.* Other telecommunications companies followed suit and over the next few years, the deaf community had at its disposal great quantities of surplus teletype machines that needed to be reconditioned and distributed to deaf individuals throughout the country.

To meet this need, two Indiana residents—H. Latham Breunig of AG Bell and Jess M. Smith of the National Association of the Deaf (NAD)—founded an intricate network of volunteers called the Teletypewriters for the Deaf Distribution Committee. With financing from philanthropists such as Richard Zellerbach, hundreds of these authorized agents from across the United States located, refurbished, serviced, and delivered surplus teletype parts from AT&T, Western Union, ITT World Communications, RCA Global Communications, Western Electric, UPI, and the Associated Press to thousands of people.

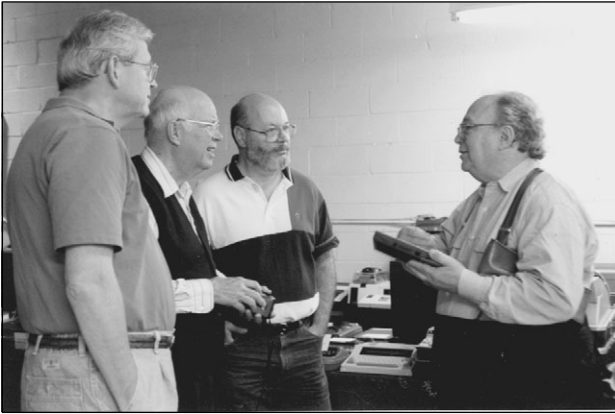
This was not an easy job. Not only were the salvaged TTYs massive; they typically arrived broken and dirty. Rewiring and restoring each one took patience, time, and resources. The committee’s agents enjoyed the assistance of the Telephone Pioneers of America, an honor society of AT&T retirees who devoted themselves to “meeting the special needs of the communities in which they live[d].”¹⁰

In addition to refurbishing TTYs, these pioneers also transcribed books into Braille, volunteered their time in schools for children with disabilities, and produced mechanical devices for individuals with mobility and speech disabilities.

Shortly after its creation, the Teletypewriters for the Deaf Distribution Committee incorporated as Teletypewriters for the Deaf, Inc., or TDI. During its early years, TDI was largely a part-time operation, managed from Breunig’s home in Indianapolis. The master bedroom served as the main office, a second bedroom was the shipping department, and the membership records were kept in Rolodex files on the dining room table.¹¹ But TDI’s membership grew quickly: from 474 members in 1970 to 810 a year later, and to 4,980 in 1975.¹² Members paid \$2 to join TDI, and the organization’s newsletter, *GA-SK*, was, according to its publisher, released “every once in a while.”[†]

* Approximately 600 surplus teletypewriters also had been donated by AT&T to AG Bell in February of 1968, a few months prior to the *Carterfone* decision, perhaps in anticipation of its release.

† *GA-SK* got its name from abbreviations generally used during TTY conversations. “GA,” or “go ahead” is used when one party has finished speaking and is ready for the other to respond. “SK” or “stop keying” is used at the end of a conversation as a means of signing off. According to Kenneth Rothschild, quoted in a 1973 edition of *GA-SK*, however, “SK” had originally been used in railroad telegraphy and meant “send kill” to indicate the completion of a message.



I. Lee Brody discusses a new piece of equipment with fellow telecommunications advocates. Left to right, Paul Taylor, James Marsters, Al Sonnenstrahl, and I. Lee Brody.

In 1976, TDI moved its headquarters from Indianapolis to Washington D.C., in space made available by a local chapter of the Telephone Pioneers of America. At around the same time, it began to publish the nation's first and only TTY directory, a 6-x-7-inch blue loose-leaf binder. In addition to enabling TTY users to contact one another, the directory—which to this day is known as “the Blue Book”—successfully publicized the growing TTY network, which in turn spurred the purchase of additional TTYs.¹³ TDI changed its name to Telecommunications for the Deaf, Inc., in 1979, and for the past several decades it has served as the nation's leading champion of telecommunications access for deaf and hard of hearing people, with chapters across America. Today, TDI's Blue Book has over 30,000 TTY residential, business, and governmental listings, and is available electronically.

In order to meet the growing demands of individuals waiting for teletypewriters on the eastern seaboard, in 1969, I. Lee Brody formed New York-New Jersey Phone TTY, an organization of experienced technicians and deaf colleagues eager to participate in TDI's refurbishing and distribution efforts. With personal funds, Brody would rent an eighteen-wheeler to make regular visits to lower Manhattan. There he would load up the vehicle with discarded teletype machines from AT&T. Back at home, the mammoth machines would fill up his basement, where he and his colleagues would pour hours into making the machines useable for the deaf community. As demand for these devices increased throughout the country, Brody found himself going beyond his eastern boundaries to ship the devices wherever they were needed.¹⁴

Brody's interest in telecommunications access had been triggered by a harrowing personal experience. While hunting in New York, he slipped on some rocks, and the resultant fall caused temporary paralysis of his legs. He was stranded for seven hours before eventually getting to safety. During his recovery he learned about another deaf man who had died because emergency assistance arrived too late. “The horror of being without communication for help” was not something that Brody was willing to tolerate.¹⁵

Brody became frustrated by the failure of the telephone industry to produce a telephone device for deaf consumers that was more portable and affordable than the existing TTY modems. In 1969, he took it upon himself to design a less expensive modem, and he began selling it in competition with Weitbrecht's device. Working

I. Lee Brody (middle) takes a break with Latham Breunig and his wife Nancy, two of the cofounders of Teletypewriters for the Deaf Distribution Committee.



with an engineer named Jim Steel, Brody turned his organization into Phone-TTY, a nonprofit organization that would play a leading role in the research and development of new products for the deaf and deaf-blind communities. One of their proudest accomplishments was the creation of a Braille TTY in 1974, which enabled deaf-blind individuals to receive telephone text through impressions on a Braille embosser.

By the early 1970s, others in the deaf community began to share stories that spoke of the value of having a TTY in the event of an emergency. One woman reported having had a heart attack while she was home alone. She was able to use her TTY to call an interpreter, who then called the woman's daughter. The daughter arrived in time for doctors to save her mother's life at a nearby hospital.¹⁶ Another woman described her ability to successfully summon help when strong winds suddenly blew in one of her window panes.¹⁷ A proud father related how he used his TTY to call his pregnant wife's parents, who in turn notified their daughter's physician that she was in labor.¹⁸

Over time, the expanding network of deaf people also began using the TTY to access information about weather and news.¹⁹ The Telephone/Teletype Communicators of St. Louis arranged for weather bureaus and wire services such as UPI to transmit regular news feeds directly through local TTY networks. Deaf consumers called the services via TTY, and the wired information was automatically transmitted to their TTYs. For many, these sources of information—typically updated every few hours, and often the very same information going to other news outlets—became the only way to keep informed about emergency weather forecasts and breaking news in an era without captioned television. Similarly, Phone-TTY developed a system by which TTY users could access “dial-a-news” bulletin boards that provided information on assorted issues posted by I. Lee Brody.

Telecommunications Advocacy Is Born

The year 1971 proved pivotal in the struggle for telecommunications access. In that year, the Internal Revenue Service finally approved a request (made by APCOM three years earlier) to allow the cost of TTYs, signalers, and related equipment to be deducted as medical expenses. The ruling covered all “specialized equipment that

enable[d] a deaf taxpayer to communicate effectively over a regular telephone by means of converted teletype signals,” and marked the first time that the federal government officially recognized the need to facilitate telecommunications access by deaf citizens.²⁰

That same year TDI held the First National Conference of Agents of Teletypewriters for the Deaf, at Gallaudet College (the only liberal arts college for deaf and hard of hearing students).²¹ Representatives from both the private and public sectors came together to explore a variety of pressing issues, including the interface between TTYs and computers, emergency access via TTYs, TTY answering services, and the new TTY weather and news services.²² Most importantly, the 1971 gathering heralded the start of deaf consumer activism on the state and federal levels. Drawing on the IRS achievement as an example of successful advocacy, Andrew Saks and other presenters implored their fellow conferees to contact their legislators—both in writing and now on TTY—to achieve similar legislative victories for telecommunications access.²³

By the end of 1972, the number of TTYs installed throughout the United States jumped to approximately 2,500.²⁴ Youth counseling hotlines, rehabilitation centers, libraries, transportation authorities, and community centers were now acquiring the devices for outgoing as well as incoming calls. Additionally, many cities in California, Texas, Alabama, New York, and Maryland began installing TTYs in their police, fire, and emergency call centers. Despite this growth, the overwhelming majority of residential customers with severe hearing loss still lacked telephone access.

During the spring of 1973, AT&T signed an agreement with TDI to provide an additional 500 surplus TTYs and related equipment through its operating companies.²⁵ The terms of this and other AT&T contracts tell a story about the bargaining position of the deaf community during this period. Not only did these contracts restrict TTY use “for personal communications only and not for any commercial purpose,” the agreements also required users to relinquish all claims against AT&T and its affiliates for problems with the devices, even though the discarded TTYs sometimes arrived in deplorable condition.²⁶ Even worse, recipients had to consent to possible inspections by the phone company or TDI to verify how the equipment was being used. Finally, because TTY transmissions to overseas locations were then considered data rather than voice transmissions, both the FCC and AT&T prohibited users from making overseas TTY calls.²⁷

By this time, the cost for a working surplus TTY averaged between \$200 and \$250. Added to this were expenses for repair, maintenance and paper supplies. In sharp contrast, AT&T leased conventional voice telephones to hearing people for only a few dollars a month, at costs subsidized by other telephone services. AT&T also warranted its voice telephones to be in good condition and provided service and repair on those devices at no cost.

In addition, TTY users faced much higher telephone bills than voice telephone users. The best of the early Baudot-only TTYs transmitted conversation at a speed of only sixty words per minute. As a consequence, an average TTY-to-TTY call took three to four times longer than a conventional voice conversation, which was transmitted at an average rate of 165 words per minute.²⁸ The dilapidated condition of the early TTYs also often forced users to pause to correct errors when keys stuck together or the return carriage malfunctioned. And many deaf individuals could not type close

to the sixty-words-per-minute rate, especially if English was their second language. Many deaf people's primary language is American Sign Language (ASL), which has its own grammatical structure and syntax; for these individuals, converting thoughts into English added extra time to the length of a phone call. As a consequence, it was not uncommon for TTY users to pay several hundreds of dollars per month in long-distance telephone bills. For example, the first call made between Honolulu and the mainland in 1973 cost \$15 for fifty lines of text!²⁹

The disparity between the expenses associated with owning and operating a TTY and those associated with using voice telephones increasingly frustrated the deaf community. Fortunately, other events in the 1970s helped to galvanize the community into ridding itself of this second-class status. Specifically, in 1973, Congress enacted Section 504 of the Rehabilitation Act of 1973, a federal law prohibiting programs and activities receiving federal financial assistance from discriminating on the basis of disability.³⁰ Although final rules implementing this law were not released until 1977, the law created new rights to telephone access both for employees who needed access to fulfill their job responsibilities and for beneficiaries and participants of federally funded programs.³¹ Under Section 504, individuals now had the right to request TTY access in Social Security offices, hospitals that received Medicare and Medicaid, and universities that provided federal financial aid. Additionally, the new legislation required the installation of TTYs by local law enforcement agencies that received federal money.³²

In the mid- to late-1970s, equipment manufacturers also stepped up efforts to improve TTYs. Technological advancements resulted in the creation of quieter, compact, and more lightweight TTYs that used cathode ray tubes and electronic visual displays with light-emitting diodes to display text. Like the earlier TTYs, these newer devices used couplers to convert TTY impulses into acoustic tones for transmission over the telephone lines. But unlike the early devices, once the tones were converted back into TTY impulses, users could read the typed characters as they moved across the TTY's visual display. Over time, these machines were enhanced even further to include rechargeable batteries and signalers, as well as the ability to store incoming and outgoing messages, record announcements, and choose printing options. These newer TTYs also acquired a new name—TDDs, or telecommunications devices for the deaf. But while modern technology succeeded in shedding much of the weight from these machines, it could not cast away their high price tag. The first lightweight TDDs cost \$600 to \$1,000, even more than their clunky predecessors.³³ For many deaf people with incomes below the norm, these costs remained prohibitive.

Another pivotal event in the creation of the deaf advocacy movement was the founding of the National Center for Law and the Deaf (NCLD) at Gallaudet College in 1975.³⁴ The center got its start when three law students, Larry J. Goldberg, Irene Bowen, and Tom Herrmann, took a class on legal activism taught by John F. Banzhaf at the National Law Center of George Washington University (GWU).³⁵ For a class assignment directed at alleviating a societal wrongdoing through legal advocacy, Goldberg, Bowen, and Herrmann investigated ways to make television accessible to deaf people. After spending months gathering background information from deaf community leaders, including Jess M. Smith, then president of the NAD,

and Richard Israel of AG Bell, the threesome filed a petition with the FCC, requesting the Commission to mandate visual access to televised emergency information.³⁶

During the course of their investigation into the problems associated with television access, the GWU students came face to face with other forms of discrimination that had been plaguing the deaf community, including those occurring in the workplace, the courts, and the telephone system. The three young students quickly realized that there were far more societal wrongs that needed to be corrected to make the deaf community whole, and that the creation of a national law office dedicated to combating these injustices was long overdue. In a move that changed the historical landscape of the advocacy movement for telecommunications access, they worked with Gallaudet College to secure a thirty-month grant of \$240,000 from the U.S. Department of Health, Education, and Welfare (HEW) for the creation of a legal office specifically designed to address the legal needs of people who were deaf and hard of hearing. NCLD opened for business about a year later on the Gallaudet campus with a very broad mission. In addition to hosting educational workshops and running a legal services clinic, NCLD quickly got involved in legislative, regulatory, and judicial proceedings to fight for legal protections in the areas of employment, education, health care, and the judicial system. Aware of the scarcity of deaf lawyers, NCLD also recruited qualified deaf students and assisted them in applying, gaining admission to, and graduating from law school. I was privileged to join NCLD in 1984, where I remained until it closed in 1996. During its twenty-one-year existence, NCLD attorneys provided direct legal assistance to tens of thousands of people, litigated a plethora of cases on behalf of deaf people in the federal courts, and prepared many deaf students for legal careers.

One of NCLD's earliest priorities was to improve telecommunications access for people with hearing loss. By 1976, the deaf community's dissatisfaction with the telephone companies' inequitable practices had grown into social unrest. Protests against local Bell affiliates were staged in Pittsburgh, Denver, and other localities to challenge the higher rates charged for TTY equipment and service and the fact that TTY users were forced to pay for telephone services, including operator, directory, and business office assistance, that were not even TTY accessible.³⁷ Without access to these services, TTY users remained without the means to complete many basic calls, such as those that involved person-to-person, collect, third party, and other operator-assisted connections. In addition, although hearing people did not have to pay an extra charge to have a ringer on their phones, AT&T assessed fees for flashing lights and amplifiers designed to announce incoming calls to deaf and hard of hearing users. Having to pay extra monthly charges for equipment that simply enabled TTY users to be on par with conventional telephone users just did not seem fair. Moreover, the high costs and poor service associated with owning TTYs were undoubtedly discouraging new members of the deaf community from acquiring these devices.*

The FCC did little to eliminate the unjust treatment; perhaps more disconcerting,

* A letter from Edward C. Carney, Assistant Director of the NAD, to NCLD on December 13, 1977, noted that the costs of purchasing and installing a TTY still ranged from \$200 to \$700, making it too expensive for many deaf citizens.

and reflective of its lack of concern for these issues, was the agency's own failure to acquire a TTY. In the spring of 1976, NCLD's first executive director, Glenn Goldberg, expressed his disappointment to FCC Chairman Richard Wiley: "It is shocking that an agency dedicated to communication has not taken the necessary steps to communicate with deaf people."³⁸

The criticism provoked the needed response. Before the year was over, Chairman Wiley announced the installation of a TTY in the Commission's Consumer Assistance Office at a ceremony attended by Goldberg, Edward Carney (assistant to the executive secretary of the NAD), Dr. George Fellendorf (executive director of AG Bell), and Latham Breunig (now the executive director of TDI). The event, held on December 15, 1976, included a call from John S. Schuchman, dean of liberal arts at Gallaudet, to Chairman Wiley over a device called a TV phone, which displayed the messages on a computer-like monitor. Wiley applauded the day's events as a sign of how "advances in communications technology can be used effectively to further enhance the availability of government processes to larger segments of our population."³⁹ But it would take actions, not words to bring those advances into the hands of people with hearing loss, and unfortunately, action on the federal level was not yet forthcoming.

Local Advocacy

The first coordinated efforts to rectify the disparity in telecommunications services began locally, with petitions to state regulatory commissions seeking lower toll (long-distance) rates for TTY calls. NCLD joined this effort, jump starting a few of the state proceedings and providing expert testimony and other forms of legal assistance in others.⁴⁰ To help consumers around the country achieve success on their own, NCLD put together a manual, *Strategies for Obtaining Reduced Intrastate Rates for TDD Users*, that carefully set out the arguments in favor of TTY rate reductions. Its message was straightforward: Look at the value of a telephone service, rather than its costs, in determining rates. Everyone agreed that all Americans were entitled to telephone service at fair and reasonable rates. NCLD lawyers pointed out that although it cost more to provide telephone service to rural or mountainous regions, telephone companies routinely charged residents in these remote areas the same amount for basic service as they charged city dwellers because the *value* of the telephone service was the same, no matter where those subscribers lived. Telephone companies then subsidized the costs of providing rural service with money collected from telephone subscribers living closer to their central offices. NCLD proposed that the rates for TTY service similarly should be based on the *value* of this telephone service, rather than its *actual* costs. If it took three times longer to complete TTY-to-TTY calls, then these calls needed to be discounted by one third.

Several of the local efforts to reduce TTY rates were successful. On July 6, 1977, the New York Public Service Commission authorized a 25 percent across-the-board reduction in the telephone bills of any person certified to be deaf by a doctor or state agency.⁴¹ A decision by the Connecticut Public Utilities Control Authority in December of that same year mandated a 75 percent reduction in toll charges for all TTY calls.⁴² Unfortunately, the basis for the Connecticut ruling was less than enlightened. Although the Connecticut authority seemed to understand the need to reduce rates in

order to encourage TTY usage, it concluded that discounted rates would be affordable because TTY users were likely “to limit their usage to calls of necessity and [were] less likely to make calls of convenience.” The result was what consumers wanted, but this rationale revealed a failure to comprehend the desire of the deaf community to be full and equal participants of the telephone network.

Three Avenues of Advocacy

As efforts to reduce TTY charges proliferated around the United States, so did the number of TTY owners. By February of 1977, 27,000 TTYs were in operation.⁴³ Notwithstanding this growth and some of the local successes, deaf and hard of hearing consumers realized that they still needed to make more concerted efforts to achieve telecommunications parity nationwide. They laid out the options before them: They could seek legal mandates through federal legislation, convene negotiations to encourage AT&T to voluntarily improve services and equipment, or seek regulatory relief from the FCC. They decided to pursue all three.

The Legislative Arena

By 1977, few if any federal lawmakers had TTYs in their offices. Section 504 of the Rehabilitation Act only covered federally *assisted* private and state entities, not the federal agencies themselves nor any part of the U.S. Congress. To reach congressional members, deaf constituents typically had to call a single, centrally located TTY, which was neither toll free nor capable of connecting callers directly to their representatives. Senator Lowell Weicker (R-Conn.), one of the few legislators to install TTYs in his home offices of Bridgeport and Hartford, related the inadequacies of the existing system to his colleagues:

[It] would completely disrupt normal congressional operations. The deaf would have to dial a special number and leave a message for a congressional office to call back. A staff member would then have to walk to the communications center and place the phone call away from all his or her office resources. Return phone calls would often be necessary. If our deaf constituents call at the same rate as everyone else, staffers will be running to the communications center all day long. This clearly unacceptable burden might preclude a member from even offering the service to his constituency.⁴⁴

To rectify this, Congresswoman Gladys Spellman (D-Md.) introduced H.R. 6711 in 1977, which required the installation of TTYs in all congressional offices and federal, state, and local government agencies. Senator Robert Dole (R-Kans.), Congressman Edward Koch (D-N.Y.), and Paul Findley (R-Ill.) introduced similar bills to provide toll-free TTY access for direct communication with members of Congress.⁴⁵ These early TTY-specific bills never became law, but a year later, Congress amended Section 504 of the Rehabilitation Act by extending its nondiscrimination provisions to federal executive agencies (though not to the U.S. Congress).⁴⁶

NCLD worked with members of Congress in other ways. In February of 1977, the law center convinced Congressman Findley to send a letter to FCC Chairman Wiley requesting that the Commission grant reduced telephone rates for TTY users.⁴⁷ The letter summarized an experiment conducted by NCLD’s staff, in which two calls—one by TTY, one by voice—were made to the White House. Both calls sought identical

information concerning the timing and sign language interpretation of a televised press conference. Findley's letter reported that the TTY call took three times as long as the voice call. He alluded to the inequities of this outcome, especially given that the average income of a deaf individual was only 62–76 percent of that of the average American.

NCLD also provided testimony before the House Interstate and Foreign Commerce Committee hearings on domestic common carriers in September 1977. Its statement detailed the nature of the telecommunications discrimination experienced by the deaf community: exorbitant prices for basic equipment, lack of TTY care and maintenance services, unreasonably high rates for telephone service, and insufficient numbers of hearing-aid compatible and amplified telephone handsets.⁴⁸ NCLD pointed out that these deficiencies represented a failure to meet the “universal service” obligation of the Communications Act of 1934, an obligation that specifically directed the FCC to “make available, so far as possible to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.”⁴⁹ It then called upon the Commerce committee to hold hearings to address the telecommunications needs of the then estimated 13.4 million Americans living with hearing loss. NCLD's novel use of the universal service doctrine laid the framework for telecommunications advocacy to this day.

Negotiations with AT&T

AT&T was not a complete stranger to the needs of people with disabilities. During the first half of the twentieth century, the company's research and development division, Bell Laboratories, and its manufacturing arm, Western Electric, designed and produced various telephone products to assist people with disabilities. As early as the 1930s, Western Electric manufactured hearing aids self-contained in their own carrying cases, and in the following decades it produced headset amplifiers, a range of tone and light ring indicators, a watchcase receiver,* an electronic larynx, single button phones, and devices that converted sound coming over telephone lines into either vibrations or lights.⁵⁰

Nevertheless, by the mid-1970s, the relationship that AT&T had had with the deaf and hard of hearing communities began to deteriorate as requests for AT&T to stop its inequitable telephone practices went largely ignored. Leaders of national consumer organizations representing deaf people became convinced that coordinated meetings with high level officials of AT&T were the only way to make the company truly understand their concerns. To this end, in 1977, Barry Strassler (TDI), George Fellendorf (AG Bell), Fred Schreiber (NAD), Reba and David Saks (Organization for Use of the Telephone [OUT]), and Sy DuBow (NCLD) put together the “Deaf Community Telecommunications Agenda.” Their demands, which were no longer new, included

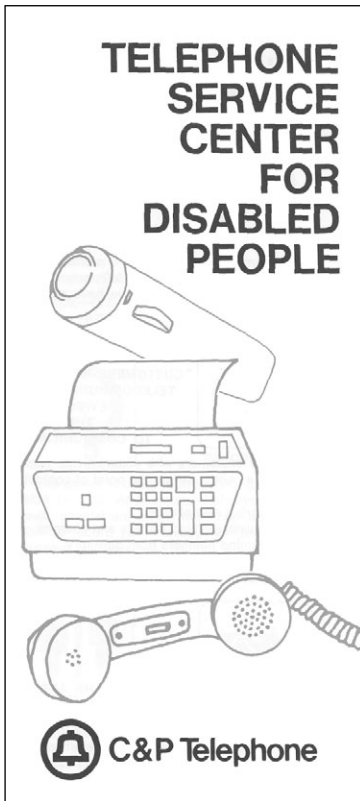
* A watchcase receiver allowed a third person to listen to a telephone conversation taking place between a hearing person and a person with hearing loss. The third person, seated in the same room as the individual with the hearing loss, listened to the distant party and “relayed” the information through sign language or by re-mouthing the words in person to the deaf or hard of hearing person seated across from him. That individual responded by voice on his own.

- the provision and servicing of TTYs at rates comparable to other AT&T phones;
- access to operator, information, business office assistance, and recorded “intercept” messages that notified customers about a change in telephone numbers;
- reductions in local and long-distance rates for TTY users;
- the elimination of extra charges for handset amplifiers and bell signal flashing lights;
- the provision of TTY-accessible payphones and payphones with amplification; and
- a policy for all AT&T phones to be hearing aid compatible.⁵¹

Over the course of the next year, AT&T and deaf advocates came together in a series of negotiations that proved to be partially successful. Instrumental to this effort was an AT&T hearing employee named Joseph B. Heil, Jr. Heil had grown up on the West Virginia Avenue periphery of Gallaudet College, and as a young boy, routinely climbed over the fence to help himself to an ear of corn from one of the college’s gardens. As a teenager, Heil got a job painting Gallaudet’s clock tower, by which time he felt at home with his deaf neighbors. In 1942, he began working for the Chesapeake and Potomac Telephone Company, the AT&T affiliate for the metropolitan D.C. area, where he remained for the next several decades. In the mid- to late-1970s, when AT&T began to downsize in response to the Department of Justice’s antitrust charges against it, the company needed a new way to maintain its relationships with local communities. Recalling his childhood experiences on the Gallaudet campus, Heil offered to bring AT&T’s messages over to the college. He soon became AT&T’s ombudsman within the deaf community, convincing AT&T to let him display AT&T information in Gallaudet’s cafeterias, acquire sign language training, and attend major deaf conventions. His name sign—a “J” for “Joe” with the shape of a telephone handset to the ear—was a sign of affection from the deaf community, which increasingly showed a willingness to share its concerns with him.⁵²

The consumer-industry meetings that Heil helped to facilitate resulted in the creation of a high-level AT&T management committee, the Handicapped Services Working Committee.⁵³ One of the committee’s first projects was interviewing hundreds of individuals with hearing loss to assess the weaknesses in AT&T’s TTY equipment, the need for new telephone features, and other telecommunications access needs of its deaf and hard of hearing subscribers. In December of 1977, AT&T also issued a policy statement announcing its intent to establish customer service centers “for the handicapped” in each of its twenty-two Bell companies by the end of 1978. Over the next year, AT&T’s Handicap Assistance Bureaus sprang up across the country. For example, California’s AT&T’s affiliate, Pacific Telephone and Telegraph, began a “Special Assistance Program for the Handicapped” to offer business office and directory assistance via a toll-free TTY number in the Los Angeles area. Similar assistance centers were soon created to provide operator, directory, and business office assistance in the Philadelphia and Washington, D.C., regions, the latter set up by Heil himself. Unfortunately, these bureaus were only open during regular working hours (i.e., weekdays from 9:00 a.m. to 5:00 p.m.). Because most deaf consumers kept their TTYs at home, not at work, they needed access to operator and directory information services precisely when the centers were closed.

Other attempts to share concerns with AT&T resulted in the creation of an informal committee spearheaded by Reba and David Saks, called the Telecommunications for the Hearing Impaired Consumer (THIC) Forum. As a true pioneer for access, Saks



Brochure for one of the early customer service centers specifically for people with disabilities. Because the centers were open only from 9:00 a.m. to 5:00 p.m. on weekdays, the majority of individuals who kept their TTYs at home had no way of getting operator or directory assistance during the evening hours when they needed it most.

was tenacious in his efforts to open up lines of communication with telephone companies where none had existed. Meetings of the forum—typically held semi-annually on the Gallaudet campus—provided the very first opportunity for consumer representatives to have a face-to-face, amicable dialogue on telecommunications access issues with both the telephone industry and the hearing aid industry. Its members included TDI, NCLD, the NAD, AT&T, the Electronic Industries Association, the North American Telecommunications Association, and the non-Bell companies—represented by the United States Independent Telephone Association (USITA). Until its demise in the early 1990s, the THIC Forum tackled a plethora of access issues that included the leasing of TTYs at reasonable rates, installation of telephone volume controls, hearing aid compatibility, and ways in which new technologies could better serve the deaf and hard of hearing communities.

At the same time that consumers were engaging in concerted efforts to convince telephone companies to improve access on a voluntary basis, they began meeting informally with officials at the FCC. One such meeting took place on September 12, 1977, between Dr. Jeffrey Krauss of the FCC's Office of Plans and Policy, Glenn Goldberg, and other NCLD staff. Krauss questioned whether the TTY—given its slow transmission rate—was in fact the best way to provide telephone service for the deaf community. He recommended exploring instead packet-switched transmission technology and message-switching capabilities so that the deaf community could take advantage of text editing and store and forward options.⁵⁴ No one today can question

the prophetic nature of Krauss's recommendations. But while reliance on e-mail and other Internet technologies would eventually validate many of his concerns, at the time, it was clear to NCLD's attorneys that deployment of these technologies was not at all imminent.*

The Regulatory Arena—"The Petition"

Efforts to improve telecommunications access through federal legislation, negotiations with AT&T, and preliminary talks with the FCC were only somewhat successful. NCLD and the NAD concluded that more aggressive action was needed to reverse years of neglect by the telephone industry. And so, on December 21, 1977, NCLD filed a groundbreaking petition on behalf of the entire deaf community to force the FCC to finally eliminate the barriers that were preventing access to the telephone.⁵⁵ The petition stressed that telecommunications access would open up employment opportunities, strengthen English language skills, enable people with hearing loss to communicate with friends and relatives, provide access to governmental and other institutional services, expand business markets, and generally contribute to the economic integration of deaf individuals.

NCLD's petition specifically alleged that the prohibitively high charges for TTY equipment and services, coupled with AT&T's practice of charging for, but failing to provide access to, operator and other customer assistance services, constituted discrimination against deaf and hard of hearing citizens. The law center estimated that at least half of all potential TTY users could not afford these costs. Even the tax deduction for the purchase of TTYs provided little financial relief because only a minority of deaf individuals itemized their expenses.

For the most part, the demands made in the petition mirrored those that had been made during the negotiations with AT&T. High on the list of desired outcomes were monthly leases for TTYs, reduced and uniform TTY rates, access to operator and other business services, hearing aid compatibility, and payphone accessibility. In order to avoid vandalism and weather damage, NCLD suggested that TTYs be placed in sheltered, supervised areas, such as public libraries, government buildings, train stations, and police and fire stations. NCLD also requested the FCC to pursue research and development of a computerized data communications network that would facilitate access by deaf and hard of hearing individuals.

The underlying premise of NCLD's petition was the FCC's obligation under the Communication Act to ensure the availability of universal telephone service for all Americans, including Americans with disabilities. NCLD also directed the FCC's attention to Sections 201 and 202 of the Communications Act. Section 201 required "every common carrier engaged in interstate or foreign communications by wire or radio to furnish such *communication service upon reasonable request*."⁵⁶ NCLD argued that the services requested in the petition were "communication services" because they were an "integral part of a customer's service." And because the provision

* In fact, some believe that, more than twenty-five years later, reliance by the deaf community on communications via the Internet still has not fully taken the place of the real-time instantaneous communication that TTYs can provide, especially with respect to emergency access.

of these services was technologically feasible, the community's demands constituted "reasonable requests."

Section 202(a) of the Communications Act made it unlawful for carriers to "make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with *like communication service*."⁵⁷ NCLD asserted that Section 202(a)'s prohibition against these telephone charges made it illegal to charge TTY users higher rates just because their calls took longer to complete. Although this provision originally was intended to ensure that telephone companies based their charges on actual costs (so that different customers receiving the same services did not get charged different amounts), NCLD argued that charging TTY users the same rates as voice telephone users would make telephone service prohibitively expensive for the deaf community. In order to further the goal of achieving universal telephone service, NCLD urged the Commission to interpret "unjust and unreasonable" in a way that would bring down the rates for TTY service through cross-subsidization. The law center reminded the FCC that rate adjustments had already been made in rural and remote locations such as Alaska and Hawaii in order to make telephone service affordable in those communities. If adjustments could be based on geographic considerations, NCLD argued, they could also be based on TTY use.

NCLD's petition attracted the attention of Capitol Hill. At least one legislator—Congressman Toby Moffett (D-Conn.), whose home state had been one of the first to reduce TTY rates—sent a letter to the FCC on January 4, 1978, asking permission to become a co-petitioner of the proceeding. Only a month later, the FCC opened its very first proceeding on telecommunications access issues affecting the deaf and hard of hearing community.⁵⁸

At first, the FCC seemed genuinely interested in both reviewing problems associated with TTY services and hearing from deaf consumers on these issues. It even set up two TTY lines, the first an unattended terminal for individuals to "call in" their text comments, and the second a dedicated line for procedural questions and general inquiries. This marked the first time that any federal agency had made such a significant accommodation for the receipt of public input from the deaf community. Hundreds of comments from consumers, social service professionals, and others connected to the deaf and hard of hearing communities poured in as a testament to the need for federal action to alleviate telecommunications barriers. All were encouraged by the speed with which the Commission had opened the new inquiry, as well as by statements that the agency had already made suggesting that preferential TTY rates could provide a "method of alleviating any unreasonable economic inequities."⁵⁹

Not all of the comments sent in, however, were favorable. USITA questioned the need for the proceeding at all, contending that communication by deaf people with the hearing world was "severely limited for reasons having little if anything to do with the capabilities of the telephone network."⁶⁰ Comments like this revealed the attitudinal discrimination that permeated much of the telephone industry. Many simply did not understand that telecommunications access was a right, not a mere concession, to which the deaf community was entitled.

In addition to agreeing to investigate ways to improve access to conventional telephone services, the FCC also expressed an interest in exploring ways in which modern

technologies could better meet the needs of people with hearing loss. As before, some officials at the FCC raised concerns about reliance on TTY Baudot technology, which was both slow and incompatible with standard computer equipment. The Commission asked whether the federal government should fund research and development into the use of more modern computer technologies that could provide electronic message services. Attention, it said, should be given to whether this more “sophisticated computer technology” could “yield more flexible communications services for the deaf and hard of hearing.”⁶¹ While many participants of the proceeding supported funding for this purpose, Weitbrecht submitted lengthy comments to the FCC defending the use of his faithful Baudot technology.⁶²

The FCC was not alone in its desire to explore the benefits of an electronic messaging network for the deaf and hard of hearing community. In the late 1970s, the U.S. Department of Education and the National Telecommunications Information Administration of the U.S. Department of Commerce began exploring computer-based text communications in the nation’s first attempts to develop an electronic mail network for people with hearing loss. The Deaf Community Center in Framingham, Massachusetts, received a federal grant to try out one such network for its deaf community.⁶³ Terminals consisting of keyboards and printers were placed in homes and public places, including schools, a hospital, a radio station, agencies for the deaf, and even a travel agency.⁶⁴ The “Deafnet” program allowed for the exchange of messages at electronic speeds between and among deaf individuals through bulletin board postings and private communications. TDI’s monthly newsletter, *GA-SK*, extolled the benefits of being able to send a personal message to any one person or to multiple people on this forerunner of our present e-mail and Internet system.⁶⁵ Deafnet was later enlarged to include Gallaudet University and Stanford University, running a three-way connection with the Deaf Community Center. Eventually, GTE put the network on its Telemail system, where it grew to 1,000 deaf users nationwide in a nonprofit business called “Deaftek,” under the direction of Brenda Monene.

In 1979, AT&T sponsored another trial of electronic messaging systems, the Video Enhanced Telephone Service (VETS), with forty-two deaf consumers in New York City.⁶⁶ For three months, deaf subscribers could use either their own TVs or a special video monitor that held up to sixteen lines of conversation to edit, send, or leave messages for others. A second phase of the VETS trial allowed participants to dial into a computer to obtain visual information about weather, sports, and other news information.

During the months after the FCC first opened docket 78-50 for public comment, the U.S. General Accounting Office (GAO) began working on a telecommunications access report of its own, at the request of Senator Charles H. Percy (R-Ill.). Its purpose was to evaluate legislative proposals that would have given HEW responsibility for implementing, administering, and funding the installation of TTYs in HEW, the IRS, the U.S. Department of Labor, and two additional federal agencies with the greatest need for communication with deaf individuals. The proposals also would have directed HEW to help fund and install TTYs in at least 100 state and local government agencies across the nation. Finally, the bill would have allowed any member of Congress to obtain a TTY upon written request.⁶⁷

GAO’s analysis revealed that TTY terminals were still serving less than one

percent of the American deaf population. But the agency concluded that before a TTY program could be expanded nationwide, a pilot study was needed to assess the advantages of both Baudot and ASCII technologies, explore barriers to the telephone network by the deaf community, conduct traffic analyses on the number and length of TTY calls, and evaluate the need for equitable TTY rates.

Although the legislative proposals considered in the GAO report never became law, other actions taken by the federal government held promise for improving telecommunications access by people with disabilities. On March 26, 1978, President Jimmy Carter issued Executive Order 12046, transferring to the U.S. Office of Management and Budget (OMB) lead responsibility for providing advice on the procurement and management of the federal government's telecommunications systems. In order to implement this directive, OMB asked the public for input on what it believed should be the top telecommunications priorities.⁶⁸ NCLD seized the opportunity to urge OMB to give high consideration to access by deaf and hard of hearing persons. It was unfair, NCLD said, for people with hearing disabilities to have to correspond by mail or make personal visits in order to communicate with government agencies. Several laws, including Sections 501 and 502 of the Rehabilitation Act and the Architectural Barriers Act of 1968, already required buildings and facilities owned, leased, or financed by the U.S. government to be accessible to and usable by people with disabilities. NCLD argued that the failure to provide telephone access through TTYs, amplifiers, and hearing aid compatible phones constituted discrimination under these laws.

Approaching AT&T . . . Again

By the end of the 1970s, pressure on AT&T to respond to the needs of people with disabilities finally had begun to produce some tangible results. By then, all of AT&T's local Bell operating companies had successfully opened customer assistance bureaus throughout the country, as promised during the company's early negotiations with consumers. The centers provided much needed counseling, information, and assistance on the provision of TTY and other specialized equipment. In 1978, AT&T also transferred Joe Heil to its New Jersey offices where he was given formal responsibility as an AT&T district manager to identify and address the needs of AT&T's customers with disabilities. For years, Heil had made a practice of advocating internally for the needs of the deaf community. Now this role was made official, and, as Heil described, his "avocation became his vocation."⁶⁹ It was around this time that Heil also joined the board of Phone-TTY, Lee Brody's organization for telecommunications access. Heil believed that although the state-by-state efforts to reduce TTY rates were gradually making progress, a national focus was needed if true change was to come about. To this end, he took on the task of disseminating information about disability access to all of AT&T's affiliates.

Perhaps the most significant of AT&T's changes came in 1980 when the company announced its intent to create a single nationwide toll-free operator services telephone number for TTY users. Heil had identified the need for such services and had worked with his team of five to come up with a technical solution to meet that need. He brought the idea to AT&T's Consumer Affairs Committee, where it was swiftly approved.

AT&T began providing Operator Services for the Deaf (OSD) on June 30, 1980. TTY calls made through the toll-free number were routed to one of several regional centers located around the country.⁷⁰ Services were available around the clock, seven days a week, to provide assistance for virtually all types of telephone service: billing arrangements, operator-assisted calls, directory assistance, business office assistance, and telephone repair services. Although the company planned to continue operating its customer assistance bureaus, the nationwide number would fill the gaps created by the limited hours of operation. By December 1981, the volume of OSD calls doubled over AT&T's initial figures; by 1982, they increased by an additional 43 percent.⁷¹ To this day, OSD and parallel operator-assisted services offered by competitors continue to fulfill a critical telecommunications need for deaf and hard of hearing individuals.*

While AT&T effectively responded to many of the deaf community's demands for accessible operator and business services, the company remained reluctant to grant TTY users preferential pricing for TTY equipment or service. AT&T insisted that telephone network services needed to be priced on the same basis for all customers. It questioned "the propriety of using telephone rates to fund what is in effect a social assistance program" and argued that "any special considerations for deaf TTY users should take the form of a governmental subsidy directly to those users."⁷² Instead of reducing rates, AT&T endorsed several federal bills that proposed giving tax credits and deductions to TTY owners.

By March of 1980, however, nine states had implemented TTY rate reductions.⁷³ Aware that the FCC might follow suit with a discount pricing structure of its own, in May of 1980, AT&T decided to submit its own pricing recommendations to the FCC. At the time, AT&T's voice telephone users received a 35 percent discount off daytime rates for calls made during the evening and 60 percent off those rates for calls made at night and on weekends. AT&T said that if it had to provide discounted rates, it could follow this pattern by reducing its daytime charges for TTY calls by 35 percent and its evening calls by 60 percent.⁷⁴ But the company made clear that if the FCC did mandate these reductions, the company wanted a way to recover financial losses that might be associated with these discounts, and a customer certification process to identify subscribers who would be eligible for the reductions.

By the time AT&T sent its detailed recommendations to the FCC, more than two years had passed since the FCC had first opened docket 78-50. When yet another year passed without any FCC action, consumer advocates began to get discouraged. Although the FCC had gotten off to a swift start on its telecommunications access inquiry, the regulatory process appeared to have come to a grinding halt. However, on August 21, 1981, AT&T announced that in honor of the United Nation's designation of 1981 as the "International Year of Disabled Persons," it would file a tariff with the FCC, formally proposing to reduce interstate long-distance rates for calls requiring a "visual means of communication."⁷⁵ NCLD's Legal Director Sy DuBow and NCLD attorneys Sarah Geer and Sheila Conlon Mentkowski sent out immediate alerts requesting deaf consumers to submit letters of support to the Commission.⁷⁶

* MCI began offering its own form of operator services for the deaf, called "Teletext Operator Service," in 1993. Sprint, too, now offers these toll-free services.

By this time, telephone companies in thirty-six states also offered reduced intrastate TTY rates.

Consumers were elated with AT&T's new policy, until they realized there was a problem with the revised tariff. AT&T's proposed discounts applied only to "certified" customers who used TTYs. In order to qualify, AT&T's customers needed to obtain a letter from an authorized source proving that they had a disability requiring the use of a TTY. Many customers objected to this requirement not because they were opposed to obtaining certification, but because they had already obtained certification from their doctors, audiologists, and speech pathologists to qualify for their own state TTY discount programs. Since most people paid their local and long-distance charges on one phone bill, these consumers were both displeased and confused about why they had to re-establish their eligibility for interstate calls through the same company that discounted their intrastate calls.

When NCLD complained about the new requirement, Heil responded that it was not AT&T's intention to recertify deaf TTY users who already qualified for rate reductions.⁷⁷ He explained that the problem was that some *states* had been offering discounts to both deaf TTY users and hearing persons who used TTYs to communicate with deaf friends and family members. But federal law permitted *AT&T* to provide interstate rate reductions only to people with hearing or speech disabilities. Therefore, local telephone companies now had to distinguish between those customers eligible for intrastate discounts and those eligible for AT&T's interstate discounts. Heil worked with the deaf community on a mutually agreeable solution that allowed deaf and hard of hearing TTY users who had already qualified for intrastate reductions not to have to obtain recertification. And, in states that did not yet have discount programs or allowed certification by both hearing and nonhearing users, AT&T would make every effort to identify those TTY users who qualified for the reduced interstate rates.* AT&T's decision to provide reduced rates prompted telephone companies in all but three of the remaining states to offer discounted TTY programs within the next few years.⁷⁸

And Back to the States

Between 1978 and 1981, approximately twenty-five TTY clubs sprang up throughout the nation to administer to the telecommunications needs of local communities.⁷⁹ NCLD helped many of these organizations prepare local regulatory petitions to reduce TTY rates, eliminate charges for flashing lights and amplifiers, and convince local telephone companies to offer TTY equipment at affordable monthly charges.⁸⁰

Some of these grassroots efforts were successful. In 1979, both California and South Dakota became among the first states to distribute TTYs free of charge to certified deaf and hard of hearing individuals.[†] Early on, the California program charted

* After Heil retired, he became one of the first hearing people on the NAD's board of directors. Just prior to that time, he hired Sue Decker as a customer care representative in AT&T's National Special Needs Center. In subsequent years, Decker would become one of the first deaf women to attain management status in the telephone industry, a position that enabled her to promote the introduction of specialized services into the telecommunications mainstream.

[†] The California TTY legislation, S.B. 597, had as its original proponent Specialized Systems, Inc., a TTY manufacturer that was interested in generating demand for its new product, the PortaTel TTY. The

new territories by requiring the California Public Utilities Commission (PUC) to collect a surcharge of up to fifteen cents per subscriber per month for a Deaf Equipment Acquisition Fund Trust.⁸¹ During its very first year of operation, the fund collected twenty million dollars, eleven of which was used to purchase and distribute 12,092 TTYs and 10,993 signaling devices to the state's residents. In subsequent years, under the leadership of Shelley Bergum, California's equipment distribution program expanded to include equipment and services used by individuals with all kinds of communication, mobility, and cognitive disabilities.⁸² By the early part of the twenty-first century, the Deaf and Disabled Telecommunications Program/California Telephone Access Program (DDTP/CTAP) had distributed almost one-half million pieces of equipment. Throughout this program's existence, deaf and hard of hearing consumers have played a prominent role on the many advisory committees that oversee the program's operation and maintenance.⁸³

The Decade Draws to a Close

By the end of the first full decade to achieve telecommunications equality, deaf and hard of hearing consumers and advocacy groups could be proud of a number of successes. In addition to winning widespread TTY rate discounts, advocates had convinced many state and federal government offices to install TTYs. Washington State now required all counties and cities with populations over 10,000 to provide TTY access to police, fire, and emergency services.⁸⁴ In the nation's capital, the Department of Labor, the Department of Housing and Urban Development, and the White House joined the growing list of government locations that could now communicate directly with the deaf public. Local telecommunications companies, such as Pacific Telephone and Telegraph, joined AT&T's customer assistance bureaus in providing TTYs and other specialized equipment for people with disabilities. Even more encouraging was the fact that AT&T's local affiliates had begun to subsidize the costs of developing and distributing these specialized devices with revenues collected from local telephone services. And while docket 78-50 still had no resolution, it was clear that negotiations with AT&T and submissions to the FCC had begun to make the telephone needs of people with hearing loss part of the national telecommunications policy agenda.

Notwithstanding the progress made, it was very clear that much more needed to be done to achieve telecommunications equality. Deaf and hard of hearing people in most states still could not purchase TTYs at reasonable rates, and those who had acquired these devices could not communicate by telephone with hearing people and businesses who did not have TTYs. Changes in telephone technologies endangered the existence of telephone handsets that were compatible with hearing aids, and payphones remained inaccessible to most deaf and hard of hearing persons. Advocates would continue to struggle for these improvements in the coming years, but the nature of their battles would be dramatically transformed. Regulatory changes that would

legislation quickly garnered the support of deaf advocates, including Florian A. Caliguri, Bill White, Bert Lependorf, and John Galvan. After the bill was enacted, Judy Viera, program manager for the California Department of Rehabilitation, helped to convince the California PUC to require all distributed TTYs to have both the Baudot and ASCII formats. This had the unintended consequence of preventing the PortaTel, which lacked ASCII, from even becoming eligible for distribution in California!

forever alter the landscape of America's telecommunications policies were sweeping the nation. And many of these changes threatened to undo much that the activists had accomplished thus far.

Notes

1. In 1968, President Lyndon B. Johnson directed that the United States adopt the American Standard Code for Information Interchange (ASCII) as the federal standard for computer transmissions. This was designed to be "a major step toward minimizing costly incompatibility among our vast Federal computer and telecommunications data systems." White House Memorandum (March 11, 1968).

2. In his extraordinary portrayal of the development of the TTY, Harry Lang captures the mood of these early years: "Changing attitudes of deaf people, accustomed to years without direct phone access, and hearing people, accustomed to decades of ignoring deaf people's telecommunication needs, was a huge challenge." Harry G. Lang, *A Phone of Our Own: The Deaf Insurrection Against Ma Bell* (Washington D.C.: Gallaudet University Press, 2000), 138.

3. Roslyn Rosen, former Dean of the College for Continuing Education, Gallaudet College, "The Future Is in Your Hands . . . But How Will You Handle It," *GA-SK* 16 (Spring 1985): 1.

4. Lang, *Phone of Our Own*, 75.

5. *Ibid.*, 67.

6. AT&T Tariff F.C.C. No. 132, superceded by AT&T Tariff F.C.C. No. 263, Section 26.1.

7. *Use of the Carterfone Device in Message Toll Telephone Service; Thomas F. Carter and Carter Electronics Corp. v. American Telephone and Telegraph Co., Associated Bell System Companies, Southwestern Bell Telephone Co. and General Telephone Co. of the Southwest*, Decision, Dkts. 16942, 17073, FCC 68-661, 13 FCC 2d 420, 424 (June 26, 1968). Hereinafter cited as *Carterfone*.

8. *Ibid.*

9. *Hush-A-Phone Corporation v. United States*, 99 U.S. App D.C. 190, 193, 238 F 2d 266, 269 (D.C. Cir. 1956). The Hush-A-Phone device attached to the mouthpiece of the telephone handset, while the Carterfone created both an acoustic and inductive connection with the handset.

10. H. M. Boettinger, *The Telephone Book*, (Riverwood 1977; rev. ed. New York: Stearn 1983), 49.

11. H. Latham Breunig, "Who Runs TDI?" *GA-SK* 4 (April 1973): 2.

12. H. Latham Breunig, "Our Membership Grows," *GA-SK* 1 (August 1970): 2; H. Latham Breunig, *GA-SK* 6 (February 1975): 1.

13. William F. Spalton, "NY-NJ Phone TTY, Inc. Celebrates 15 Years of Service to the Deaf Community," *GA-SK* 16 (Spring 1985): 8.

14. Interviews with Anna M. Terrazzino, president, Phone TTY, June 2004.

15. "Profile . . . Lee Brody," *GA-SK* 23 (Winter 1992): 33, reprinted from *The Voice* (December/January 1992); see also Lang, *Phone of Our Own*, 101.

16. H. Latham Breunig, "TTY Saves Another Life!!" *GA-SK* 3 (July 1972): 1.

17. H. Latham Breunig, "TTYs to the Rescue," *GA-SK* 4 (April 1973): 3.

18. "TTYs Assist the Stork," *GA-SK*, 1 (December 1970): 2.

19. Lang, *Phone of Our Own*, 91.

20. IRS Rev. Bulletin 71-48 (February 1, 1971), amending Section 213 of the Internal Revenue Code of 1954, 26 C.F.R. §1.213-1, reported in *GA-SK* 2 (February 1971): 1.

21. In 1986, pursuant to the Education of the Deaf Act, Gallaudet transitioned into a university. P.L. 99-371 (1986).

22. K. D. Seelman, "TDD Milestones," Gallaudet Research Institute (January 1985).

23. Lang, *Phone of Our Own*, 121-22.

24. *Ibid.*, 127.

25. H. Latham Breunig, "A New Contract with AT&T," *GA-SK* 4 (April 1973): 1.

26. Z. C. White, engineering director, inventory management, AT&T, letter to Dr. H. Latham Breunig, March 11, 1974, Exhibit B: "Individual Agreement for Non-Commercial Use of Teletype-

writer Equipment.” For example, one such agreement read: “All machines and related equipment have been used, are unrepaired, and are transferred without any warranty. No machines or related equipment are subject to exchange or return . . . [AT&T] assume[s] no responsibility for the condition of the equipment or for repair, maintenance, parts provisioning, instructional material or related information or services.” See also “A Word About the Documents,” *GA-SK 1* (August 1970): 3; Lang, *Phone of Our Own*, 106.

27. H. Latham Breunig, “Overseas TTYing Is Against Regulations,” *GA-SK 2* (November 1971): 4.

28. Elaine Gardner, NCLD, Testimony on Accessibility to the Telecommunication System for Hearing-Impaired Consumers at Reasonable Rates, In re: Investigation of New England Telephone Company’s Rate Design before the Rhode Island Division of Public Utilities and Carriers (May 6, 1980), 3.

29. H. Latham Breunig, *GA-SK 4* (July 1973): 2; TDI, *The Blue Book* (Silver Spring, Md.: TDI, 2004), 18.

30. Section 504 provides that “no otherwise qualified handicapped individual in the United States . . . shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.” P.L. 93-112, codified at 29 U.S.C. §794.

31. See 42 *Fed. Reg.* 22676 (May 4, 1977), codified at 45 C.F.R. Part 84. The delay in promulgating these HEW regulations had prompted major consumer protests and spurred considerable federal litigation. See *Cherry V. Matthews*, 419 F. Supp. 922 (D.D.C. 1976).

32. See 28 C.F.R. §42.520 (later promulgated to apply Section 504 to entities receiving federal financial assistance from the Department of Justice).

33. *A Short History of Telecommunication Devices for the Deaf* (Rockville, Md.: Potomac Telecom, 1985): 4.

34. In 1990, NCLD changed its name from the National Center for Law and the Deaf to the National Center for Law and Deafness.

35. Banzhaf, described as a “fellow with a pickax, digging away at social ills and wrongheaded industries,” is most famous for his successful efforts to remove cigarette advertising from television programming. Libby Copeland, “Snack Attack,” *Washington Post*, November 3, 2002, F1, 4.

36. Laura-Jean Gilbert, “DEAFWATCH,” *Gallaudet Today* (Spring 1975): 10–13; Larry J. Goldberg, “Law and the Deaf Clinic A New Partnership Begins,” *The Advocate* (GWU Law Center student newspaper), November 11, 1975, 2.

37. See Lang, *Phone of Our Own*, 158–59.

38. “FCC Considers Installing TTY,” *NCLD Newsletter 1* (Spring 1976): 6.

39. *Chairman Wiley Announces Installation of TTY Phone In Consumer Assistance Office*, FCC News Release (December 15, 1976).

40. Gardner, Testimony on Accessibility. For example, NCLD filed testimony supporting an August 10, 1978 petition submitted by twenty-one individuals, seeking an 80 percent TTY discount in the state of Maine.

41. New York Public Service Commission Order 27205 (July 6, 1977).

42. Connecticut Public Utilities Control Authority, Decision in Dkts. 77-0526, Application of Southern New England Telephone Company and No. 77-0520, Petition of the Connecticut Office of Consumer Counsel Regarding Tariffs of the Southern New England Telephone Company Concerning Usage of Teletypewriter Units (December 16, 1977).

43. Lang, *Phone of Our Own*, 160.

44. 123 *Cong. Rec.* 31826 (September 30, 1977).

45. S. 1310; H.R. 6327. To encourage interest in the proposed legislation and increase their colleagues’ familiarity with TTYs, sponsors of these bills held a demonstration of TTYs on Capitol Hill in June of 1977.

46. Section 119 of the Rehabilitation Comprehensive Services and Developmental Disabilities Amendments of 1978 added “any program or activity conducted by any Executive agency or by the United States Postal Service,” P.L. 95-602, codified at 29 U.S.C. §794.

47. Congressman Paul Findley, letter to FCC Chairman Richard Wiley, February 18, 1977.

48. NCLD, Statement to the House Interstate and Foreign Commerce Committee for Hearing Record on Domestic Common Carriers (September 26, 1977).

49. 47 U.S.C. §151.

50. AT&T, *Services for Special Needs* (April 1977). The artificial larynx, developed in the 1950s, was showcased at the 1964–65 World’s Fair in New York City.

51. “A Report to the Deaf Community,” *GA-SK* 8 (May 1978): 2–3; “Law Center Works with AT&T,” *NCLD Newsletter* (January 1978): 8. Chapters 12 and 13 describe the extraordinary struggle for hearing aid compatible telephones.

52. Interview with Joe Heil, May 8, 2003.

53. H. Latham Breunig, “Relief from Long Distance Toll Costs,” *GA-SK* 8 (January 1978): 2.

54. Dr. Jeffrey Krauss, letter to Stanley Fleishman (September 2, 1977). A half year later, Krauss would again emphasize the importance of developing an electronic mail service via computers capable of storing messages, correcting spelling and grammar, and possibly even containing an electronic bulletin board with information about job opportunities. Jeffrey Krauss, FCC Office of Plans and Policy, “The FCC and the Hearing Impaired” (remarks, meeting of the Hearing Industries Association, Hilton Head, S.C., April 14, 1978).

55. NCLD, *Telecommunications Service and Charges for Deaf and Hearing-Impaired Citizens*, Petition for Rulemaking, (December 21, 1977).

56. 47 U.S.C. §201(a) (emphasis added).

57. 47 U.S.C. §202(a) (emphasis added).

58. *Telecommunication Services for the Deaf and Hearing Impaired*, Notice of Inquiry, CC Dkt. 78-50, FCC 78-82, 67 FCC 2d 1602 (February 13, 1978). Hereinafter cited as FCC Dkt. 78-50; *Inquiry Begun on Communications Needs of the Deaf*, FCC News Release, Report No. 13742, FCC 78-82 (February 8, 1978).

59. FCC Dkt. 78-50, ¶8.

60. NCLD Reply Comments in Dkt. 78-50 (July 31, 1978), 2, quoting USITA.

61. FCC Dkt. 78-50, ¶5.

62. Lang, *Phone of Our Own*, 164.

63. “Specification of Commercial Deafnet Services,” Contract NT-81-SAC-00070 with the Deaf Community Center, Framingham, Mass.

64. Interview and exchange of e-mail messages with Brenda Monene of Deaftek, June 16–25, 2004.

65. “Computer Message System,” *GA-SK* 8 (May 1978): 2.

66. AT&T Supplemental Comments, *Telecommunications Services for the Deaf and Hearing Impaired*, CC Dkt. 78-50 (May 5, 1980): 4–6. Hereinafter cited as AT&T Supplemental Comments.

67. U.S. Comptroller General, *Contemplated Legislation to Provide Telecommunications for the Deaf* (Washington, D.C.: U.S. Comptroller General, August 14, 1978).

68. 43 *Fed. Reg.* 22468 (May 25, 1978).

69. Interview with Joe Heil, May 8, 2003.

70. OSD was primarily administered from four regional centers—Philadelphia, Boston, Omaha, and Oakland. In January of 1982, these were consolidated into two locations—provided through New England Telephone in Philadelphia and Northwestern Bell in Oakland. AT&T Memoranda (December 1, 1981; December 3, 1982).

71. By October 1995, AT&T would estimate handling 2.16 million calls annually. Many years later, the FCC would reject a petition by Southwestern Bell Telephone to allow the costs of OSD to be reimbursed through the Interstate Relay Fund, a fund created to implement the ADA’s mandates for relay services. *Establishment of a Funding Mechanism for Interstate Operator Services for the Deaf*, Memorandum Opinion and Order, RM 8585, DA 96-211 (February 21, 1996).

72. AT&T Supplemental Comments, 14.

73. “The Issue Is Communication—TDD Toll Rates,” *NCLD Newsletter* (March 1980): 3–4. These states were Connecticut, Delaware, Idaho, New York, Maryland, North Carolina, Pennsylvania, Tennessee, and Utah.

74. AT&T Supplemental Comments, 14–17.

75. W. E. Albert, AT&T Administrator of Rates and Tariffs, letter to Secretary of the FCC, Trans-

mittal 13822, August 21, 1981, referencing Tariff 263. Although AT&T's tariff initially restricted discounts to calls dialed directly, during the spring of 1988, the tariff was revised to extend the discounts to TTY calls made with calling cards and operator assistance.

76. NCLD, open letter to consumers, September 17, 1981.

77. Joe Heil, letters to Sy DuBow, October 7, 1981; November 5, 1981.

78. Karen Peltz Strauss, "Television, Telephones, and TDDs . . . Access Is the Issue!" *Gallaudet Today* (Spring 1985): 17–21, 20. In some states, such as Arizona and Maine, state regulatory commissions mandated TTY toll discounts. In other states, such as Illinois and Massachusetts, telephone companies offered reduced rates voluntarily.

79. "Future of TDI—Should TDI Evolve from an Organization of Members to an Organization of TTY Chapters?" *INSIDE TDI* (August 15, 1979): 1.

80. "Telecommunications—State Actions," *NCLD Newsletter* (February 1979): 3.

81. Senate Bill 597, enacted as Chapter 1142, Statutes of 1979 and incorporated into California Pub. Util. Code § 2881. See also *Investigation on the Commission's own motion to provide for a program for the furnishing of tele-communications devices to the deaf and severely hearing impaired to be implemented by each California telephone utility*, Decision 92603, OII 70 (filed May 6, 1980, opinion January 21, 1981). The amount collected from ratepayers was reduced to three cents after an initial collection of monies produced a statewide surplus. See also *Comments of Greater Los Angeles Council on Deafness in FCC Dkt. 83-427* (1983).

82. This was added by Senate Bill 60, enacted as Chapter 585, Statutes of 1985, and eventually incorporated into Calif. Pub. Util. Code § 2881(c). See also California Public Utility Commission, Evaluation and Compliance Division, *Report on Funding Problems Involving Deaf and Disabled Telecommunications Services* (November 13, 1987), 22.

83. Shelley Bergum, e-mail to the author (February 5, 2003); <http://www.ddtp.org/DDTP/committees> (retrieved September 9, 2005).

84. NCLD, "The Issue Is Communications—TDDs in Public Agencies," *NCLD Newsletter* (March 1980): 4.

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The Focus Shifts: The Pursuit of Specialized Customer Premises Equipment

New developments promise even more opportunities to use telecommunications to increase the security of older or handicapped Americans. . . . The divestiture process must not be allowed to neglect the needs of the disabled nor the benefits that follow access to telecommunications at affordable rates.

—Senator Charles Mathias

DESPITE THE invention of the TTY in the late 1960s and the efforts of advocacy groups to improve telephone accessibility throughout the 1970s, an appallingly low number of deaf Americans owned TTYs in the early 1980s. The majority of deaf and hard of hearing individuals had little, if any, knowledge that equipment that could meet their telephone needs even existed. And those who had heard of TTYs, amplifiers, or other adaptive equipment did not know where or how to purchase these devices, let alone have the income to afford their high price tags. Surplus teletypewriters were now hard to find, so deaf consumers who wanted telecommunications access had no choice but to spend hundreds of dollars for new, portable TTYs. To make matters worse, the small victories that advocates had attained in convincing some AT&T companies to provide TTYs and other specialized equipment along with mainstream telephone services were now at risk, as new regulatory and judicial roadblocks and a changing telecommunications infrastructure began creating new threats to disability access.

AT&T Divestiture and Computer II

In 1974, the U.S. Department of Justice (DOJ) brought an antitrust suit against AT&T for its alleged attempt to monopolize the nation's telecommunications services and equipment markets. The suit resulted in a settlement agreement between DOJ and AT&T in August 1982, which was approved by Judge Harold Greene of the U.S.

Epigraph. Senator Charles Mathias, 129 *Cong. Rec.* 22451 (August 3, 1983).

District Court for the District of Columbia.¹ Known as the Modified Final Judgment (MFJ), the agreement required AT&T to develop a reorganization plan to divest itself of its twenty-two local Bell affiliates as of January 1, 1984.² Under the plan, the United States was divided into geographic areas called Local Access Transport Areas (LATAs), which were largely determined by area code. The plan allowed AT&T to provide long-distance telephone service between—but not within—LATAs. The MFJ also divided the nation's telephone system into seven regions, each controlled by separate, smaller companies called the “Baby Bells.” These companies—Ameritech, Bell Atlantic, BellSouth, NYNEX, Pacific Telesis, Southwestern Bell, and U.S. West—were prohibited from manufacturing equipment, providing information services, and providing telephone services between the LATAs (interLATA services).

Prior to the breakup of AT&T, most hearing Americans found it easy to obtain telephone service. AT&T and its affiliates had little competition from other telephone companies, and, as a result, nearly all consumers leased their telephone equipment and purchased both local and long-distance service from AT&T. Simplicity was at the heart of this system; consumers enjoyed the service they were given and had only one phone bill to pay. In the late 1970s and early 1980s, AT&T's affiliates and a few independent telephone companies finally began offering TTYs, light signalers, telephone amplifiers, and other specialized customer premises equipment (SCPE) along with their conventional voice telephone equipment. In keeping with the overall national philosophy of a single telephone system for all Americans, telephone companies offered these devices to consumers at prices far below their actual production costs by subsidizing their higher costs with revenues received from other regulated telephone services. In this manner, TTYs and other specialized equipment became an ordinary and regular cost of providing a community's telephone services. All general ratepayers, not just those with disabilities, contributed to the research, development, and distribution of these specialized devices.

However, nearly as soon as people with hearing loss began acquiring SCPE for their homes and offices, the telephone industry began to change. Telephone companies started to become more interested in manufacturing and selling, rather than renting, telephone equipment. As this occurred, regulators began to fear that AT&T's affiliates and other major carriers would have an unfair advantage over competitors because they could subsidize the research and development of new telephone products with revenues from their local telephone services. This cross-subsidization would enable these companies to easily undercut the prices of their competitors. To prevent this from happening, the FCC issued a ruling in 1980—the Computer II ruling—that prohibited AT&T and later on, GTE, from providing *any* new telephone equipment, whether conventional or specially designed for people with disabilities, through their regulated services.³ These services were governed by tariffs that were filed with state and federal regulatory commissions. By deregulating, or “detariffing,” telephone equipment, and requiring companies to separate the manufacture and provision of these products from their services, the Commission hoped to increase competition in the sale of this equipment. However, deaf and hard of hearing consumers realized that the loss of cross-subsidized funding would result in much higher costs for the specialized equipment they needed.

The Telecommunications Act for the Disabled of 1982

During the 1970s, AT&T and other major telephone companies began using lighter, more tamper-resistant materials to make telephone handsets. An unexpected result of this change was that hearing aid users had more difficulty hearing over the new phones. The Organization for Use of the Telephone (OUT) and other advocacy groups galvanized their members to convince Congress to restore the hearing aid compatibility of these devices. Their successful efforts ultimately resulted in the passage of the Telecommunications for the Disabled Act (TDA) of 1982.*

Other advocacy groups saw the TDA as a means to counter the potentially harmful effects of the FCC's Computer II ruling. Just prior to the legislation's enactment, they had convinced Congressman Timothy E. Wirth (D-Colo.), chairman of the Telecommunications, Consumer Protection, and Finance Subcommittee of the House Committee on Energy and Commerce, to add a provision to the bill giving state regulatory commissions authority to allow their local telephone companies to continue subsidizing the costs of providing TTYs and other specialized equipment with payments received for their general telephone services.⁴ When the TDA passed (with this provision intact), it proved to be a watershed event in the nation's efforts to expand telecommunications access for people with hearing disabilities.⁵ The law elevated the importance of such access in a way that had never been done before. The House legislative report explained its significance:

Persons with normal hearing may be unable fully to appreciate the pervasiveness of the telephone both in commercial transactions and personal contacts. The inability to use this instrument, except through an interpreter, is not only a practical disability but a constant source of dependency and personal frustration. Conversely, the ability independently to use the telephone may enable persons with other severe handicaps . . . to lead self-sufficient lives in regular contact with society. The Committee believes that making the benefits of the technological revolution in telecommunications available to all Americans, including those with disabilities, should be a priority of our national telecommunications policy.⁶

Equally important, in the legislative history of this act Congress articulated the problems of relying on market forces as a means of ensuring telephone access by people with disabilities. Although collectively, people with disabilities constitute a significant portion of the American marketplace, each disability cluster is often not large enough to influence market trends. In addition, because individuals with disabilities often have lower incomes than those of the general public, they have fewer spending dollars at their disposal to guide competitive market forces. Congress explained that the FCC's plans to rely on competition to maintain the costs of telephone equipment simply would not work for people with disabilities: "For most ratepayers, deregulation may indeed ensure a competitive market in telephone sets and eliminate subsidies for such sets from local rates. For the disabled, however, the ban on cross-subsidization could mean unregulated price increases on the costly devices that are necessary for them to have access to the telephone network."⁷ If this equipment became unaffordable for people with disabilities and they lost telecommunications

* A detailed account of the hearing aid compatibility provisions of the TDA is contained in chapter 12.

access, Congress concluded, the costs to society would be much greater than the costs of continuing to subsidize specialized products and services.⁸

By recognizing the limitations of the competitive market as a means for driving disability access, the TDA laid the groundwork for future deaf and disability rights advocates to push for legislative and regulatory telecommunications access mandates in an increasingly deregulatory environment. Similarly, the legislators' reliance on the Communication Act's universal service obligation as the basis for allowing the continued subsidization of specialized equipment would provide the foundation for many future legislative efforts:

Disabled persons who are unable to afford the full costs of [specialized] equipment will lose access to telephone service. This would disserve the statutory goal of universal service [and] deprive many individuals of the opportunity to have gainful employment. . . . The costs of such lost access, including impairment of the quality of life for disabled Americans, far exceed the costs of maintaining service that the current system allows telephone companies to include in their general revenue requirements.⁹

The Efforts to Keep SCPE Locally Based

Congress's attempts to salvage affordable SCPE through an exemption to the FCC's Computer II ruling was not set to become effective until January 1984, a year *after* that ruling was to go into effect. To close this gap, on October 22, 1982, AT&T filed a petition with the FCC for a temporary waiver of the Computer II ruling to allow its Bell operating companies to continue subsidizing new specialized equipment without forming separate subsidiaries. By this time, AT&T coordinated the provision of SCPE through sixteen telecommunications centers for disabled customers located around the country. AT&T told the FCC that it wanted to make sure its specially trained personnel could continue serving the unique telecommunications needs of consumers with disabilities while the parent company divested itself of these local entities. It claimed that its specialized centers had helped to make innovative products and solutions available to "a market segment that might otherwise be ignored because of its small numbers and high costs to serve."¹⁰ On November 5, 1982, OUT filed a similar petition, citing the lack of competition in the market for specialized equipment.

At first glance, the petitions filed by AT&T and OUT appeared to seek a similar end, but a closer look revealed their very different goals. OUT wanted the local telephone companies to offer new SCPE under state regulation on a permanent basis. AT&T, however, was seeking only a temporary waiver, until all of its operating companies could completely transfer this responsibility to its separate subsidiary, American Bell. Indeed, in the same breath that AT&T was requesting permission to keep its local centers open for business, it was announcing plans to provide all SCPE through a single nationwide disability center after divestiture. AT&T's petition also made clear that a waiver was only being sought until the company could secure detariffing—or deregulation—of all SCPE throughout the fifty states.

Consumers with disabilities feared what might occur if AT&T proceeded with its plans. Local regulatory safeguards had kept down TTY prices, and consumers did not wish to lose these safeguards or the regional disability centers that had served

them well. Although advocates had been successful in convincing Congress to permit the continued regulation of specialized equipment for people with disabilities by state governments, AT&T now seemed primed for a battle to eliminate any such regulation.

On December 22, 1982, just a few days before the effective date of the Computer II Order, the FCC granted both OUT's and AT&T's petitions.¹¹ As had Congress, the FCC ruled that telephone companies were permitted, though not required, to continue offering new SCPE under tariff, without forming separate subsidiaries. But while consumers were hopeful that the TDA and the new FCC "Disabled Waiver Order" would apply pressure on state regulatory authorities to continue requiring their telephone companies to subsidize the costs of specialized equipment until and beyond the TDA's January 1, 1984, effective date, AT&T had some very different plans for the future of SCPE.

FCC Implementation of the TDA

By the time that Congress passed the TDA, more than four years had passed since the FCC had opened its very first proceeding on telecommunications access, docket 78-50. Unfortunately, since that time, the FCC had done very little to resolve the issues raised in this proceeding. Congress did not mask its annoyance with the Commission for its failure to address the needs of people with disabilities in a timely fashion: "For years, the special needs of these groups have not received adequate attention at the Commission. The Commission has taken no action to resolve issues raised in Docket 78-50, opened four years ago in order to consider standards for hearing aid compatibility and to resolve problems facing the deaf. There is no evidence that the Commission gave any consideration to the needs of the handicapped in the context of the *Second Computer Inquiry*."¹² The FCC's foot-dragging prompted Congress to give the FCC only a year to issue regulations under the TDA to ensure "reasonable access" to telephone service by persons with hearing disabilities.¹³

The Commission complied with this directive by opening a new disabilities proceeding, docket 83-427, on April 27, 1983.¹⁴ But to the shock and dismay of consumers, it announced the very same day that it was closing docket 78-50 without issuing any final rules to address the issues raised in the 1977 consumer petition that had led to that proceeding. The FCC also rejected outright the need for mandated reductions in long-distance TTY rates, concluding that AT&T already offered these discounts and that new competition in the long-distance service market would independently bring down long-distance costs. Consumers found flaws in both of these rationales. Although it was true that AT&T had voluntarily agreed to discount its rates, unless AT&T's competitors were subject to the same rates, TTY users would not have long-distance choices. Moreover, the existence of competition among long-distance service providers for conventional voice services would not rectify the disparity in toll-call expenses for TTY users. An across-the-board decline in long-distance rates would still result in TTY users paying more for calls than other subscribers because of the extra time it took to complete those calls.

In this same opinion, the FCC also denied consumer requests for TTY-equipped payphones, claiming that portable TTYs were now available for use with public phones. Advocates knew, however, that consumers were not apt to carry these lighter,

but still bulky TTYs around with them. And even those consumers who did use portable TTYs could not use them with payphones because the FCC had not mandated the outlets and shelving needed to accommodate these devices.

The Commission's new proceeding did carry forward a few of the issues contained in the now extinct 1978 proceeding. Affirming Congress's "determination that a competitive environment may not always be the most effective means for assuring the availability of specialized equipment for the disabled," the Commission now asked whether disability access to the services provided through AT&T's centers should be expanded, and whether these should include incidental telephone services such as operator and directory assistance.¹⁵ While the FCC also asked about measures to ensure the reasonable availability of SCPE, it made very clear that it was not about to mandate the provision of this equipment at the federal level. Quoting the legislative history of the TDA, it concluded that decisions about regulating specialized equipment had to be left to carriers and state commissions.¹⁶ At most, the agency seemed inclined to issue a rule that would require carriers to merely inform consumers about where to obtain these specialized devices.

The Battle for Regulated SCPE

Comments submitted in response to the FCC's new disability proceeding were strikingly similar to those submitted in the 1978 proceeding, despite the passage of five years. The NAD, OUT, NCLD, AG Bell, the American Speech Hearing and Language Association (ASHA), and Self Help for Hard of Hearing People (SHHH) again called for telephone companies to be responsible for supplying accessible devices and services, including TTYs, hearing aid-compatible telephones, amplifiers, hands-free phones, TTY-accessible operators, and directory assistance and business office services. Although AT&T's toll-free number for operator services was useful, they said it was not very helpful when local problems, for example, billing errors, occurred. Also, after all of these years, TTY users still had virtually no access to public telephones (especially at airports and other transportation centers), no access to recorded messages, and very little access to 911 and other emergency telephone numbers.

This time around, the FCC also heard from state public utility commissions, who opposed federal disruption to the local programs they had created to provide SCPE and discounted TTY rates. Still other parties pushed for the FCC to explore technologies that could improve upon TTY access, including electronic mail and the use of modems and portable keyboards that would directly attach to standard telephones.¹⁷

In sharp contrast to these consumer demands for increased federal involvement, AT&T, GTE, USITA, and others in the telephone industry insisted that the FCC continue to pursue marketplace solutions to address the needs of people with disabilities. Each directed the Commission to the accessible technologies and services their companies already had developed to argue against pervasive governmental regulation.

At the time, governmental regulation divided telephone equipment used by residential customers into two categories: *new* and *embedded*. New equipment was defined as all equipment not currently in inventory that would be offered to customers after January 1, 1983. Conversely, embedded equipment included devices that had been leased

to a customer or were still in the telephone company's inventory as of that date. The FCC's Computer II rule had only prohibited the cross-subsidization of *newly* manufactured equipment as of January 1, 1983. But in his divestiture order, Judge Greene had also directed the transfer of embedded equipment from the local Bell operating companies to AT&T. In response, AT&T had set up Embedded Base Organizations (EBOs) for the purpose of managing this equipment. In its comments on the FCC's new proceeding, AT&T now announced its decision to transfer TTYs and all of its other specialized equipment for people with disabilities from its local operating companies to these EBOs and then to seek detariffing of that equipment. AT&T maintained that it would be contrary to Judge Greene's approved reorganization plan to allow the local companies to retain *any* embedded equipment—specialized or not—after its divestiture.¹⁸ In place of state regulation of that equipment, AT&T announced its intention to submit to the Commission, within sixty days, a “price predictability plan” to propose pricing limits for this SCPE.¹⁹

AT&T's strategy was motivated by an agenda that went far beyond disability access issues. Ever since Judge Greene had instructed the company's local affiliates to separate their telephone equipment operations, AT&T's telephone service units had wanted to close all of their equipment divisions. Service was service and equipment was equipment. This division was so absolute that employees in some AT&T buildings drew yellow lines down the middle of their corridors to separate the two types of operations!²⁰

Advocates cared less about AT&T's motives than they did about the consequences of the company's proposed actions. Although AT&T alleged that the costs and availability of SCPE would remain stable, consumers believed that AT&T's proposed arrangement would thwart the very purpose of the TDA. That act enabled the states to provide financial and regulatory support for specialized equipment to keep its prices down and its availability abundant. But AT&T's plan effectively removed TTYs and other specialized equipment from *any* state regulatory control, thus ending the cross-subsidization of SCPE costs with revenues from local telephone services. Deaf and hard of hearing consumers reminded the Commission that only a few months before, AT&T itself had touted the benefits of allowing local telephone companies to provide SCPE; back then, the company had noted that it would “clearly benefit” customers with disabilities to have a “single point of contact” within the Bell operating companies to meet their special needs “promptly and effectively.”²¹ AT&T now appeared to have taken a 180-degree turn in its new quest to dismantle control over these local services. Consumers argued that once existing inventories of specialized equipment were transferred to AT&T, state commissions would be unlikely to require local companies to incur the huge expenses associated with restocking those inventories and training new personnel.

Community advocates took action. Scott J. Rafferty submitted a letter to the U.S. District Court presiding over the AT&T divestiture, urging the court to disapprove the section of AT&T's reorganization plan that allowed the company to transfer its specialized equipment.* The transfer, he wrote, could “ultimately result in unregu-

* Rafferty, now with a private law firm, had been counsel to the House Subcommittee on Telecommunications, Consumer Protection, and Finance during the committee's consideration of the TDA.

lated price increases . . . [and] lead to an unnecessary and confusing duplication of responsibility between AT&T and the operating companies.”²² This letter was followed by identical requests from Al Pimentel, executive director of the NAD (on behalf of the NAD, TDI, and the American Deafness and Rehabilitation Association) on July 28, 1983 and from NCLD on August 4, 1983. On August 3, 1983, Senator Charles Mathias (R-Md.) joined the chorus of protesters in a floor statement that urged the divestiture process not to neglect the needs of people with disabilities.²³ Each of these advocates urged Judge Greene not to rule on AT&T’s plan of reorganization until AT&T submitted a specific proposal revealing its future plans for the provision of SCPE. In the event that the court *did* agree to allow the transfer of SCPE to AT&T’s separate, unregulated subsidiaries, consumers asked that this be contingent upon AT&T’s willingness to subsidize this equipment with revenues collected from its long-distance services.

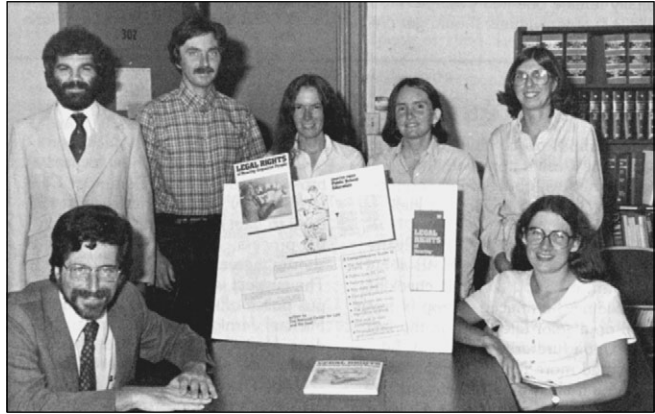
The fate of SCPE was a minor consideration in the epic decisions that Judge Greene had to make with respect to the nation’s telecommunications system. But when, on August 5, 1983, Judge Greene approved AT&T’s reorganization plan, he nevertheless made clear that he would not let the decree frustrate the purposes of the TDA. Specifically, Greene cautioned that AT&T’s plan would be subject “to whatever equitable arrangements may be made among AT&T, the operating companies, and the representatives of the disabled regarding continued subsidization of such equipment.”²⁴

Notwithstanding Judge Greene’s promises, with only months remaining before AT&T’s divestiture, the deaf community remained concerned about AT&T’s future plans for SCPE. Still interested in receiving federal guidance on this matter, eleven national organizations filed a joint petition with the FCC on August 23, 1983, requesting the agency to expedite its ruling on the handling and management of this equipment.²⁵ The petitioners maintained that with the lone exception of AT&T, virtually all parties to the FCC’s proceeding—even organized labor and the competitive telephone industry—had come forward in support of a ruling that would allow the states to regulate SCPE.

As consumer advocates worked tirelessly to save what little state regulation over TTYs and other SCPE was left, AT&T forged ahead with its deregulatory agenda. On September 14, 1983, the company filed its proposed Price Predictability and Sale Plan for Specialized Terminal Equipment with the FCC, detailing the maximum monthly lease and sales prices that it proposed to charge for specialized equipment over a three-year period.²⁶ Although AT&T acknowledged that the plan might result in some changes to consumer equipment costs—some for the better, some for the worse—the company urged the FCC to allow the SCPE market an opportunity to operate on its own.

Consumer criticism of AT&T’s proposals was harsh.²⁷ Various organizations, including the NAD and NCLD, charged that AT&T had engaged in delaying tactics designed to prejudice consumers in their efforts to prevent AT&T from stripping the operating companies of facilities and assets that had been funded by ratepayers to meet the needs of people with disabilities. They insisted that any additional delay would continue to confuse the regulatory status of SCPE even after AT&T’s divestiture, to the detriment of consumers with disabilities. Advocates steadfastly disagreed with AT&T’s claims that a deregulated market could accomplish the purposes of the

NCLD legal staff in 1982. Left to right, Sy DuBow (seated), Larry J. Goldberg, Marc Charnatz, Elaine Gardner, Shelia Conlon Mentkowski, Mary-Jean Sweeney, and Sarah Geer. The author joined the center two years later.



TDA. Without numerical strength, consumers with disabilities would never have the market clout to influence competitive pricing for SCPE.²⁸ Even the National Association of Regulatory Utility Commissioners (NARUC) opposed AT&T's plan, charging that AT&T's request violated the will of Congress, as embodied in the TDA, to allow states to continue regulating SCPE.*

Consumers also had concerns about AT&T's price predictability plan. While the TDA clearly intended for new technologies to be widely available to people with disabilities, NCLD charged that AT&T's plan showed "an astoundingly bold effort to limit the disabled to a small range of low-technology equipment, the affordability of which is guaranteed for only three years."²⁹ In fact, AT&T's plan listed only fourteen equipment items, with few or no devices available for people who were deaf-blind, had memory impairments, or were mobility disabled. In addition, many of AT&T's proposed rates exceeded the prices determined by state commissions to be just and reasonable. Even worse, AT&T made no commitment to maintaining sufficient supplies of SCPE to meet consumer demand, no provision for the procurement of new equipment, and no provision for warranties or service contracts.

In conjunction with the rate proposal, AT&T also formally announced its intention to close all sixteen of its telecommunications centers for the disabled and replace them with a new AT&T National Special Needs Center (NSNC) that would centralize all SCPE in a single location in New Jersey. AT&T claimed that consolidation of its SCPE and associated services would result in greater expertise among its staff and better prices for consumers, and that the new center would have no problem handling the approximately 300,000 customer contacts that had been coming into its local centers each year. Moreover, because approximately 90 percent of those local customer contacts had been received by telephone, AT&T said that most of its customers would not even be affected by the move.

The deaf community again reacted negatively. Many complained that service from one centralized location was not an adequate substitute for local, personalized service. Consumers in many parts of the country had grown accustomed to visiting local

* NARUC is a national association of state utility commissioners from all fifty states, the District of Columbia, and certain U.S. territories.

sites for their specialized equipment; others did not want to give up in-home visits by skilled telephone company personnel who had assisted subscribers in their selection and installation of specialized equipment.³⁰

Once again, consumers turned to Judge Greene. On November 10, 1983, NCLD and the NAD sent a letter to the District Court, alleging that the establishment of AT&T's NSNC was "fundamentally inconsistent with the basic principles of the consent decree and the plan of reorganization."³¹ They asked the court to either block the proposed equipment transfer or to require AT&T to indemnify the operating companies for the costs of reconstructing operations that would be needed to serve people with disabilities. Around the same time, to further demonstrate the support of Congress, Senator Mathias introduced legislation, S. 1828, which would give Judge Greene additional time to consider whether the transfer of SCPE to a centralized location was truly in the public interest. The senator also orchestrated meetings among consumers and industry representatives to achieve a mutually agreeable solution on the handling of SCPE.

On November 25, 1983, the FCC responded to NCLD's urgent request to resolve the detariffing issue.³² Consumers finally secured a small victory when, in this order, the Commission rejected AT&T's attempts to win a federal ruling that would detariff all SCPE nationwide. In a strongly worded opinion, the FCC confirmed that Congress intended for the states to be allowed to continue their oversight of specialized equipment:

The detariffing of terminal equipment will cause competition to drive prices to costs and will effectively prevent the State commissions from regulating the price and other terms under which the consumer obtains terminal equipment. . . . [A]s applied to disabled persons, such a policy could lead to substantial price increases and reductions in the access to the nationwide network which persons with disabilities currently enjoy.³³

But while the FCC would not disrupt the states' plans to provide SCPE, it concluded that the TDA's permissive language allowed the states to decide whether and how to regulate this equipment. This was exactly what AT&T had needed; all that remained was to secure approval from each of the fifty states to deregulate specialized equipment and to replace prior tariffs with pricing predictability plans or similar alternatives.

In December 1983, the FCC officially modified its Computer II rule to allow the states to continue subsidizing the costs of SCPE with revenues from regulated services after the AT&T divestiture.³⁴ At the same time, the FCC tackled the definition of SCPE. Telephone companies had been concerned that too broad a definition might lead to the anticompetitive abuses that the FCC's Computer II ruling had been designed to prevent. Accordingly, they sought to include only equipment that was designed specifically for people with disabilities, allowing equipment for more generalized uses to remain subject to market competition.³⁵

Consumer advocates, on the other hand, wanted a broad application of the term to allow subsidies for all types of equipment needed to facilitate communications access. OUT urged that the definition include any device—regardless of its typical or potential use—needed by, or to communicate with, a person with a disability. Similarly, Scott Rafferty urged a flexible standard that encompassed devices, such as the arti-

ficial larynx, which could be used for telephone communication *or* other purposes, as well as equipment (e.g., speakerphones and automatic dialers) that was useful to both people who had *and* did not have disabilities.³⁶ In a June 14, 1983, letter to Al Pimentel, Rafferty commented that he thought the FCC wanted to restrict the scope of SCPE, and he strongly urged the disability community to unite in pushing the Commission to give “full force to the intent of the statute.”³⁷

The FCC heeded these pleas, and broadly defined SCPE to encompass any customer premises equipment that “a person with a particular disability needs to access the network without assistance, or a non-disabled person needs to communicate with a disabled person.”³⁸ Where a device (e.g., an amplified handset) was needed by a person with a disability to use the telephone, the device would qualify as SCPE, even if the same device did not fall within this definition when used by a hearing person. As an example, the FCC explained that speakerphones could be SCPE because such “equipment may be needed by the disabled regardless of whether it was designed with them in mind.”³⁹ Overall, the definition was designed to cover expensive equipment produced on a small scale (e.g., TTYs, artificial larynxes, and bone conductor receivers), with prices that could escalate in a deregulated environment.⁴⁰

While pleased with the FCC’s expansive interpretation of SCPE, consumer advocates were very disappointed with many other parts of the FCC’s December order. Aside from its rules on hearing aid compatible phones, the FCC had done little else to ensure reasonable access to telephone service by people with hearing disabilities. Specifically, having left the matter of tariffing to the states, the Commission’s order offered no guarantees that TTYs and other specialized telephone devices would be either available or affordable. Rather, it merely directed carriers to provide customers with information about the availability and costs of these devices.

The Commission also concluded that because AT&T, and to a lesser extent, GTE, were already offering TTY-accessible operator and directory services, the government did not need to require access to these services. Instead, it merely required companies to give the FCC and state regulatory authorities six months notice prior to any intent to terminate these services, at which time those authorities could determine whether such termination was in the public interest. The Commission also rejected, yet again, requests to require TTY long-distance toll discounts, finding that the TDA did not mandate such discounts.

It became apparent to deaf and hard of hearing consumers that the FCC did not comprehend the need to require accessible services and features by all new carriers entering the post-divestiture telecommunications market. Nor did the FCC see as a step backward its ruling to let the states decide whether to discontinue providing TTY-accessible services. To make matters worse, the Commission refused to require access to what it termed “more sophisticated or costly” services, including call waiting, call forwarding, and relay services.⁴¹ The Commission summarily dismissed the need to mandate these services, even though it made no effort to consider the social and economic costs of depriving such access or, conversely, the societal benefits of mandating their provision.

Equally disheartening was the FCC’s outright refusal to require that public telephones be TTY-accessible. The FCC claimed that the TDA’s directives for reasonable telephone access were “limited by its terms to telephones, not [TTYs].” Additionally,

the agency asserted, no section of the TDA had affirmatively required placement of either a telephone or a TTY in any public location.⁴² Even if these devices were covered, the Commission said it was unwilling to adopt a payphone accessibility rule because such a rule would impose “substantial costs” on the public, governmental, and private entities that controlled public phones.⁴³

The last issue tackled in the FCC’s December order concerned compatibility issues between the Baudot code used in TTYs, and the ASCII format used in computers. The Baudot format, which had been used for data transmissions until the 1960s, had considerable drawbacks: In addition to being very slow, it used the *half-duplex* mode, requiring users to take turns when sending messages. Some in the deaf community wanted ASCII adopted as a national TTY standard; they were concerned that the lack of compatibility between this obsolete technology and the more modern ASCII format would keep TTY users from benefiting from more advanced technological innovations.* The FCC considered but rejected this standard, and decided that additional government time and resources should not be devoted to this issue because the costs of phasing out Baudot-only TTYs were not justified.

In later years, consumers, too, would become conflicted about relinquishing the Baudot format. Despite its inadequacies, Baudot remained user-friendly: It merely required placement of the telephone handset on the TTY cradle to type a message. Moreover, unlike ASCII, Baudot permitted communication to be initiated, broken, and then reestablished, a feature that was especially important for emergency communications. The ease and reliability of these devices kept this technology the prevalent TTY format throughout the last two decades of the twentieth century.

Around the same time that the FCC came out with its December order, it directed AT&T to deregulate all of its existing (embedded) telephone equipment as of January 1, 1984, the effective date of AT&T’s divestiture.⁴⁴ AT&T would have to transfer these devices to its new subsidiary, AT&T Information Systems (AT&T-IS), and would be prohibited from allocating any of the expenses incurred by this new entity to its regulated telephone services.[†] This policy would prevent individuals who purchased AT&T’s telephone service from having to pay for the company’s equipment venture costs. Convinced that this would cause the embedded SCPE to become more difficult to find and more expensive, NCLD made an eleventh-hour appeal to Judge Greene. In a December 20, 1983, letter to the court, NCLD urged the judge to forbid the transfer of any SCPE assets to AT&T or its subsidiaries. Without the ability to average the costs of SCPE into their general revenue requirements, NCLD argued, the local companies could later claim they did not have the economic resources to offer specialized equipment.

Consumers feared that time was running out. By now, an estimated eleven states had already granted AT&T’s request to detariff its specialized equipment. At the same time that the FCC was neglecting to ensure the availability and affordability of SCPE at the federal level, AT&T’s plan to deregulate SCPE on the state level was succeeding masterfully.

* Carl Jensema headed a TDI/ASCII committee to explore this issue in the 1980s. Ultimately, both TDI and the NAD passed resolutions to gradually phase out Baudot-reliant TTYs.

[†] This ruling on *embedded* equipment complemented the Commission’s prior Computer II order, which had required AT&T to separate all of its *new* equipment from its regulated services as of January 1, 1983.

The FCC further dashed consumers' hopes on December 29, 1983, when it granted a waiver of its Computer II rules to allow AT&T to use its AT&T-IS subsidiary to handle billing and other office services associated with the distribution of all embedded specialized equipment from its National Special Needs Center.⁴⁵ The waiver was only temporary—it was to last until June 30, 1984, during which time AT&T was to submit supplementary information detailing the ways in which it intended to meet the needs of people with disabilities through that Center. But this FCC order triggered yet another flood of pleadings and counter-pleadings from AT&T and the deaf community.

AT&T began the cascade of submissions on January 30, 1984, in a filing that vigorously defended its decision to centralize its specialized equipment operations.⁴⁶ It told the FCC that its NSNC, which was in its third month of operation, was already able to reach consumers living in geographical areas previously not covered by its local centers. The center had thirty-five full-time and fourteen part-time employees who provided advice and processed orders on specialized and standard equipment in response to an average of 1,800 to 2,000 calls per day.

AT&T also claimed that its thirty-million-dollar investment in SCPE would reap the greatest benefit if it provided this equipment through a single, national location. By centralizing its operation, AT&T said it could increase production, reduce marketing costs, and lower maintenance expenses, thus allowing the company to reduce costs to consumers. In the same filing, AT&T reported its significant outreach efforts to alert consumers about its new center and announced the creation of a new consumer advisory group made up of disability leaders who would regularly examine the impact of AT&T's internal policies on telecommunications access.*

While on the surface, AT&T's promises appeared responsive to the disability community, advocates remained uneasy. On February 13, 1984, the NAD and the American Council of the Blind (ACB) filed a joint petition for reconsideration of the FCC's December order, complaining that the FCC had neglected to fulfill its obligation under the TDA to ensure the availability and maintenance of TTYs and other specialized equipment, TTY operator assistance, and appropriate transmission rates and repair services. In addition, the consumer groups charged that the Commission had failed to provide "economic access," specifically, financial parity with general ratepayers. They explained that in compliance with its universal service obligation, the Commission already had other programs—Lifeline and Link-up Assistance programs—that provided economic subsidies for telephone hookup and service charges for low-income subscribers. No similar mechanism had been designed to subsidize service and equipment for people with disabilities.

Calling for federal guidelines to ensure full telecommunications access, the NAD and ACB roundly condemned AT&T's past actions. They pointed out that Congress (through the TDA), the FCC (through its recent report and order), and Judge Greene (through his oversight of the AT&T settlement) had expressed a preference for embedded SCPE to remain with the local operating companies. In blatant disregard for these rulings, AT&T was not only unilaterally transferring SCPE to itself, but taking active measures to have this equipment completely deregulated nationwide: "AT&T

* AT&T had mailed informational brochures to sixty million customers.

has indicated its disinclination to serve the handicapped on a regulated basis and its action may well have impaired the ability of the divested operating companies to do so.”⁴⁷ They urged the FCC to prohibit AT&T from transferring its SCPE to a centralized location and to mandate the full staffing of each of its embedded base organizations to ensure local distribution and oversight of that equipment. In a second filing on February 24, 1984, the NAD again opposed AT&T’s January 30th petition to permanently distribute its SCPE from its NSNC.⁴⁸ This time the NAD also recommended that, should the petition be granted, the FCC retain traditional regulatory controls over the rates and availability of SCPE to prevent people with disabilities from being disadvantaged by AT&T’s actions.

Only a few weeks later, AT&T submitted two more sets of comments.⁴⁹ In these, AT&T insisted it had not made a unilateral decision to transfer the SCPE; rather it claimed the reorganization plan *required* it to segregate its embedded equipment from its local telephone services. Because nothing in the TDA required federal tariffing of specialized equipment, AT&T urged the Commission to uphold its November 1983 decision to allow the state commissions to decide whether or not to regulate these devices.

In its second filing, AT&T also argued that if it divided its SCPE investment among the remaining twenty-two companies, the consequence would be inefficient staffing and inferior service for people with disabilities. In contrast, were AT&T-IS permitted to retain responsibility for SCPE, it would be able to provide quality service at a fraction of the cost, through a fully equipped NSNC that had the expertise needed to address disability needs. This provoked another round of replies from the NAD and ACB on March 22, 1984, in which the organizations argued, yet again, that AT&T’s decision to centralize SCPE production and sales would inflict harm on the disability community.

The barrage of submissions finally came to a halt on August 13, 1984, when the FCC permanently granted AT&T’s request to allow its national center to provide services associated with SCPE on behalf of the embedded base organizations.⁵⁰ Holding steadfast to its opinion that the states could decide for themselves whether to regulate specialized equipment, the Commission flatly rejected the NAD’s requests to impose any regulation or subsidies for SCPE at the federal level. Perhaps not surprisingly, the Commission once again also denied requests to mandate TTY operator assistance, discounted TTY rates, and TTY repair services. Although the Commission promised to reconsider the need for regulatory action if individuals with disabilities were not receiving reasonable telephone access by June 30, 1985, the order essentially dashed any hopes of federal action on these various issues.

The Divestiture Takes Hold

In the midst of AT&T’s breakup, small, specialized manufacturers began to make significant improvements in TTY technologies. The new devices came in various sizes and with multiple options, including battery packs, light signalers, built-in printers, answering devices, and, as of 1985, ASCII transmissions. Additionally, around 1984, Ultratec invented “direct connect” TTYs that allowed users to plug their TTYs directly into telephone jacks without first hooking up to a conventional telephone. The

new design eliminated tone transmission problems that occurred when newer, trimmer handset models did not easily fit into TTY couplers. It also eliminated extraneous noise that caused TTY couplers to transmit unrelated numbers or symbols.

With the increase in TTY choices, many states (thirty by 1985) abandoned SCPE regulation. In many of these jurisdictions, consumers received little or no notice of the changes taking place. When they did, (e.g., in Colorado, Minnesota, Maryland, and Maine), they fought vigorous but unsuccessful battles to oppose these changes.* The outcome of this mass deregulatory effort confirmed the worst predictions of telecommunications access advocates. The prices, availability, distribution, and maintenance of TTYs and other types of specialized equipment started to vary widely across the United States. Many products previously available under leasing agreements with local Bell affiliates were now only available for purchase at prices far beyond the reach of consumers with disabilities. For example, before divestiture, a consumer could lease an amplifier handset from the local Bell company for only \$.65 a month; after divestiture the same handset had to be purchased from AT&T's national center for \$34.95.⁵¹ Worse, consumers no longer could rent portable TTYs for \$13 per month; instead, they had to buy them for the full purchase price of \$419.96! Other products that served only small segments of the disability community seemed to disappear altogether. According to OUT,

This confusing situation has created a great deal of frustration among disabled telephone customers; many do not know where to turn to obtain needed equipment, prices vary from state to state, availability is uncertain, slow deliveries create hardship, and repair service is difficult to find. The pre-1984 smooth supply of SCPE, under state commission-approved tariff rates, with assured local availability of devices and repair services, now has become a costly source of irritation and deprivation.⁵²

As a consequence, the vast majority of Americans with severe hearing loss still remained without telephone access. In 1984, a report by the Architectural Transportation and Compliance Board estimated the number of TTY users nationwide to be around 100,000.⁵³ Even this estimate was considered to be high by TDI, which, during that year, placed the number closer to 40,000. While the actual count probably fell somewhere between these two numbers, no one could dispute that the nationwide trend toward state deregulation of SCPE was stunting the growth of telecommunications access. Moreover, a survey conducted by NARUC revealed that only a fraction of the states actually required their telephone companies to provide TTY access to telephone business offices, operator services, and directory assistance.⁵⁴ While some local companies offered these services on a voluntary basis, virtually no companies had yet implemented the technology needed for TTY access to disconnected telephone number recordings or enhanced telephone services such as call forwarding or call waiting.

The lack of consistency among the states, coupled with the FCC's failure to actively safeguard the needs of people who used specialized equipment, prompted consumers to again turn to Congress in 1985. Their efforts resulted in the introduction of

* For example, on January 14, 1983, David Saks of OUT unsuccessfully petitioned the Maryland Public Service Commission to require the local telephone company, C&P, to provide SCPE to subscribers with disabilities under tariff.

two bills—S. 402, which would have required local telephone companies to provide specialized equipment at affordable rates and to recover their costs from regulated services through their state commissions; and H.R. 1432, the Handicapped Independence Assistance Act of 1985, which would have allowed federal health insurance programs to cover communication aids designed to reduce barriers to employment and education.⁵⁵ Neither of these bills passed.

In February 1986, Dr. Katherine Seelman of the Massachusetts Commission for the Deaf and Hard of Hearing and Dr. Judith Harkins of Gallaudet University convened a forum of distinguished telecommunications experts in Washington, D.C., to discuss how best to meet the telecommunications needs of people with disabilities.⁵⁶ Many of the participants agreed that consumers stood in jeopardy of losing telecommunications access because of the telephone industry's inadequate policies. With few legal protections, many feared that the business incentives needed to develop innovative equipment and services for people with disabilities simply did not exist.

However, not all the participants shared this view. Joe Heil, the forty-one-year veteran of AT&T and longtime friend to the deaf community, understood the community's frustrations at not being able to lease SCPE, their confusion with conflicting state policies, and their concerns with delays in obtaining equipment from AT&T's NSNC. But Heil insisted these shortcomings were due less to a lack of commitment by AT&T to help the disability community than to "initial logistical problems" related to the company's divestiture.⁵⁷ As an example, Heil pointed to AT&T's new ability to provide customers located across the country with all types of devices previously unavailable from their local telephone companies.

Heil was not the only AT&T employee to take a deep and personal interest in disabilities issues. Longtime AT&T employees Ron Hatley and Elaine Hatcher similarly plunged knee deep into these matters. As marketing manager at AT&T's national center, and later manager of AT&T's Consumer Advisory Group, Hatley recognized the value of regularly soliciting feedback from the disability community on AT&T's practices.* In order to meet the community's needs, he used his position—and his passion for disability rights—to wage internal battles for improved telephone amplification, captioning of AT&T's television commercials, and other forms of access. Before assuming the job of AT&T's district manager for consumer tariffs in 1984, Hatcher had served as the company's manager of FCC complaints and inquiries, where she fielded questions from deaf and hard of hearing customers about AT&T's services. As time went on, Hatcher became increasingly immersed in matters of concern to the disability community, and a source of expertise on these issues for individuals inside and out of AT&T.†

Notwithstanding the assistance of these internal advocates, consumers continued to grow disgruntled with state inconsistencies and the FCC's failure to revisit the issues dismissed in its prior disability orders. When the agency's inertia prompted consumers, once again, to secure regulatory action, the FCC responded by holding a public forum on telecommunications access issues on December 5, 1986.⁵⁸ But even

* Indeed, Hatley was largely responsible for saving AT&T's Consumer Advisory Group from extinction.

† By the 1990s, Hatcher's talent at swiftly resolving problems would cause disability advocates as well to regularly seek her guidance and counsel on accessibility matters pertaining to AT&T.

the FCC's handling of this event made advocates wonder about the agency's sensitivity to these issues. First, the notice about the forum did not provide a TTY number, so prospective attendees who were deaf or hard of hearing could not access information about the event. Second, the FCC refused to provide a sign language interpreter for the forum. Only after Sheila Conlon Mentkowski, a deaf attorney and telecommunications access activist who was one of the forum presenters, made several calls to the Commission reminding it of its obligation to provide reasonable accommodations under Section 504 of the Rehabilitation Act did the agency agree to what should have been a routine request.*

On the day of the event, participants arrived to find only one interpreter present. When the interpreter needed a break midway through the morning, Robert James, the forum coordinator, appropriately stopped the presentations. However, as soon as the interpreter left the stage, James returned to the lectern and began explaining to the audience that he wished to get some minor business "out of the way" while the interpreter was resting. No sooner did he begin talking without an interpreter than I and other audience members jumped to our feet to prevent him from continuing. It was a most frustrating situation. Here we were trying to convince the FCC of the need to extend telecommunications access to all Americans with disabilities, yet we could not even get the agency to provide appropriate communications access at its own meeting. An exasperated Mentkowski returned to NCLD's offices to report the numerous Section 504 violations to FCC Chairman Mark Fowler, and to request assurances that the FCC would improve communication at future events.⁵⁹

Notwithstanding the dismal accommodations provided for the December 1986 forum, the meeting itself proved to be somewhat of a success. Only five months later, the FCC released a new notice of inquiry to solicit public comment on the telecommunications access issues raised during the forum. The notice also revived many of the topics dismissed in the Commission's earlier disability proceedings, including reduced TTY rates, the physical accessibility of public phone booths, and the availability of specialized equipment at reasonable costs.⁶⁰

The Office of People's Counsel of the State of Maryland, an independent state agency that represents consumers in utility matters, filed comments in response to the new inquiry on behalf of seven consumer and local government offices.⁶¹ They called upon the FCC to fulfill its longstanding obligation to provide universal telephone service, putting on record the problems that consumers were now facing: "Many do not know where to turn to obtain needed equipment, prices vary from state to state, availability is uncertain, slow deliveries create hardship and required service is difficult to find."⁶² Although AT&T had its national center, the coalition complained that the company's competitors had done little, if anything, to serve people with disabilities. The advocates explained that people with disabilities no longer wanted to be treated as a segregated minority with only limited rights to telecommunications access; they urged the FCC to establish a national program for the distribution of SCPE and to require the installation of TTY-accessible public phones. Gallaudet's

* Because there was no direct TTY number and few relay services at the time, Mentkowski was forced to make these calls through hearing employees at NCLD, where she was then working.

Research Institute (GRI) echoed the need for federal action to expand telecommunications access.⁶³ It joined numerous consumer groups and even companies in urging the FCC to create a federal advisory committee on disability issues to keep the Commission informed about technological developments and provide advice for regulatory change. The members could include telephone industry representatives, consumers, state regulatory commissioners, manufacturers of SCPE, audiologists, and rehabilitation engineers.

On September 28, 1987, the THIC Forum invited Robert James to share the FCC's progress on access issues. James offered only that the FCC might issue a notice of proposed rulemaking or it might do nothing at all. In anticipation of just such a response, THIC members had also invited John Windhausen, counsel to the Communications Subcommittee of the U.S. Senate Commerce Committee, to the same meeting. But Windhausen informed the attendees that Congress was unlikely to act before the FCC decided the outcome of its current disability proceeding.*

A full decade had passed since the FCC had opened its first docket on disability matters, and still these issues remained unresolved. When the agency did finally respond six months later (in March 1988), it did so in the form of yet another formal inquiry that merely repeated many of the same questions posed in its earlier proceedings.⁶⁴ This time, the Commission also refused to create a formal disability advisory committee, claiming such a group not to be "essential."⁶⁵ It proposed instead that outside groups, such as the THIC Forum, coordinate consensus among consumers and industry to facilitate the Commission's consideration of disability issues. Advocates remained convinced, however, that without FCC oversight, THIC's recommendations would not carry much weight in the agency's deliberations.⁶⁶

The FCC's new proceeding did focus on two very specific disabilities issues—the provision of hearing aid compatible telephones and telecommunications relay services—which had begun to dominate the agency's and the consumers' telecommunications access agenda. As these new issues took center stage, the distribution and affordability of specialized equipment, matters that had dominated so much of the federal telecommunications access agenda during the 1970s and early 1980s, receded into the background of federal policy. In July 1989, these matters were summarily put to rest when the FCC determined that it did not have sufficient information to determine whether the benefits of regulating the SCPE issue outweighed the costs.⁶⁷ Another issue that remained unresolved, the provision of TTY-accessible public telephones, would later be addressed by the ADA's mandates for the placement of these phones in places of public accommodation and local governments.⁶⁸

In the early 1990s, AT&T would dissolve its NSNC. With deregulation complete—for both conventional and specialized telephone equipment—the company would conclude that it was more cost-effective to have the same AT&T centers handle both SCPE and CPE. Ironically, this would cause AT&T to redistribute its specialized equipment back to its regional centers located around the country, an outcome that

* Many years later, Windhausen would be most helpful to the deaf community in helping to expand the nation's telecommunications accessibility and captioning requirements in the 1996 amendments to the Communications Act. See chapter 15 for a detailed history of these amendments.

consumers had sought a decade earlier. By now, virtually all consumers would purchase rather than lease telephone equipment, and other companies, such as Verizon, would similarly open regional disability centers to reach local markets of persons with disabilities.

Consumers Return to the States

The FCC did not return to matters concerning the regulated provision of specialized equipment for people with disabilities during the next two decades. But the failed attempts to achieve federal guarantees of affordable SCPE were balanced in part by the successes of local community groups who, during the 1980s, battled for reasonably priced equipment before state legislatures, regulatory commissions, and local telephone companies. Their efforts resulted in the establishment of an array of state-sponsored programs that distributed TTYs, amplifiers and volume-control telephones, light signalers, breath-activated telephones, artificial larynxes, and other types of adaptive devices.⁶⁹ Some of these state programs were operated voluntarily by local telephone companies; others were created by legislative or regulatory fiat.⁷⁰ Most were funded through state surcharges on telephone subscriber bills, state appropriations, or contributions from telephone companies.⁷¹

The nature and scope of these programs, which by the end of the 1980s existed in approximately half the states, varied widely. While a few provided equipment regardless of financial eligibility, most gave priority to individuals with low incomes.⁷² Some allowed residents to take possession of the equipment through cost-free leases; in these states, the leased equipment legally remained the property of the state, returnable upon termination of residency in the state.⁷³ A few states asked consumers to share costs for the equipment, especially where income eligibility requirements were not met.⁷⁴ Still others offered low-interest loans, credit arrangements, or vouchers for consumers to purchase their own equipment.⁷⁵ Many deaf consumers preferred the latter, as this gave them the freedom to choose equipment that best fit their needs. Voucher programs also eliminated problems when bulk purchases of specialized equipment were ordered directly from manufacturers. Enabling consumers to make their purchases directly from local equipment vendors, many of whom were disabled themselves, allowed these vendors to effectively compete in the SCPE market.⁷⁶

State equipment distribution programs have continued to be successful in distributing specialized terminal equipment to hundreds of thousands of individuals with disabilities across America, and in partially filling the gap left by the deregulation of specialized telephone equipment. Many feel, however, that these programs are now falling short of meeting the communications needs of people with disabilities. First, only an estimated thirty-seven states have one of these programs.⁷⁷ In addition, the majority have strict income and disability eligibility requirements, as well as funding restrictions that prevent them from fulfilling their residents' demands. Most states also have a limited selection of devices, some of which are growing obsolete in a rapidly changing communications environment. Few have followed the example of Missouri, which in the year 2000, became the first state to distribute adaptive computer equipment for access to the Internet and electronic mail.⁷⁸ Ways to improve these programs so that they can more fully meet the needs of consumers with disabil-



State equipment distribution programs gave people who are deaf and hard of hearing various specialized equipment options.

ities is a subject now actively debated by the Telecommunications Equipment Distribution Program Association (TEDPA), a body created in November 1997 for state equipment distribution administrators to exchange information with one another.

The Quest for Accessible SCPE Continues

Although consumer efforts to obtain federal mandates requiring affordable telecommunications equipment were temporarily laid to rest in the late 1980s, in 1996, Congress passed amendments to the Communications Act of 1934, establishing new funding mechanisms to ensure universal telecommunications service for all Americans. At that time, I and other advocates went back to the FCC to see if a portion of this new “Universal Service Fund” could be used to set up a nationwide specialized equipment distribution program for people with disabilities.⁷⁹ Though our request was denied, as this book goes to print in 2006—thirty years after the quest for affordable equipment first began—we are again asking Congress to amend the Communications Act so that universal service funding may be used to help subsidize the high costs of specialized equipment and services needed for telecommunications access.

Notes

1. *United States v. American Telephone & Telephone Company*, 552 F. Supp. 131 (D.C.C. 1982), *aff'd sub nom. Maryland v. United States*, 460 U.S. 1001 (1983).

2. AT&T Plan of Reorganization, *U.S. v. AT&T* (filed December 16, 1982), approved in *U.S. v. Western Electric Co.*, 569 F. Supp. 990 (D.D.C.), *aff'd sub nom. California v. U.S.*, 104 S. Ct. 542 (1983).

3. Second Computer Inquiry, 77 FCC 2d 384 (May 2, 1980), *reconsideration*, 84 FCC 2d 50 (December 30, 1980), *further reconsideration*, 88 FCC 2d 512 (1981), *aff'd sub nom. Computer and Communications Industry Assn v. FCC*, 693 F. 2d 198 (D.C. Cir. 1982), *cert. denied*, 461 U.S. 938 (1983), *aff'd on second further reconsideration*, FCC 84-190 (May 4, 1984), codified at 47 C.F.R. 64.702.

4. This provision was eventually codified at 47 U.S.C. § 610(g).

5. P.L. 97-410, 94 Stat. 2043 (1982), codified as amended at 47 U.S.C. §610 (1988).
6. H. Rep. No. 888, 97th Cong., 2d Sess. 4-5 (1982). Hereinafter cited as TDA 1982 House Report.
7. *Ibid.*, 3.
8. Congress explained that it needed to balance the costs of the legislation with the benefits of providing telephone access, including “reduced institutionalization, increased mobility, and enhanced productivity by disabled persons.” TDA 1982 House Report, 12.
9. *Ibid.*, 3-4.
10. AT&T, Petition for Waiver of the Provisions of Section 64.702 of the Commission’s Rules and Regulations with respect to Customer Premises Equipment Required to Meet the Special Needs of Disabled Persons (October 22, 1982), 5. Hereinafter cited as AT&T 1982 Petition for Waiver.
11. *American Telephone and Telegraph Co., Organization for the Use of the Telephone, Petitions for Waiver of Section 64.702 of the Commission’s Rules so that the Bell Operating Companies and Other Local Telephone Companies May Provide Under Tariff New CPE to Meet the Needs of Disabled Persons*, Memorandum Opinion and Order, FCC 82-580, 92 FCC 2d 1208 (January 25, 1983). Hereinafter cited as Disabled Waiver Order. See also *BOCS and Independent Phone Companies May Provide Tariffed CPE for the Disabled*, FCC News Report 2985 (December 23, 1982).
12. TDA 1982 House Report, 4.
13. 47 U.S.C. 610(a).
14. *Telecommunications Services for the Deaf and Hearing Impaired*, Order, CC Dkt. 78-50, FCC 83-177 (April 27, 1983); See *Inquiry on Telecommunications Services for Deaf Terminated; Separate Rulemaking Initiated*, FCC News Report 17464 (April 28, 1983); 48 *Fed. Reg.* 21351 (May 12, 1983); *Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons*, Notice of Proposed Rulemaking, CC Dkt. 83-427, FCC 83-176, 93 FCC 2d 1311 (May 4, 1983), 48 *Fed. Reg.* 20771 (May 9, 1983). Hereinafter cited as NPRM Dkt. 83-427.
15. *Ibid.*, ¶4.
16. *Ibid.*, ¶33, citing 128 *Cong. Rec.* H9484 (daily ed. December 13, 1982) (remarks of Rep. Wirth). Wirth had stated that “the Commission cannot interfere with the State’s decision to tariff such equipment and to allow the recovery of reasonable and prudent costs not charged directly to the user in tariffs for regulated services.”
17. See, for example, Comments of the Institute for Cognitive Science; Comments of Scott J. Rafferty, former counsel to the House Telecommunications Subcommittee (undated).
18. Reply Comments of AT&T in Dkt. 83-427 (July 15, 1983).
19. *Ibid.*, 6-7.
20. Interviews with Elaine Hatcher and Ron Hatley, former AT&T employees, May 2003.
21. AT&T 1982 Petition for Waiver, 11.
22. Scott J. Rafferty, letter to the Honorable Harold Greene, *United States v. AT&T*, Civ. A. 82-0025, July 22, 1983.
23. Statement of Senator Charles Mathias Jr., 129 *Cong. Rec.* 22451 (daily ed. August 3, 1983).
24. *U.S. v. Western Electric*, 569 F. Supp. 1057, 1131 (D.D.C. 1983), citing to the TDA.
25. *Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons*, Motion for Expedited Consideration on Behalf of NCLD, NAD, SHHH, AG Bell, ASHA, Paralyzed Veterans of America, American Council of the Blind, Disability Rights Center, the National Rehabilitation Association, American Deafness and Rehabilitation Association, Conference of Educational Administrators Serving the Deaf, and Convention of American Instructors of the Deaf in CC Dkt. 83-427 (August 23, 1983).
26. *Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons*, AT&T Supplementary Comments, CC Dkt. 83-427 (September 14, 1983).
27. *Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons*, NCLD Response to AT&T’s Supplementary Comments, CC Dkt. 83-427 (undated). Hereinafter cited as NCLD Response.
28. The Communication Workers of America (CWA) agreed that the small market size of the disability community and the large variety of specialized products warranted spreading at least some of the costs of providing those products across all general ratepayers. Comments of OUT

on AT&T's Proposed Price Predictability and Sale Plan for Specialized Terminal Equipment for Disabled Customers, CC Dkt. 83-427 (October 4, 1983), 4, citing Comments of CWA, 2.

29. NCLD Response in CC Dkt. 83-427, 2.

30. Children's Hospital at Stanford objected to the closure of Pacific Telephone's Handicapped Service Program for this very reason. *Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons*, Report and Order, CC Dkt. 83-427, FCC 83-565 (December 23, 1983), A-2. Hereinafter cited as Report and Order 1983. Some customers also maintained that certain SCPE, such as voice-activated telephones and emergency alarms, could not even be initiated without the assistance of a skilled local telephone operator.

31. Larry J. Goldberg, NCLD, and Sarah S. Geer, NAD Legal Defense Fund, letter to the Honorable Harold Greene, November 10, 1983.

32. *Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons*, Memorandum Opinion and Order, CC Dkt. 83-427, FCC 83-517, 95 FCC 2d 1421 (November 25, 1983). Hereinafter cited as Memorandum Opinion and Order 1983.

33. Memorandum Opinion and Order 1983, ¶8, citing H. Rep. No. 888, 97th Cong., 2d Sess. 13 (1982). See also Memorandum Opinion and Order 1983, ¶9.

34. Report and Order 1983. The new rule was codified at 47 C.F.R. §64.606(a): "Any communications common carrier may provide, under tariff, customer premises equipment (other than hearing aid compatible telephones) . . . needed by persons with hearing, speech, vision or mobility disabilities. Such equipment may be provided to persons with those disabilities or to associates or institutions who require such equipment regularly to communicate with people with disabilities."

35. See, for example, Comments of the North American Telephone Association and the U.S. Independent Telephone Association in CC Dkt. 83-427.

36. Comments of Scott J. Rafferty in CC Dkt. 83-427, 19-24, referencing the TDA legislative history at 128 *Cong. Rec.* H9484.

37. Scott J. Rafferty, letter to Al Pimentel, June 14, 1983.

38. Report and Order 1983, ¶46, C-22. This was not the first time that the Commission had addressed the scope of SCPE. In its Disabled Waiver Order of December 1982, the FCC preliminarily determined SCPE to include equipment "which has at least one of its important purposes specialized application [sic] enabling disabled persons to communicate." Disabled Waiver Order 1982, ¶15.

39. Report and Order 1983, ¶48. Hearing aid compatible telephones were exempt from the definition of SCPE entirely because their widespread distribution and affordability made subsidies unnecessary.

40. Report and Order 1983, ¶46.

41. *Ibid.*, ¶22.

42. *Ibid.*, ¶37.

43. *Ibid.*

44. *Procedures for Implementing the Detariffing of Customer Premises Equipment and Enhanced Services*, CC Dkt. 81-893, FCC 83-551, 95 FCC 2d 1276 (December 15, 1983), *modified in part on reconsideration*, 50 FR 9016 (1985), *reconsideration denied in part*, FCC 85-220 (May 15, 1985).

45. FCC Letter Ref. No. 61210 (December 29, 1983).

46. *Petition for Waiver of Computer Inquiry II Rules, 47 C.F.R. 64.702, to Enable American Telephone and Telegraph Company to Contract with AT&T Information Systems Inc. for Accounting Services, Customer Business Office Assistance and Billing for Regulated Embedded Customer Premises Equipment*, Supplementary Petition (January 30, 1984).

47. The NAD and ACB, Petition for Reconsideration in CC Dkt. 83-427, 13 (February 13, 1984).

48. Comments of the NAD on AT&T Supplementary Petition (February 24, 1984).

49. AT&T Reply to NAD Comments on AT&T Petition for Waiver (March 9, 1984); AT&T Opposition to Petition for Reconsideration (March 12, 1984). On March 12, 1984, GTE also filed an opposition to the Petition for Reconsideration, arguing that the TDA allowed, but did not require, the states to mandate subsidies for SCPE.

50. *Petition for Reconsideration of an Order in Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons, American Telephone and Telegraph Company, Petition for Waiver of Section 64.702 of the Commission's Rules to Allow American Telephone and Telegraph*

Company to Contract with American Telephone and Telegraph Company Information Systems, Inc. for Provision of Certain Services for Regulated Specialized CPE, Memorandum Opinion and Order, CC Dkt. 83-427, FCC 84-382 (August 13, 1984). Hereinafter cited as Memorandum Opinion and Order 1984.

51. David Saks and Lee Richardson, "Consumerism and the Disabled Consumer in the Communications Marketplace" in *Papers Presented at the Annenberg School of Communications and Gallaudet Research Institute Joint Forum on Marketplace Problems in Communications Technology for Disabled People, February 20-21*, ed. Katherine D. Seelman and Judith E. Harkins (Washington, D.C.: Annenberg Washington Program, 1986), 7.

52. Statement by OUT, quoted in "Telephone Services and Equipment for Disabled People," *REHAB BRIEF* 10 (3): 2.

53. Architectural and Transportation Barriers Compliance Board, *Telecommunications Access With and Within the Federal Government: A Consideration of Issues and Applications for Telecommunications Devices for Deaf Persons* (Washington, D.C.: ATBCB, 1984).

54. Genevieve Morelli, "State Telecommunications Policy and Disabled Persons, A Report by the National Association of Regulatory Utility Commissioners" in Seelman and Harkins, *Joint Forum on Marketplace Problems*.

55. S. 402, 99th Cong., 1st Sess. (February 6, 1985); H. R. 1432, 99th Cong., 1st Sess. (March 6, 1985).

56. Seelman and Harkins, *Joint Forum on Marketplace Problems*. See also Katherine D. Seelman, "Current Status of Specialized Telephone Services and Equipment for Disabled People," *Hearing Rehabilitation Quarterly* 11 (1986): 14-16.

57. Joseph B. Heil, Jr., "Disabled People Can Be an Important Market Segment, A Large Business Perspective" in Seelman and Harkins, *Joint Forum on Marketplace Problems*, 5.

58. *Common Carrier Bureau Calls Meeting on Telecommunications Needs of the Hearing Impaired and Disabled*, FCC Public Notice (November 13, 1986).

59. Sheila Conlon Mentkowski, letter to FCC Chairman Mark S. Fowler, December 17, 1986.

60. The FCC found authority for this notice in the TDA. *Access to Telecommunications Equipment and Services by the Hearing Impaired and other Disabled Persons*, Notice of Inquiry, CC Dkt. 87-124, FCC 87-150, 2 FCC Rcd 2836 (May 15, 1987).

61. In addition to the Maryland People's Counsel, the organizations and offices represented in the comments were the Hearing and Speech Agency of Metropolitan Baltimore, Inc., the Maryland Department of Health and Mental Hygiene, the Maryland Governor's Commission on Hearing Impairments, the Maryland Governor's Office for Handicapped Individuals, NCLD, OUT, and the Telecommunications Exchange for the Deaf, Inc. (comments filed on June 29, 1987). Hereinafter cited as Joint Comments 1987.

62. *Ibid.*, 16.

63. Comments of Judith Harkins, Cynthia Compton, and Carl Jensema in CC Dkt. 87-124 (June 29, 1987).

64. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Notice of Proposed Rulemaking and Further Notice of Inquiry, CC Dkt. 87-124, FCC 88-123 (March 29, 1988).

65. *Ibid.*, ¶70.

66. THIC Forum minutes (August 25, 1987).

67. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Order Completing Inquiry and Providing Further Notice of Proposed Rulemaking, CC Dkt. 87-124, FCC 89-242 (July 27, 1989).

68. The Architectural and Transportation Barriers Compliance Board has detailed guidelines for the placement of such public phones. 36 C.F.R. §1191, Appendix A §§4.1.3(17); 4.31.9.

69. NCLD, "Summary of State TDD Distribution Programs and/or Dual Party Relay Programs," (March 1987, January 1988 editions); John De Witt and Steven Mendelsohn, *Market Study of State Distribution Programs for Specialized Telecommunications Equipment*, report prepared for the AT&T National Special Needs Center (December 31, 1989, revised, January 29, 1990).

70. Hawaii, Michigan, and Missouri had voluntarily operated programs, while state distribution programs were mandated by law in California, Illinois, and Nevada.

71. Arizona, California, Illinois, Nevada, Oklahoma, Rhode Island, Oregon, Utah, and Washington used surcharges to fund their programs. State appropriations were used to fund programs in Florida, Massachusetts, New Hampshire, and Wisconsin. Hawaii funded its program with money collected by the state's telephone company.

72. Rhode Island, South Dakota, Florida, Arizona, Nevada, and California were among the states that did not establish financial criteria for participation in their equipment distribution programs. However, Oklahoma, Connecticut, Wisconsin, Massachusetts, Minnesota, New Hampshire, and Hawaii imposed eligibility requirements on the basis of financial need.

73. Arizona, California, Illinois, Oregon, South Dakota, and Tennessee were among the states that used these no-cost leases.

74. Maine, Oklahoma, Montana, and Virginia used these cost-sharing measures.

75. New York and Minnesota were two states that used these low-fee financing arrangements. Wisconsin provided consumers with vouchers worth several hundreds of dollars, with which consumers were permitted to select and purchase their own equipment.

76. Dr. Robert Harris, "TDD Distribution or Vouchers?" *GA-SK 21* (Spring 1990): 16.

77. Lauren Hruska, Telephone Equipment Distribution Program, e-mail to the author, February 7, 2003.

78. Gay Jones, Southwestern Bell, e-mail to the author, April 21, 2003.

79. Comments of the NAD (December 19, 1996); Reply Comments of the NAD and the Consumer Action Network (May 7, 1996), in *Federal-State Joint Board on Universal Service*, CC Dkt. 96-45.

3

Entering the Mainstream of Telephone Communications

Henry Kisor, an editor at the Chicago Sun Times who happened to be hard of hearing, often relied on an assistant to make his calls to hearing colleagues who did not own TTYs. On one particular occasion, Kisor had a dispute with a publisher about a book review. He wanted to convey his anger but was concerned that if his assistant made the call for him, she would be far too nice. Taking matters into his own hands, Kisor wrote a letter to the publisher himself, telling him “to go to hell.” Kisor’s boss was not pleased; it was okay to tell someone “to go to hell,” his boss informed him, but one should do so on the phone “so there’s no written proof!”

BY THE mid-1980s, the proliferation of TTYs and the availability of TTY-accessible operator services promised to open a whole new world for deaf and hard of hearing people. But the taste of that access made its limitations all the more bitter. Although TTYs represented a milestone in the quest for telecommunications access, these devices, in and of themselves, had limited value if they could only be used to call other individuals who owned similar equipment. Deaf and hard of hearing people still needed a way to call businesses, employers, and family members who did not own these devices. Having to rely on others to make calls not only reduced productivity; it chipped away at one’s privacy and sense of dignity.

The Birth of Relay Services

The need for TTY users to be able to call voice telephone users directly had not escaped the attention of the original creators of the TTY. As early as 1965, when only a few individuals had TTYs, Andrew Saks presented the idea of a system that conveyed—or “relayed”—messages back and forth between a TTY and conventional voice telephone to Jim Marsters.¹ Saks and Marsters then each made arrangements

Epigraph. Henry Kisor, “Instruments of Freedom, Telephone Accessibility for All! *SHHH Journal* (July/August 1991): 14–15.

with local companies to provide relay services for a handful of deaf subscribers, Saks with the Tel-Page Company in Redwood City, California, and Marsters with the Alert Answering Company in Pasadena, California. Most of the time, the messages were sent on a delayed basis, received and then forwarded at a later time; only occasionally and where time permitted was the communication between the two parties relayed simultaneously.² Unfortunately, complaints from staff about the noise of the antiquated TTYs and concerns about the high costs to consumers for these services—as much as \$65 to \$100 per month—ultimately limited the success of these services, and they closed not long after beginning operations.³

One of the next efforts to bridge the communication gap between TTY and conventional telephone users occurred in 1969, when Paul Taylor arranged for twenty deaf families in St. Louis to pay \$2 a month to a family-run service for the ability to make calls, in real time, to and from voice telephone users. The TTY users would call a third-party operator, who would then call the hearing recipient of the call, read the TTY user's message to the call recipient, and then type back the voiced responses.* While this service lasted only six months (demand far exceeded its fiscal solvency), it was a portent of things to come. During the 1970s, there was a gradual but steady proliferation of privately operated relay services across the nation.

The earliest funding sources for these telephone services knew no bounds. They included charitable donations, church bazaars, bake sales, local governmental appropriations, and, in one case, a dance marathon! But limited financial support meant that most of these systems were staffed with untrained and often unskilled volunteers or minimum-wage workers. Two examples illustrate the homegrown aspect of these services—a housewife in Rochester, New York, provided private relay services for small fees; a blind man in New York City made relay calls from his home at no cost (to its users).

As demand steadily increased over time, these private operations grew, became more sophisticated, and evolved into sizeable programs designed to meet the needs of whole communities. Throughout the 70s and 80s, privately run relay centers, staffed by thousands of volunteers, opened across the country. Approximately fifty of these independently operated and funded centers were coordinated through headquarters located in Harrisburg, Pennsylvania, under the name CONTACT USA.⁴ Lee Brody supplied the TTYs for several of these centers, while Cliff Rowley, president of TDI during part of the 1970s, worked with other telecommunications access pioneers to regularly perform equipment repairs for locations in the northeast. Three years after Paul Taylor's family-operated service shut its doors, a DEAF CONTACT relay operation took over in St. Louis on a much grander scale than its predecessor. In the mid-Atlantic region, Esther Schaeffer founded a different relay center, TEDI or Telecommunications Exchange for the Deaf, Inc., for calls originating in the Washington, D.C., metropolitan area, including its Maryland and Virginia suburbs. In other parts of Maryland, Willis Mann effectively expanded a hotline for potential suicide victims into local relay services. He later moved to northern California, where, as the executive director of the NorCal Center on Deafness in 1980, he used a \$15,000 grant

* Relay services still work this way. These calls can also be initiated in reverse, with the hearing person calling the TTY user through the third party operator.



Telecommunications relay service. Today the communications assistant would be seated at a computer screen. (Left) voice telephone user, (middle) communications assistant, (right) TTY user

to open a relay service for twenty-three counties. Many other centers like these opened in other jurisdictions.

Although some of these nonprofit relay operations were better endowed than others, virtually all faced severe funding limitations that strained their ability to meet the growing need for telecommunications in the deaf community. Thousands of calls went unanswered on any given day because of the limited hours and meager staffing of most centers.* In addition, many of these nonprofit relay centers used third-party, credit-card, and collect-call billing mechanisms for toll calls because they feared being burdened with unpaid long-distance costs incurred by their clients. The higher costs associated with the use of these operator services discouraged many individuals from making any long-distance relay calls. The inordinately high demand for relay access, coupled with an interest in having full, not partial, telecommunications access, fueled a growing consumer movement to obtain comprehensive statewide relay services across the country.

Statewide Relay Services Take Over

On February 11, 1974, Bill and Grace Yoreo and their son, Dave Yoreo, established Converse Communications in Connecticut, the first statewide, twenty-four-hour relay service in the nation. Although the nonprofit operation was initially run from the Yoreos' home and privately funded (in part with contributions from telephone and insurance companies), the Connecticut legislature began helping to finance the service with a portion of funds earmarked for the Connecticut Commission for the Deaf and Hearing Impaired in 1983. Converse Communications eventually shut down its relay service in 1993, but for many years it remained the longest running statewide relay service in the United States, serving as a model for others interested in beginning relay operations.⁵

* For example, the Hi-Line Relay Service of Rochester, N.Y., was unable to handle up to 30 percent of all incoming calls. Paul Taylor, "Telephone Relay Service: Rationale and Overview," *Speech to Text Proceedings*, 11, 13. Similarly, TEDI received tens of thousands of calls each month, but at peak times individuals could wait hours to make a single call. In addition, TEDI was only available for emergency use after 6:00 p.m. "An Interagency Report to the Office of the Governor Concerning the Establishment and Funding of a Comprehensive Dual Relay System in Maryland" (November 1990).

South Dakota holds the distinction of becoming the first state to offer a statewide relay program with state-appropriated funds. The story of how these services began goes back to the day when a young deaf boy named Ben Soukup watched a bank turn his father down for a loan to save the family farm, simply because his father was deaf. After seeing his father's health and business decline, Soukup made it his mission—as well as his passion—to develop ways to ensure that South Dakota's deaf residents had the communications access that they needed to be successful. Once grown, in 1975, he started Communication Service for the Deaf (CSD)—at first a branch of the South Dakota Association of the Deaf—to fulfill his dream. Less than a year later, with appropriations from the state's vocational rehabilitation services, CSD began operating a “TTY Interpreting” relay program between the hours of 8 a.m. and 5 p.m. Calls that came in after those hours were handled by answering services and volunteers who worked from their homes. Many years later, CSD developed a relationship with Sprint that enabled the two companies to become national leaders in the provision of relay services across the United States.

Unfortunately, during its early years, the South Dakota relay program was plagued with funding limitations that kept it from offering round-the-clock services. It was not until several years later that California's state government became the first to operate a twenty-four-hour, seven-day-a-week relay service for all of its residents.* The idea for the California program began in the early 1980s when it was discovered that the state's equipment distribution program, which gave out free TTYs and other specialized equipment, had a \$12 million surplus. After considerable debate, deaf telecommunications pioneers Marcella Meyer, Bill White, Jack Levesque, Gerald “Bummy” Burstein, Dick Babb, and Judy Viera agreed to ask the California state legislature to apply the extra funds to the creation of a statewide, mandated relay services program. They were successful in getting an amendment to the distribution law that provided funding through a three-cent surcharge (with a cap of ten cents) on all telephone subscriber bills for relay services that were to be administered by the California Public Utilities Commission (PUC).⁶ At midnight on January 1, 1987, AT&T began the new service in Woodland Hills with 123 “communications assistants” and an annual budget of approximately \$14 million. Although the planners expected a monthly volume of 50,000 calls, the very first month brought in 87,511 calls. By the close of 1987, monthly volume had risen to more than 179,000 calls.

The extraordinary consumer response to California's full-time statewide relay program became an inspiration for consumers in other states. Across the country, advocates approached their legislators and state regulatory commissions to secure similar state-mandated relay programs. Relay hearings in New York attracted more than 100 sympathetic witnesses. So persuasive was their testimony that the seven New York public service commissioners voted unanimously in 1987 to approve the requested service. This was a true victory for Paul Taylor, who had since moved to New York

* A fine point: Although the Connecticut relay service began in 1974, it did not receive state funding until many years later. Accordingly, South Dakota was the first state to actually use state-appropriated money to fund relay services for all its residents. CSD's TTY interpreting program gave individuals the option of calling into its center or coming in to have an interpreter connect and interpret the call. CSD, *Seeing a Need* (Sioux Falls, S.D.: Pine Hill Press, 2005). California then became the first state to *mandate* relay services for its entire state, around the clock.



Christopher Jones, vice president of Teltec International, makes a call from the public text telephone in London while Judy Viera looks on.

from St. Louis, and had actively lobbied for a relay service in New York since 1984. Deaf consumer advocates in several other states were equally effective in convincing their lawmakers to begin statewide relay programs.⁷ But while many of the new programs were a significant improvement over their nonprofit predecessors, nearly all remained unable to fully meet the demands of the deaf community. States frequently funded their relay programs with governmental appropriations that grossly underestimated the demand for telephone access within the deaf community. Even those states that funded their systems with subscriber surcharges frequently imposed caps on those surcharges, which impeded the adequate delivery of these services. California was a case in point. Only one year after implementing its relay system, its budget doubled to more than \$30 million. When it became clear that the \$.10 surcharge cap would not provide enough revenue to cover both the relay service and the equipment distribution program, deaf community advocates returned to their legislators to request an increase in the surcharge cap just to keep the system running. In states where legislators were unwilling to increase similar funding limits, inadequate relay budgets failed to provide sufficient services.

To conserve funds, many of the early state relay programs imposed severe restrictions on the time and length of TTY calls.⁸ Some states, like Kansas, only provided relay services from 8:00 a.m. to 5:00 p.m., Monday through Friday, and offered no service at all on holidays or weekends. Virginia's service was a bit better, but still only accepted calls between 7:30 a.m. and 7:30 p.m. Other states placed limits on the length of calls themselves. Massachusetts and Vermont, for example, restricted personal calls to ten minutes and business calls to twenty minutes. Arkansas similarly limited business calls to fifteen minutes and prohibited personal or "chatty" calls. Wisconsin's policy was even more restrictive, permitting operators to indiscriminately cut off all conversations that appeared to be "long social calls."

Placing restrictions on the length of calls created considerable hardships for deaf people who needed to call governmental offices and other institutions that typically placed callers "on hold." For example, a deaf consumer might have to make multiple

calls to resolve a simple matter on a utility bill, if the company being called placed the call on hold beyond the time limit imposed by the relay service. In one case handled by NCLD, a deaf woman accused her law firm with discriminating against her because the firm billed each of her calls at the hourly rate, even though the relay service cut off each call after fifteen minutes. The woman had to make numerous calls to complete her conversation, which resulted in legal fees that far exceeded those paid by hearing clients.

Some state relay programs, including those in Nebraska, Minnesota, and Arkansas, restricted the number of relay calls permitted by relay callers each time they dialed into a center. In addition, New Hampshire imposed a five-call-per-day limit for calls up to fifteen minutes. The vast majority of the states also refused to handle interstate relay calls because their public utility commissions had concerns about the appropriateness of using surcharges assessed on their own ratepayers for calls benefiting persons outside their states. Because these commissions lacked jurisdiction over interstate telephone rates, they also believed they lacked authority over out-of-state relay calls. California relay consumers challenged this policy, arguing that it was unfair for them to be assessed a federal monthly charge for interstate access to the telephone network if they did not have full access to that network. The state's PUC found that because the FCC regulated interstate telephone service, the FCC—not California—should address this issue.

Few states during the 1980s imposed any standards for relay service quality. As a consequence, many relay operators had weak typing and grammar skills and were unfamiliar with the communication needs of relay users. Deaf consumers complained that so many hearing people were repelled by the ineptitude of relay operators that many even refused to use relay services.⁹ The general failure to appreciate the need for relay confidentiality also resulted in frequent violations of user privacy. Some relay services even required their relay operators to store copies of conversations in file cabinets for up to six months!¹⁰

By far, however, the biggest problem confronting these early relay programs was their inability to adequately handle large volumes of relay calls. Insufficient funding meant that callers typically had to endure endless busy signals and long queues before even reaching a relay operator. Unfortunately, attempts to alleviate this overcrowding were not very successful. Massachusetts, for example, provided two toll-free relay access numbers—one for the eastern half of the state, including Boston, and the other for the western half. When the eastern relay number began receiving many more calls than the western number, some residents in the eastern part of the state started using the western access number, overwhelming both of the relay centers. Oklahoma proposed alleviating extensive call blockages by limiting its system to certain categories of TTY users. It reversed this decision only after lawyers at NCLD informed Oklahoma officials that they could not collect surcharges from all telephone subscribers without offering equal access to all subscribers.

Federal Involvement

Up until the mid-1980s, the FCC had done little, beyond its work on hearing aid compatibility and, to a more limited extent, specialized customer premises equipment,

to address the needs of individuals with hearing disabilities. Deaf community advocates seized the opportunity to explain the inadequacies of the existing state relay systems when the Commission scheduled its first public meeting on telecommunications access on December 5, 1986.¹¹ At this forum, NCLD attorney Sheila Conlon Mentkowski urged the FCC to treat relay users on an equal footing with other telephone users. She explained that many states still treated relay services as charities by appropriating relay funds to social service and vocational rehabilitation departments, rather than public regulatory commissions. Mentkowski stressed that relay services were not solely for deaf and hard of hearing individuals, but rather provided a means of facilitating communication *between* two populations—hearing and deaf. Others at the forum echoed her concerns.

The FCC listened, and on April 24, 1987, adopted a notice of inquiry that both acknowledged the severe limitations then being imposed on relay users and solicited public comment on proposed solutions.¹² At the time, the FCC focused far more on what it could do to mandate comprehensive interstate, rather than intrastate, services. Additionally, the Commission gave considerable attention to lack of relay privacy and the need for technologies to replace human relay operators with “unmanned relay stations.” The Commission noted recent efforts by IBM to convert keystrokes into synthesized speech, along with the work of other companies that had been exploring the use of touchtone strokes to convey telephone messages.

In response to the FCC’s inquiry, numerous consumer groups, state regulatory bodies, local exchange carriers, and interexchange carriers expressed their strong support for interstate relay services. Many also endorsed the creation of an advisory committee to oversee the creation and implementation of an interstate system. Some argued that the need for FCC action had already been demonstrated by two independent surveys on state relay services—one by NCLD and the other by the Maryland Ad Hoc Committee (a committee formed to develop Maryland legislation on equipment distribution and relay services). The surveys revealed the considerable discrepancies among the state programs and affirmed the need for an FCC resolution of the jurisdictional disputes that kept the states from offering interstate relay services.¹³ Along these lines, the Gallaudet Research Institute recommended that the Commission look at the government-supported relay service in Sweden, which by then had been handling all types of calls, including international calls and calls from ships at sea, for five years.

Lack of FCC action over the next few months prompted the National Association of Regulatory Utility Commissioners (NARUC) to file a petition requesting the FCC to conduct a further notice of inquiry on interstate relay services.¹⁴ The petition described the frustration and confusion experienced by relay consumers, who were able to make relay calls within, but not between, states. It urged the FCC to establish a review committee comprised of industry and consumer representatives to explore interstate relay systems and technologies. Advocates appreciated NARUC’s support for an FCC-mandated interstate system, especially because the state regulatory commissions represented by NARUC would likely be responsible for implementing at least a part of this system.

In a strongly worded endorsement of the NARUC petition to the FCC, NCLD reported the growing number of concerns that consumers were now having with vari-

ations between and among state relay programs: “As each state enacts its own relay system ‘re-invention of the wheel’ occurs. Efforts are duplicated, procedures already established in other states are redesigned, and implementation of the system is inevitably delayed. A nationwide relay system would eliminate the need for these duplicative efforts.”¹⁵

During the fall of 1987, efforts to build a nationwide advocacy movement for relay services also gained impetus with the creation of two new national consumer committees: the TDI Relay Service Committee, chaired by Paul Taylor, and the NAD Task Force on Relay Services, coordinated by Paul Singleton. The new groups had a challenging agenda: obtain a comprehensive and uniform nationwide relay system, develop standards of relay quality, educate consumers about relay services, and work with the telephone industry on achieving these goals.¹⁶ Gary Olsen, executive director of the NAD, gave these efforts his full support: “We should not be continually forced to ‘making do’ with what little relay services are available in the U.S. today. The NAD is committed to seeing that [the] FCC implements activity to ensure the provision of this nationwide relay service.”¹⁷ As one of its first assignments, the NAD Task Force organized a consumer mailing campaign to pressure the FCC into responding to NARUC’s petition.

Approaching Congress

Dissatisfaction with the FCC’s progress on relay service issues eventually prompted disability advocates to turn to Congress. On November 20, 1987, on behalf of TDI, the NAD and other advocacy groups, NCLD sent a letter to Bobby Silverstein, staff director and chief counsel of the Subcommittee on the Handicapped of the Senate Committee on Labor and Human Resources.¹⁸ The committee chair was Senator Tom Harkin (D-Iowa), a longtime advocate for people with disabilities, who was no stranger to the need for adequate communication services; just recently, Harkin had secured the services of a sign language interpreter so that his deaf brother, Frank, could witness his own congressional swearing-in ceremony. He had also helped the NAD and NCLD secure an agreement from the U.S. Postal Service for a recruitment policy that facilitated the hiring of people who were severely disabled.

NCLD’s letter to Silverstein described the existing relay situation to be a matter “of crucial and timely interest to the deaf and hearing-impaired community.” The letter reported that the severe limitations imposed by the existing patchwork of state relay systems had made many of these systems ineffective. In particular, it complained that the inability to make out-of-state calls unfairly treated deaf telephone users differently from their hearing neighbors. The advocacy groups urged Senator Harkin and Senator Daniel Inouye (D-Hawaii; chairman of the Senate’s Subcommittee on Communications of the Senate Committee on Commerce, Science, and Transportation) to convince the FCC to move ahead in establishing a committee to review relay service issues. Advocates expressed the fear that, without pressure from Congress, the FCC would forever remain idle on this issue.

Two weeks later, I called AT&T and spoke to Ron Hatley, manager of consumer affairs for disability issues. In addition to AT&T’s having been the very first telephone company to provide statewide relay services in California, rumors now circulated that

the company wanted to establish a nationwide interstate relay system. My call to Hatley was to find out where AT&T stood in these plans. His response made clear, however, that his company wanted to wait until the FCC first established relay standards (e.g., hours of operation) and decided the extent to which relay systems should handle both intra- and interstate calls, before it took any action on its own. AT&T's greatest concern was with the way that interstate relay services would be financed, specifically, whether the states would be expected to collect revenues for a national system. In a policy statement released after NCLD's call, AT&T announced it did not wish to bear full financial responsibility for these services.¹⁹

With both AT&T and NARUC ready to move ahead with a nationwide relay system, but both awaiting approval from the FCC, advocates had two options. We could ask Congress to push the FCC into granting NARUC's request for a second notice of inquiry on a national relay system, or we could seek federal legislation to require the FCC to issue guidelines for such a system. Frustrated with the FCC's inaction, Mentkowski, DuBow, and I agreed upon the latter route and set about drafting the very first federal relay bill.

On January 5, 1988, NCLD sent a second letter to Silverstein with draft legislation for an interstate "dual party relay system."²⁰ At the time, advocates generally assumed that neither Congress nor the FCC would want to meddle in state affairs by requiring *intrastate* relay service programs. Accordingly, rather than request mandated relay services within the states, the draft merely sought a way for Congress to provide financial assistance—through matching grants of up to 50 percent—for existing state programs. The bill also proposed the creation of a federal-state joint board, composed of commissioners from both the states and the FCC, to develop uniform relay service standards and determine eligibility for the matching grants.

Deaf community advocates were delighted with the proposal. Paul Taylor told NCLD, "That bill is really something! Not even in my wildest dreams did I imagine that progress on the telephone relay service would escalate to the federal level so quickly."²¹ Taylor, then a professor at the National Technical Institute for the Deaf (NTID) in Rochester, New York, wanted to devote more of his time to the national effort to secure relay services. Believing that telephone communications directly affected job opportunities for NTID graduates, he convinced Bill Castle, president of NTID, to incorporate efforts to expand telecommunications access into "Project Outreach," an NTID project to develop the college's ten-year curriculum plan. Castle provided Taylor with both funding for his travel between Rochester and Washington, D.C., and generous leave so that Taylor could spend time pursuing relay advocacy in the nation's capital. Those of us who worked in Washington regularly relied on Taylor for information, assistance, and even congressional testimony in the months and years ahead. His direct experience with creating one of the very first private relay systems and one of the very first statewide systems, proved invaluable to our national efforts.

AT&T's response to NCLD's letter, though more reserved than Taylor's, also appeared supportive. AT&T now said that it viewed relay services as "a market opportunity to meet the communications needs of the speech/hearing impaired."²² This approach fit in nicely with the deaf and hard of hearing community's overall objectives to define relay services as just one of the many telecommunications services that

the telephone company would offer to the public, and to move away from classifying these services as charitable or social service ventures.

On January 22, 1988, Silverstein hosted a meeting on Capitol Hill to discuss strategies for advancing the relay legislation with NARUC and several deaf community leaders.* The participants unanimously agreed that the FCC's foot-dragging on disability issues in general, and on NARUC's petition in particular, had become intolerable. TDI's *GA-SK Newsletter* captured our sentiments: "During an extraordinary session, it was revealed that nobody was minding the store at the Federal Communications Commission."²³ Nevertheless, because it was an election year, the participants agreed that politically, it would be best to focus on convincing the FCC to complete its relay proceeding before pushing Congress on this issue. And for the time being, we would leave issues concerning intrastate systems to their respective state jurisdictions.

Early in 1988, NCLD formed a task force of deaf and hard of hearing leaders, Capitol Hill staff members, and others interested in lobbying for federal legislation on interstate relay services.[†] The first meeting, on February 9, 1988, produced two very clearly defined goals: (1) that relay services had to be treated as a utility subject to the same protections and regulations as other utilities, and (2) that states with smaller deaf populations had to be able to sustain and support relay services for their communities. The latter goal could be achieved by either pooling the resources of the smaller states to create a regional relay service or pursuing federal-state matching grants. The task force soon received support from NARUC, whose Communications Committee produced a resolution on March 3, 1988, supporting federal legislation to encourage the creation of a nationwide "message relay system," so long as state participation was voluntary and the states had flexibility with respect to both the characteristics of their individual programs and funding mechanisms. The resolution presumed that federal funds would be available to the states for this purpose, but expanded upon NARUC's earlier support by seeking a legislative, rather than regulatory solution for the provision of relay services.

Although helpful, NARUC's support paled in comparison with the radical changes that resulted from the Deaf President Now (DPN) movement at Gallaudet University in March 1988. Gallaudet had not had a deaf president in its 124-year history. When its board of trustees narrowed its selection to three individuals, two deaf and one hearing, many in the Gallaudet community became hopeful that this situation would finally change. On March 6, 1988, however, the board announced the selection of Dr. Elisabeth Ann Zinser, another hearing president. Stunned and angry Gallaudet students, faculty, and staff responded by shutting down the university in a week-long series of protests. Organizers demanded that the board appoint a deaf president, that

* Taylor, Singleton, Mentkowski, Sonnenstrahl, and the author were present, along with Lisa Zaina and Caroline Chambers of NARUC, Kelly Brand of Bellcore, and David Hack of the Congressional Research Service.

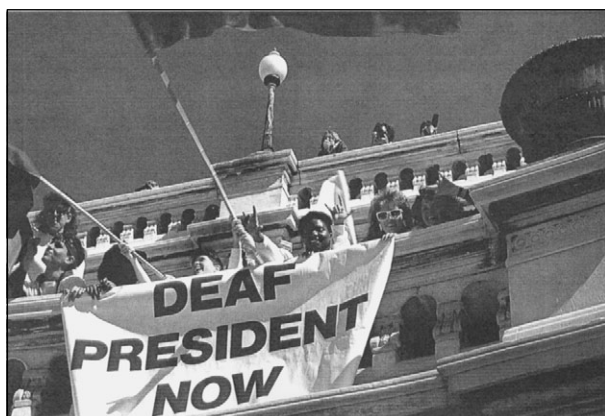
[†] In addition to individuals who had attended the Capitol Hill meeting, this new group included Donna Dickman and Barbara Chertok of AG Bell, Carolyn Rossick of SHHH, Fred Weiner of the NAD, Cary Hinton of Bell Atlantic, Mark Buse from Senator John McCain's office, and Ron Hatley, Carmen Lopez, and Robert Morgan of AT&T. Though not officially part of the task force, many other deaf leaders, including Charles Estes of the NAD and Larry Evans of the Texas Commission for the Deaf, provided invaluable input into the group's work.

the current chair of the board of trustees resign, and that a majority of the board members be deaf.

The events that erupted during DPN week attracted attention worldwide, and in a way that no one could have imagined, furthered a disability rights movement that already had begun to gather momentum in the United States. Reporters flocked to Gallaudet's Washington, D.C., campus. The *Washington Post* described DPN as an "explosion" that galvanized the deaf community after "years of pent-up feelings of oppression and second-class citizenship."²⁴ The *New York Times* referred to "the growing activism of the deaf" and characterized the week's events as "a new civil rights movement, deliberately patterned on the black civil rights actions of the 1960s."²⁵ In striking similarity to those earlier events, people from all over the country boarded buses and planes to join the DPN demonstrations while schools for the deaf held their own rallies in support of events occurring in the nation's capital. The protesters also received a steady stream of financial and political support from national leaders that included Jesse Jackson, Abbe Hoffman, and members of Congress.

On March 10, the demonstrators prevailed. Late in the evening, Zinser resigned from the presidency, in response to what she herself described as "this extraordinary social movement of deaf people."²⁶ Three days later, Dr. Irving King Jordan was selected as the first deaf president in Gallaudet's history, and shortly thereafter, Phillip W. Bravin, a deaf Gallaudet alumnus, became chairman of the Gallaudet board of trustees. Over time, Gallaudet's board also acquired a deaf majority. But the DPN protest succeeded in doing far more than changing the composition of the university's presidency and board of trustees. The historic week made Gallaudet a household name, and in doing so, laid the groundwork for deaf individuals everywhere to take a firmer stand in their quest for equal rights. Through media reports of the demonstrations, the public became acquainted with sign language interpreters, TTYs, television captioning, and other forms of communication access. Dr. I. King Jordan noted that "people who before March 1988 knew little or nothing about deafness are now advocates for our rights. . . . there is a growing interest in learning more about our beautiful language, our unique culture, and our cherished history."²⁷

The new sense of deaf empowerment that DPN brought changed everything for deaf rights advocates. One Gallaudet senior accurately predicted that the movement would inspire "deaf people everywhere to continue to fight against discrimination of any kind. . . . [All people] will realize that with courage and solidarity our governments can be made to respond to the challenges facing us. We are continuing not only the proud tradition of the struggles of deaf people, but putting into action principles deeply rooted in democracies everywhere."²⁸ Gregory Hlibok, president of the Gallaudet student body government and one of the four DPN student leaders, declared that "this past week we [deaf people] became visible, and we will continue to be visible for the rest of our lives as will deaf people all over the nation and around the world."²⁹ Overnight, it seemed like the new awareness about the needs and abilities of deaf people produced remarkable results on Capitol Hill. Bills that had been sitting idle in congressional committees suddenly found their way to the floors of the House and Senate, where they were swiftly passed into law. Over the course of only a few months, a bill introduced by Senator Harkin to enhance the use of technology to assist people with disabilities, legislation to establish a National Institute on Deafness



Deaf President Now attracted worldwide attention in the media and helped to galvanize support for pending federal legislation designed to expand disability rights.

and Other Communication Disorders, and legislation to require wireline telephones to be hearing aid-compatible became statutory mandates.³⁰ Congress also increased its annual appropriations for Gallaudet from \$62 million to nearly \$66 million for 1989, an increase that more than doubled the rate of prior years.

Efforts for nationwide relay services similarly took on a new vitality. On March 15, 1988, Senator Albert Gore (D-Tenn.) sent a letter to the FCC urging full consideration of the NARUC petition for interstate relay services. Only two weeks later, the Commission released a new notice seeking specific proposals for the implementation of these services.³¹ This time, the Commission said it was looking for specific details on how to fund and operate a system, as well as proposed rules for its use and administration. FCC Chairman Dennis R. Patrick also wrote back to Senator Gore in April, promising to take appropriate action on the basis of the comments received in response to the agency's new relay inquiry.³²

Relay advocates grabbed this opportunity to flood the FCC with comments demonstrating the enormous need for interstate relay services. With the summer only months away, the largest deaf and hard of hearing consumer organizations—NAD, SHHH, and AG Bell—were now planning their national conventions. The NAD had already set aside time for a TDI-sponsored workshop on telephone relay service advocacy.³³ Now both the NAD and SHHH allocated convention space for a TDI booth dedicated to a letter-writing campaign to the FCC and federal legislators. Fred Weiner suggested that TDI set up computers with laser printers to speed up this process, and Al Sonnenstrahl and Paul Taylor took charge of the operations. The goal was to bombard the FCC with thousands of letters.³⁴

By the time that comments were due to the FCC, NCLD's relay task force had put together a laundry list of features that consumers wanted in high-quality relay services:

1. Interstate relay services needed to be of a professional quality, with no restrictions on the frequency, length, hours, or content of calls, and with far more acceptable answer speeds.*

* Answer speeds are the length of time that it takes to respond to a relay call. Inadequate staffing causes longer answer speeds.

2. A quality relay service needed a highly competent staff, one that would have not only basic knowledge of grammar, syntax, and spelling, but that would be able to type at least sixty words per minute and be fully trained in the use of TTYs and the cultural and linguistic differences of relay users.
3. Strict codes of conduct, ethics, and confidentiality had to be enforced; relay operators were to be prohibited from altering or recording relayed messages.
4. The relay system needed to be able to exploit future technologies, such as voice synthesizers, video telephones, and packet switching in order to improve relay efficiencies and reduce costs.
5. A “Telecommunications Relay System Board” needed to be established to develop and oversee a national system. The board would consist of interstate carriers, telephone users, the FCC, state regulatory bodies, and intrastate relay service providers, and adhere to recommendations made by a consumer-run advisory committee that would directly receive and respond to complaints and recommendations for relay service improvements.

The relay task force knew that its various demands had to be carefully woven into a comprehensive set of comments that demonstrated strong support from constituencies all over the country. For this purpose, it turned to the Institute for Public Representation (IPR) of Georgetown University’s Law Center.* Robert Richardson, an IPR graduate fellow, and Angela Campbell, IPR’s chief telecommunications counsel, took on the task of writing the consumer comments, while the task force assumed responsibility for gathering organizational support. By the time the comments were completed, approximately fifty national and local consumer groups and local governmental consumer agencies from across the United States had agreed to sign on.³⁵ Collecting signatures was fairly easy because most groups were excited about joining the effort to improve services to their constituents.

In addition to laying out the specific demands for relay operations, advocates knew that they needed to first convince the FCC that it had the authority, absent a specific federal relay law, to order the creation of an interstate system. As before, consumers turned to the Commission’s general universal service obligation to provide telephone service for all Americans, as well as the more specific requirements of the Telecommunications for the Disabled Act to provide people with disabilities with “the best telephone service which is technologically and economically feasible.”³⁶ While most industry commenters did not dispute the FCC’s jurisdiction to require nationwide interstate relay services, a few telephone companies did express reservations about having the FCC actually exercise that jurisdiction. For example, the United States Telephone Association (USTA), a group representing over 140 telephone companies, said the Commission should merely encourage companies to voluntarily enter the relay service business.³⁷ Similarly, NYNEX suggested that the Commission wait until automated relay services were available, rather than require “manned” interstate relay services.³⁸ NYNEX also reminded the Commission that future packet-switching technologies would facilitate communication between personal computers and TTYs without the use of a relay service.

* I had worked at IPR from 1981 to 1983 as a graduate fellow, a position reserved for recent law school graduates who were interested in pursuing public interest careers. My work largely concerned the physical accessibility of federal polling places, and it was through a legislative coalition similar to our new relay group that I first met attorneys from NCLD and the NAD. The Institute regularly welcomed the opportunity to assist local nonprofit organizations on legal matters related to disability issues, and during the late 1980s, had already been helping to expand federal requirements for hearing aid-compatible telephones.

Fortunately, all deaf and hard of hearing consumer organizations, state relay systems, state public service commissions, and even most telephone companies supported the concept of a nationwide relay program.³⁹ Many also supported the development of an advisory body, composed of local and long-distance telephone companies, consumers, and existing state systems to help oversee the national system.⁴⁰ By now, the number of states that either had a relay system or were in the process of establishing one within their borders had grown to twenty.⁴¹ Throughout the country, reaction to these services had been extraordinarily positive. In California alone, relay usage exceeded 200,000 calls per month, four times the anticipated call volume. In addition, California's residents proved once and for all what consumers had predicted all along—that the ability to make calls to individuals who did not have TTYs would prompt more individuals who needed TTYs to get that equipment for themselves. California's TTY distribution program had grown an average of twelve percent during each of the first seven months that relay services were available; this roughly doubled its earlier growth rate.⁴²

The principal source of disagreement among the parties commenting on the FCC's notice, without question, concerned the funding of relay services. For the most part, this stemmed from a philosophical difference about the basic purpose and nature of a relay system. Members of the telephone industry still classified relay services as a social welfare program for which the government bore responsibility, rather than a common carrier service that *they* were obligated to provide. These companies resisted any funding mechanism that required them to finance relay services, even if they could pass on the associated costs to their ratepayers. Instead, they recommended that the funds come from general tax revenues and direct governmental appropriations. AT&T argued that "society as a whole bears responsibility for caring for those of its members who are burdened with physical impairments. Government, as society's surrogate, should provide the financial resources to provide that care" through general taxation.⁴³ Similarly, claiming relay services to be a societal problem, USTA alleged that funding a relay system through the customers of private telephone companies would be tantamount to imposing a tax that was beyond the Commission's jurisdiction.⁴⁴ Southwestern Bell also characterized relay services as a "social program aimed at assisting disabled citizens," and urged the Commission to explore the use of federal financing.⁴⁵

BellSouth described relay services as "a public welfare program for the disabled" because these services were directed to a "relatively small group with unique needs," and were not intended to help the average subscriber.⁴⁶ Ignoring entirely that every relay call involved both a deaf and a hearing individual, BellSouth concluded that were the Commission to raise relay funds through the interstate rate regulation process, such action would be deemed a violation of the taxing clause of the U.S. Constitution. As if this were not sufficiently demeaning, NYNEX asked the FCC to consider tapping Social Security disability funds for relay support and charging customers for the use of relay on the basis of their ability to pay.⁴⁷

Consumer advocates vehemently disagreed with the positions taken by these companies. The relay system was designed to form a communication bridge between individuals who used TTYs and those who did not; it was not designed to benefit only one-half of that equation. Because this service was available for all telephone

subscribers through the public switched telephone network, it was not at all akin to the social welfare programs typically supported through charities and federal appropriations. Just as local lines and switching facilities were needed for the effective operation of the telephone network, relay services were needed to ensure that the network provided universal service for all Americans. Expenses associated with these services were to be rightfully borne by the telephone companies responsible for maintaining that network.

Consumers also pointed out that reliance on general tax revenues subjected relay services to the perils and instability of governmental budgets. Dependence on so fragile a process would prevent long-range planning for comprehensive relay services, discourage investment in new relay technologies, and put relay services in danger during periods of budgetary austerity. Although several states were still using governmental appropriations to support their nascent relay programs, the true trailblazers of high-quality relay services—California, New York, and Illinois—were now treating these services as an integral part of their telephone networks, financing their costs through general rates or subscriber surcharges. To achieve the same result on the interstate level, consumers recommended the creation of a Telecommunications Relay System Fund, to which all long-distance carriers would contribute, based on the number of their presubscribed lines. They patterned this funding mechanism after existing Commission programs associated with universal service, including the Link-up and Lifeline Assistance programs, which were designed to partially relieve low-income subscribers of the costs associated with acquiring and maintaining telephone service.

Consumers also insisted that relay users be billed for calls from the point of origination to the point of termination, without incurring additional fees for routing those calls through the relay center. Because the relay was a substitute for conventional voice telephone service, it would be unfair to charge relay users more for their calls. Finally, consumers called for a mandated, across-the-board reduction in long-distance charges for relay users to compensate for the extra time needed to complete these calls.

Coming Closer to Federal Legislation

While those of us working within the deaf and hard of hearing communities were busy refining our responses to the Commission's relay proposals, events occurring outside of our immediate circle were bringing federal relay legislation closer to becoming a reality. At the end of April 1988, Senator Lowell Weicker (R-Conn.) and Congressman Tony Coelho (D-Calif.) introduced the very first drafts of the Americans with Disabilities Act (ADA) in the 100th Congress. The bills, S. 2345 and H.R. 4498, were the collective product of two reports, *Toward Independence*, released in 1986, and *On the Threshold of Independence*, released in 1988. Both reports had been prepared by the National Council on the Handicapped (renamed the National Council on Disability [NCD] in 1988), an independent federal agency charged with overseeing the federal government's obligations to ensure access for people with disabilities. The first report had conveyed the need for an omnibus civil rights statute to prohibit disability discrimination by the federal government, federally assisted programs and contractors, employers, public accommodations, local and state governments, transportation

providers, and housing providers; the second offered proposed legislation to achieve this objective.

The ADA was intended to address the extraordinary injustices that had been perpetrated against Americans with disabilities for decades. The isolation and unfair treatment afforded these individuals, people who simply wanted to become equal and full participants of American society, were largely exposed by Justin Dart, then co-chair of the Congressional Task Force on the Rights and Empowerment of People with Disabilities. Throughout the 1980s, Dart had traveled throughout the United States, holding forums where thousands of people with disabilities came forward to report tales of attitudinal and categorical discrimination. Dart's relentless crusade for passage of the ADA would later earn him the title of "Father of the ADA."⁴⁸ The new disability law proposed to go beyond prior laws like Section 504 of the Rehabilitation Act, which already prohibited federally assisted and conducted programs from discriminating on the basis of disability. By now extending prohibitions against discrimination to private employers, public places, and local governments, it was said that the ADA would foster independence, economic productivity, self-reliance, and full integration as never before.⁴⁹

However, many disability advocates, including NCLD's lawyers, remained cautious about the ADA's very first drafts. NCD's *Toward Independence* report had been prepared in response to a 1984 congressional request to determine the extent to which federal disability programs were fostering dependence by people with disabilities.⁵⁰ Some members of the disability community were concerned that the proposed bill, which in part sought to reexamine existing federal regulations implementing Section 504, might afford an opportunity to weaken, rather than strengthen the safeguards afforded by this and other federal disability laws.⁵¹ However, this bill was so far-reaching—with its proposals to require stores, restaurants, hotels, and other private entities to provide accessibility at their own expense—that many thought it had little chance of passage anyway.

At this time, the relay task force that had been formed by NCLD gave little thought to using the ADA as a vehicle for imposing a federal relay mandate. While the bill contained some requirements for general access to communications—for example, provisions for auxiliary aids that could include sign language interpreters—it did not contain any provisions related to telecommunications. As a consequence, we filed away our copies of the bill and, for the time being, went back to our own legislative drawing board.

During the spring of 1988, as the relay task force proceeded with its efforts to craft an interstate relay bill that was separate and apart from the ADA legislation, we began to explore the merits of having a federally chartered relay commission. Too many complicated questions about relay services still remained, none of which the FCC or Congress seemed poised to answer. Several members of the task force believed a formal relay commission would be better equipped to tackle these issues, and to define the roles that state regulatory commissions, the FCC and the telephone companies would play with respect to one another. Though a few members worried that a commission might delay progress, in May 1988, the task force reached a consensus to pursue the creation of a Commission on Full Telephone Accessibility for Deaf Consumers (whose majority of members would be deaf or hard of hearing), with the

hope that recommendations from this formal commission would give our quest for a nationwide program the jumpstart that it needed. Shortly thereafter, Senator Harkin agreed to append our proposal to an existing appropriations bill, though the measure never passed.

Without a national relay service or a structure for implementing such a service, consumers lacked the information they needed to convince local regulators to initiate relay programs in states that still did not have them. A first step toward creating this documentation took place at Gallaudet University in September 1988. The Speech to Text: Today and Tomorrow conference drew more than 300 individuals and fifteen technology exhibitors from thirty-seven states and five foreign countries. The participants convened to share information on privately and state-run relay programs, relay funding models, pending relay legislation, preferred relay standards, and other relevant topics. The amazing list of attendees included state relay administrators, government representatives, consumer advocates, and service providers as well as two of the very earliest telecommunications advocates—H. Latham Breunig and Lee Brody.⁵² The conference itself was a model of accessibility; it marked one of the first times that deaf and hard of hearing people had full inclusion through the use of sign language and oral interpreters, computer-assisted real-time captioning, and assistive listening systems.

The impetus for the Speech to Text conference came from an impromptu meeting between Dr. Judith Harkins, director of Gallaudet University's Technology Assessment Program, and Edgar Bloom, a deaf gentleman from New Jersey. Bloom approached Harkins for information to start up a relay services program in his home state, when Harkins realized that the written materials Bloom was searching for simply did not exist. At the time, Harkins was coordinating a research project to study the benefits to deaf and hard of hearing communities of converting spoken words to text through telephone relay services, captioned television, and automatic speech recognition. She applied for and received additional grant money to hold the international symposium on these speech-to-text issues.

The conference began with an inspiring keynote address by Congressman Major Owens (D-N.Y.), chairman of the House Subcommittee on Select Education.* Owens referred to Gallaudet as “the home of the brave,” and said that the introduction of the ADA and the DPN “uprising” had created a movement within the disabilities community that was destined to change the lives of all Americans with disabilities. Calling the ADA a revolutionary bill that would carry the rights of Americans with disabilities “the last mile over the mountaintop,” he warned the crowd not to go to sleep after its DPN success. Although access had now become technologically feasible, he proclaimed, it would not become politically possible unless the disability movement pushed forward and secured passage of the ADA.⁵³

With eloquent and poignant examples that illustrated the very real need for relay services, Paul Taylor's passion for telecommunications access also set the mood for the conference. Taylor spoke of the need for *freedom*—to order a prescription refill at the drugstore or reserve tickets for an interpreted performance, *privacy*—to clarify

* Owens had established the Congressional Task Force on the Rights and Empowerment of Americans with Disabilities, chaired by Justin Dart.

a tax question with the IRS or call a doctor's office for blood test results, and *independence*—to call a girl for a date without mom's help or make office calls without adding to a secretary's workload.⁵⁴

The conference also provided an opportunity for David Baquis of the Tele-Consumer Hotline to present the findings of a newly completed survey of relay services across the United States.⁵⁵ Through considerable effort, Baquis had compiled eight regional relay service comparison charts that provided detailed information on more than 300 relay services. His data provided much-needed insight into the operations of local relay programs and allowed relay consumers to comparison-shop for the first time.

Readying for a New Congressional Session

The Speech to Text conference provided a first opportunity for advocates to compare the nation's relay service programs with one another and to consider what had and had not worked. A month after the conference, the House and Senate held joint hearings on the proposed ADA legislation.⁵⁶ Although these inquiries did not specifically address telecommunications access, by the time the legislative session ended, it was clear that the federal legislators intended to go forward with comprehensive disability legislation when they returned to Washington, D.C., in January 1989. With the principles that the relay task force had so painstakingly crafted and the new information acquired through the Speech to Text conference, relay advocates eagerly awaited their return.

Notes

1. Lang, *Phone of Our Own*, 53.
2. Jim Marsters, e-mail to the author, April 30, 2003.
3. Lang, *Phone of Our Own*, 61.
4. Interview with Joanne Ebersbach, January 9, 2006. Ebersbach was a relay operator for sixteen years in the New York DEAF CONTACT office, from the time that the office opened its doors in 1977, until its closure in 1992. Alfred Sonnenstrahl, Sr., installed the first TTY in that New York office. See also comment of Eleanor Letcher in *Speech to Text: Today and Tomorrow: Proceedings of a Conference at Gallaudet University*, ed. Judith E. Harkins and Barbara M. Virvan, Monograph Series B, no. 2 (Washington, D.C.: Gallaudet Research Institute, 1988), 109.
5. Interview with Dave Yoreo, January 5, 2006; Arthur Moore, e-mails to Al Sonnenstrahl, December 9, 2002; to the author, January 6, 2006. Between the hours of midnight and 6:00 a.m., the service was reserved for emergency calls. Converse Communications still operates in Connecticut as a specialized equipment distribution vendor.
6. *Telecommunications Devices for the Deaf Relay System Act*, SB 244, enacted as Chapter 741, Statutes of 1983; incorporated in Pub. Util. Code, Section 2881(b).
7. NCLD, "Summary of State Dual Party Relay Services," (ed. July 1990, 1991).
8. NCLD, "Summary of State Dual Party Relay Services" (ed. July 1989, 1990).
9. See, for example, Bill White, "Dual Party Relays . . . How Far Will They Fly?" *Silent News*, May 1990, 13.
10. Comment of Joe Heil in Harkins and Virvan, *Speech to Text*, 31.
11. "Common Carrier Bureau Calls Meeting on Telecommunications Needs of the Hearing Impaired and Disabled," Public Notice (November 13, 1986). See chapter 2 for a discussion of the flawed manner in which this meeting was arranged and presented.

12. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Notice of Inquiry, CC Dkt. 87-124, FCC 87-150 (May 15, 1987).

13. See Comments of the Hearing and Speech Agency of Metropolitan Baltimore, Inc., Maryland Department of Health and Mental Hygiene, Maryland Governor's Commission on Hearing Impairments, Maryland Governor's Office for Handicapped Individuals, NCLD, OUT, and TEDI in CC Dkt. 87-124 (June 29, 1987).

14. National Association of Regulatory Utility Commissioners, Petition for Further Inquiry (October 1, 1987).

15. Sheila Conlon Mentkowski and Karen Peltz Strauss, NCLD, letter to FCC, January 14, 1988, 1.

16. Paul J. Singleton, "Nationwide TDD Relay Standards: Partners in Progress," in Harkins and Virvan, *Speech to Text*, 107.

17. Robert Daniels, "Nationwide Relay Service Proposed—NAD Task Force Established," *NAD Broadcaster*, November 1987, 1, 3.

18. Sheila Conlon Mentkowski and Karen Peltz Strauss, NCLD, letter to Bobby Silverstein, November 20, 1987.

19. *AT&T Position on Full-Time Dual Relay Service for the Hearing and/or Speech Impaired* (undated).

20. Copies of the letter went to NARUC, AT&T, and consumer advocates Paul Taylor, Al Sonnenstrahl, Paul Singleton, Donna Dickman, and Barbara Chertok.

21. Paul Taylor, letter to Sheila Conlon Mentkowski and the author, January 12, 1988.

22. A. J. Mochan, district manager, AT&T New Product Development, letter to Sheila Conlon Mentkowski and the author, January 20, 1988.

23. "TDI Moves to Forefront in Advocacy of a Nationwide Telephone Relay Service—Senator Harkin's Office Sponsors Initial Bill Drafting Session," *GA-SK* . 19 (Winter 1988): 1.

24. Molly Sinclair, "The Silent World's Rebellion for Civil Rights," *Washington Post*, March 13, 1988, A1, 21.

25. Tamar Lewin, "Deaf Demand to be Heard on Rights," *New York Times*, March 13, 1988, A22.

26. Elizabeth Kastor, "Elizabeth Zinser, in Conclusion," *Washington Post*, March 12, 1998, C1.

27. Dr. I. King Jordan, "Epilogue," in *The Week the World Heard Gallaudet*, by Jack R. Gannon, (Washington, D.C.: Gallaudet University Press, 1989), 173.

28. R. G. Gentry, "Why We Won at Gallaudet," *Washington Post*, March 13, 1988, sec. A.

29. "Leaders Speak at Press Conference," *On the Green*, 18 (March 21, 1988): 2; see also "A Week of Upheaval Ends in Victory for Deaf Community," *On the Green*, 18 (March 21, 1988): 1.

30. Respectively, these statutes were the Technology Related Assistance for Individuals with Disabilities Act of 1988, P.L. 100-407 (1988), amended in P.L. 103-218 (1994); the National Deafness and Other Communication Disorders Act of 1988, P.L. 100-553 (1988) (authorizing research and training, and the dissemination of health information on programs related to hearing, speech, and other communication disabilities); and the Hearing Aid Compatibility Act of 1988, P.L. 100-394 (1988).

31. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Notice of Proposed Rulemaking and Further Notice of Inquiry, CC Dkt. 87-124, FCC 88-123, 3 FCC Rcd 1982 (March 29, 1988).

32. Dennis R. Patrick, letter to Senator Albert Gore, April 15, 1982.

33. This evolved into a three-hour workshop that brought together the country's relay pioneers, including Claudia Foy of Arizona, Jack Levesque and Phyllis Shapiro of California, and Patty Hughes of Washington state. Al Sonnenstrahl, Paul Singleton, Sheila Conlon Mentkowski, Judy Harkins, and Paul Taylor conducted the exhaustive workshop which covered, among other things, relay management and financing, federal legislative efforts, 911 access, and future technologies. Senator John McCain also attended portions of the NAD conference in order to share information about his separate federal effort to mandate telecommunications access for TTY users within the federal government (see chapter 4).

34. Minutes of the sixth meeting of the Dual Party Telephone Relay Services Task Force (NCLD, Gallaudet University, Washington, D.C., May 3, 1988).

35. IPR filed the comments on July 26, 1988 and reply comments on September 9, 1988. Lead organizations included NCLD, the Council of Organizational Representatives (COR), the New York League for the Hard of Hearing (LHH), OUT, and the Maryland's Office of People's Council. COR was a coalition of national organizations serving deaf and hard of hearing interests.

36. P.L. 97-410 §2; see also *ibid.*, §3; H. Rep. No. 888, 97th Cong., 2d Sess. 8 (1982).

37. Comments of USTA in Dkt. 87-124 (July 26, 1988), 9.

38. Comments of NYNEX Telephone Companies in Dkt. 87-124 (July 26, 1988), 12-13.

39. Among those companies that supported the establishment of a national system were Pacific Bell, Bell Atlantic, and Southwestern Bell. However, because these companies were not permitted to provide interLATA, or long-distance services under Judge Greene's Modified Final Judgment, they assumed that their role in the provision of these services would be limited.

40. See, for example, Comments of Southwestern Bell; Pacific Bell; Gallaudet Research Institute; NCLD-OUT in CC Dkt. 87-124 (all filed July 26, 1988).

41. These included Arizona, California, Connecticut, Florida, Hawaii, Illinois, Kansas, Maine, Maryland, Massachusetts, Minnesota, Nevada, New Hampshire, New York, Oklahoma, Rhode Island, South Dakota, Texas, Utah, and Vermont. NCLD, "Summary of State TDD Distribution Programs and/or Dual Party Relay Programs" (January 1988).

42. California PUC, Evaluation and Compliance Division, *Report on Funding Problems Involving Deaf and Disabled Telecommunications Services* (November 13, 1987), 22.

43. Comments of AT&T in CC Dkt. 87-124 (July 26, 1988), 7, 8, 12.

44. Comments of USTA in CC Dkt. 87-124 (July 26, 1988), 13.

45. Comments of Southwestern Bell in CC Dkt. 87-124 (July 26, 1988), 10. Ameritech similarly referred to relay expenses as "social welfare costs which should be borne by the general public." Comments of Ameritech Operating Companies in CC Dkt. 87-124 (July 26, 1988), 8.

46. IPR Comments, 27, citing Comments of BellSouth in CC Dkt. 87-124.

47. Comments of NYNEX in CC Dkt. 87-124 (July 26, 1988), 15.

48. Arlene Mayerson, "History of the ADA—A Movement Perspective," in *Implementing the Americans with Disabilities Act, Rights and Responsibilities of All Americans*, ed. Lawrence Gostin and Henry A. Beyer, (Baltimore: Paul H. Brookes, 1993), 17, 21. From 1988 to 1990, Justin Dart held sixty-three forums attended by more than 7,000 people. National Council on Disability *Equality of Opportunity: The Making of the Americans with Disabilities Act* (Washington, D.C.: NCD, 1997), 78.

49. In this regard, the ADA was intended to capture entities already covered by the Civil Rights Act of 1964. 42 U.S.C. §2000a et. seq. (1964). See also NCD, *Equality of Opportunity*, 1.

50. Section 401 of Rehabilitation Act of 1983, as amended, P.L. 98-221, 98th Cong, 2d. Sess. (1984). Specifically, NCD was to ascertain how to shift the focus of those programs so that they encouraged independence and the full integration of people with disabilities into society.

51. This skepticism was the result of NCD's ties to the Reagan administration. Early in his presidential tenure, Reagan had established the Task Force on Regulatory Relief, a group that had targeted disability regulations promulgated under Section 504 of the Rehabilitation Act, the Education for all Handicapped Children Act and similar regulations, for potential cuts and revisions. See generally NCD, *Equality of Opportunity*, 64.

52. Stuart Brackney (Ariz.), Kathy Woods (N.Y.), Esther Schaeffer (D.C.), Phyllis Shapiro and Jack Levesque (Calif.), Francine Lauer (Mo.), Patty Hughes (Wash.), Ben Soukup (S.D.), Mark Seeger (Tex.), William Peace (N.C.), Madelaine Perkins (Utah), and Charles Estes (Okla.) were among the state relay pioneers who made invaluable contributions to the conference. Service and industry providers included Rob Engelke and Judy Viera of Ultratec; Joe Heil, Ron Hatley, and Sue Decker of AT&T; Jim Tobias of Bellcore; and Lincoln Hoewing of Bell Atlantic.

53. The Honorable Major Owens, "Keynote Address" in Harkins and Virvan, *Speech to Text*, 5, 6, 8.

54. Paul Taylor, "Telephone Relay Services: Rationale and Overview" in Harkins and Virvan, *Speech to Text*, 11, 12.

55. David Baquis, "TDD Relay Services across the United States," in Harkins and Virvan, *Speech to Text*, 25. The hotline was founded by the Consumer Federation of America and the Telecommunications Research and Action Center (TRAC) shortly after the divestiture of AT&T to educate consumers about telephone equipment and service choices in a competitive environment. TRAC had created a Special Needs Program, which Baquis operated, to specifically gather and distribute information about accessible equipment and relay services. Baquis's survey did not include information about agencies, including libraries, churches, and crisis lines, which did not advertise themselves as relay services but provided relay assistance as a secondary service.

56. Ninety-five witnesses, most of whom were consumers with disabilities, testified at these hearings, held before the U.S. Senate Subcommittee on the Handicapped of the Committee on Labor and Human Resources and U.S. House of Representatives Subcommittee on Select Education of the Committee on Education and Labor, on September 27, 1988. One additional ADA hearing, by the House Subcommittee on Select Education, was held in Boston, Massachusetts, on October 24, 1988.

4

A Federal Relay Interlude: The Telecommunications Accessibility Enhancement Act of 1988

We've parlayed our lifelong telephone frustrations, large quantities of blood and tears, some luck, imagination, and a sizeable pile of public money into something big. With the dual party relay, we've got ourselves a telecommunication system that could, with common-sense nurturing, win us footing in the whirl of the uptown traffic. Nobody did this for us; generally the world dug in its heels and was dragged kicking and screaming. It's hard not to feel good about ourselves.

—Bill White, “Dual Party Relays . . .
How Far Will They Fly?”

EFFORTS TO expand relay services adopted a slightly different focus during the latter months of 1988. Although since 1968, the Architectural Barriers Act had required federal buildings to have TTYs, most governmental offices still did not have these devices as of the mid-1980s.¹ Even those agencies that did have TTYs typically failed to publicize their availability. Consequently, individuals who wanted to communicate with federal agencies usually had no choice but to go through private relay services. In the Washington, D.C., area, this put a strain on the local volunteer-run relay service, which handled as many as 2,000 calls to and from governmental agencies every month.²

In the early 1980s, officials at the Architectural and Transportation Barriers Compliance Board (Access Board) began to grow concerned that TTY users who paid taxes toward the construction and maintenance of federal buildings did not have equal access to their programs.³ To remedy this, at a November 1984 meeting, the Access Board approved a federally run pilot program to handle all relay calls to, from, and within the federal government, as well as a TTY directory for federal agencies. Over a year later, on June 26, 1986, the Access Board, the U.S. Department of the Treasury, and the Interagency Coordinating Council (ICC) announced that the

Epigraph. Bill White, “Dual Party Relays . . . How Far Will They Fly?” *Silent News* (May 1990): 13.

pilot federal relay service would be administered by a sophisticated and worldwide telecommunications center located deep in the bowels of the Department of the Treasury.⁴ The Access Board's director of research, Frank Bowe, his assistant researcher Denise Gagnon, and Access Board member David Myers, would take responsibility for overseeing the demonstration project.

Two months later, the federal relay program began with two telephone answering machines, a TTY, one printer, and a single relay operator, Veronica Hinnant, who was assigned to handle calls Monday through Friday, from 9:00 a.m. to 5:00 p.m. Hinnant had no substitute should she become ill or take a vacation. Nor could the system handle calls that came in after business hours. Calls received after 5:00 p.m. were recorded and returned at a later time, when their original usefulness had likely expired. During the first month of operation, the program received a mere nineteen calls.

But as the word about the new federal service expanded, so did its incoming calls. In fact, it did not take long before demand for the federal relay exceeded its capacity. After only four months of operation, the number of calls jumped to 430 per month, and by February 1988, approximately fifty-six agencies had become regular users of the service.⁵ Unfortunately, the vast majority of individuals using the service were from the Washington, D.C., metropolitan area. Most TTY users outside of "the beltway" remained unaware of the program's existence.

It quickly became clear that the new federal relay program was insufficient to meet the needs of the TTY user community. Not only could the system handle only a limited number of calls at any one time, access to the federal relay program was not toll-free. Callers routinely incurred huge charges while waiting in queue to get their calls handled. Even worse, there were few customer service standards in place; for example, the *Federal Times* published an article quoting the federal relay operator as not having "seen any really juicy gossip come across her screen." Without safeguards to maintain the confidentiality of all calls, the benefits of this otherwise valuable service were severely compromised.

In early 1988, Mark Buse, a legislative correspondent working in the office of Senator John McCain (R-Ariz.), began to grow increasingly frustrated with the relay service offerings in the Washington, D.C., area. Buse, who was hearing, had a deaf friend at Gallaudet with whom he wished to communicate by telephone; in the past, his efforts to do so had largely been thwarted by clogged lines and busy signals. Buse took it upon himself to approach McCain about the inequities of a telephone system that precluded full communication by the deaf community. He knew that McCain had already been helping the hard of hearing community in its efforts to expand requirements for hearing aid compatible telephones. McCain readily agreed to Buse's proposals to install a TTY in his Senate office and encouraged his congressional colleagues to do the same.

Over the next few months, with McCain's blessing, Buse worked with deaf telecommunications advocates Al Sonnenstrahl, Paul Taylor, Paul Singleton, and Fred Weiner to explore the introduction of legislation that would install TTYs throughout the federal government and expand both the visibility and size of the federal relay system. Officials at the General Services Administration (GSA), the Access Board, and the Department of Justice, realizing the pilot program's limitations, quickly came

out in full support of the idea. Gallaudet's newly elected president, I. King Jordan, also demonstrated his support in a letter to McCain praising the senator for having the "sensitivity, foresight, and ability to move forcefully ahead" on this issue.⁶

Getting the Ball Rolling

On March 29, 1988, Senator McCain, joined by Senators Hollings (D-S.C.), Danforth (R-Mo.), Inouye (D-Hawaii), and Packwood (R-Ore.), introduced S. 2221, a bill that directed the FCC and the Access Board to implement a telecommunications system throughout the federal government for people with hearing loss.⁷ In his opening statement, Senator McCain declared that Americans with hearing disabilities were still being denied telephone access enjoyed by the rest of the nation. Although initially this had resulted from limited technology, he said that it was now the federal government's responsibility to lead the way in ensuring that new technological advances such as TTYs were "utilized to the fullest extent possible." Referencing the Communications Act's mandate for universal service, he insisted that we could no longer ignore the needs of the deaf population. McCain went on to recount how when his staff tried to use the federal relay system, their calls went unanswered or were answered by a recording device, and return calls were never made.

On June 23, 1988, under the direction of its chairman, Senator Inouye, the Senate Subcommittee on Communications of the Senate Committee on Commerce, Science, and Transportation held Senate hearings on S. 2221. Al Sonnenstrahl testified that the invention of the telephone had only succeeded in creating a "Deaf ghetto" that produced few job opportunities and estrangement from families and friends for deaf individuals.⁸ Sonnenstrahl reported that in past years, TDI's offices had been inundated with daily calls from TTY users seeking assistance in contacting federal agencies. He called upon the legislators to extend the federal system's relay hours to coincide with the hours that federal agencies were open to the public, eliminate user charges, reduce blockage rates, and establish guidelines for the ethical handling and confidentiality of calls.

Sonnenstrahl then told the senators that the very invitation he had received requesting his congressional testimony provided two telephone numbers for his response, neither of which was TTY-accessible. Although he was the executive director of TDI, the nation's leading organization addressing telecommunications issues for people who were deaf, even he had to rely on someone else to accept the congressional invitation! Sonnenstrahl went on to describe how TDI had learned of con artists posing as IRS agents who had been fraudulently notifying individuals of spurious back taxes owed to the federal government. Deaf individuals who had been unable to use their TTYs to verify the false charges with governmental agencies ended up losing large sums of money when they agreed to submit the requested amounts. This was just one instance pointing to the vital need for telephone access to federal agencies.

President Jordan, also a witness at the hearings, focused on the frustrations experienced by many of Gallaudet's students who needed to communicate with governmental agencies on a regular basis.⁹ He gave as an example problems that NCLD's clients had encountered in their attempts to access Social Security offices. Although Section 504 of the Rehabilitation Act required those offices to have a means of communicating

with applicants, beneficiaries, and members of the public, according to NCLD, Gallaudet students who received Social Security benefits had been unable to get information about their eligibility and benefits by telephone. Things got so bad that in August of 1987, NCLD brought a complaint against the Social Security Administration (SSA) for its failure to provide telephone access. The complaint was later moved to a federal court, where NCLD charged SSA's parent agency, the U.S. Department of Health and Human Services (HHS) with having violated Section 504 by failing to promulgate nondiscrimination regulations for its federally conducted programs. The legal action successfully resulted in a settlement that produced these regulations, which once and for all, contained specific provisions for telephone access to Social Security offices and other programs administered by HHS.

The Senate hearings also revealed just how few members of Congress had operational TTYs in their offices. Of 100 senators and approximately 435 representatives, only twenty or so had equipped their suites with TTYs. After Gary Olsen, NAD's executive director, testified that this relegated TTY users to second-class citizenship, Senators McCain and Inouye jointly sent a letter to all their colleagues, urging them to request TTYs from the Sergeant at Arms' Telecommunications Department. On the very same day that McCain and Inouye's letter went out (only five days after the hearings), the Senate committee voted to approve S. 2221 and sent it on to the Senate floor for consideration by the entire chamber.

A little more than one week later, on July 7, 1988, Congressman Steve Gunderson (R-Wisc.) introduced H.R. 4992, the House companion bill to S. 2221. While pleased with the lightening speed with which the proposed federal relay legislation had made its way through the Senate committee, consumers grew apprehensive when they learned that the House bill was to be jointly referred to three separate House committees: the Energy and Commerce Committee, the Committee on Government Operations, and the Committee on House Administration. The huge backlog of bills sitting in each of these committees made the bill's chances for passage over the next few months very slim.

On August 10, 1988, the Senate voted to pass S. 2221. The new bill charged the FCC—the agency “established to facilitate the availability of nationwide wire communications”—with several responsibilities:

- To increase, in consultation with the Access Board, the capacity of the existing temporary federal relay system. At least *one* additional operator would be added, and arrangements would be made to replace those operators when they were on vacation or sick leave.
- To establish a permanent federal relay system.
- To require all federal agencies to be equipped with TTYs for direct access.
- To publish a comprehensive directory of all federal TTY numbers, including the numbers for the TTYs located in the offices of the Senate and House of Representatives.
- To complete its ongoing inquiry into the establishment of a nationwide interstate relay system.¹⁰

The proposed legislation also directed all of the members of Congress, as well as all congressional committees, to equip their own offices with TTYs so that they could communicate with constituents and accommodate employees with hearing and speech disabilities.

Moving over to the House

While consumers enjoyed their first wave of success, by the end of August 1988, little progress had yet been made to move the legislation along in the House. With the adjournment of Congress imminent, drastic and immediate action was in order if the legislation was to survive all three committees.

Only a few months had passed since the extraordinary success of the DPN movement. Fred Weiner of the NAD believed that if rallies and demonstrations had worked then, they could work now. What occurred next was described by Paul Taylor as nothing short of a “remarkable” series of events.¹¹ Because the vast majority of representatives in the House did not own their own TTYs, a single TTY had been centrally located for House members to receive messages from deaf constituents. Armed with the list of House committee members charged with reviewing the federal relay bill, Weiner called this central TTY number and left messages for each of the representatives, informing them that on September 22, 1988, they would be receiving visits from constituents to discuss the pending legislation. Weiner then left his telephone number, offering the opportunity for each of the congressional representatives to get back to him with any questions. Only one of the committee members returned his call.

Weiner then set about gathering support for a rally to take place on the steps of the Capitol on September 22. His plan was to stage a demonstration, after which the protesters would make personal visits to each of the representatives Weiner had called. As the day of protest approached, Weiner worked feverishly to identify the congressional offices to be visited, dividing the attendees into appropriate groups, and choosing group leaders who would present brief talking points.

Early in the afternoon of September 22, more than 200 demonstrators assembled on the Capitol’s west side. Gallaudet students, deaf federal employees, and other members of the Washington, D.C., deaf community were joined by House and Senate legislators under a clear blue sky to illustrate their steadfast support for the federal bill that would serve as a model of telecommunications access. The rally was about to start when three vans, filled with students and faculty from NTID, pulled up to the cheers of those who had already gathered. Having boarded their buses at 5:00 a.m., the newcomers were elated when their very own congressional representative, the Honorable Louise Slaughter of New York (D-N.Y.), cheerfully stepped forward from the crowd to greet them.

The rally was a reunion for those who had participated in the March 1988 DPN demonstrations. Charged with the emotion and deaf pride that had not long before successfully placed the first deaf individual into the Gallaudet presidency, the group demanded immediate passage of the pending relay legislation. After the rally, as planned, the demonstrators visited each of the key legislators assigned to them by Weiner. Upon arrival at each of their designated offices, each delegation announced to the receptionist that they were ready for their appointment. When asked what appointment that was—as few, if any of the legislators had paid much attention to the TTY messages left for them, if in fact they had received them at all—the demonstrators whipped out the TTY printouts that Weiner had saved from each of the messages he left through the central TTY number. The failure of nearly every office to have

received prior notice of their lobbyists' pending arrivals made an extraordinarily powerful statement. One could not have hoped for a more brilliant means of illustrating the inadequacies of the existing telecommunications system. In a single afternoon, Weiner and his federal relay troops succeeded in gathering the support of as many as thirty House cosponsors.

On the very next day, the House Subcommittee on Telecommunications of the Committee on Energy and Commerce approved H.R. 4992 by a voice vote. Four days later, the full Committee on Energy and Commerce followed suit, clearing the way for the bill to go to the House floor for a vote. Although the other two House committees had not yet approved its content, the Energy and Commerce Committee concluded that because the bill only mandated changes to the federal telecommunications system, it would not be necessary for the bill to be reviewed or approved by any other committees.

Advocates were thrilled with the resurgence of the legislation. Only days remained until the end of the legislative session, but neither consumers nor legislators had any reason to believe that the relay bill would not easily sail to its victory. Already, ninety-four representatives had agreed to jointly sponsor the legislation; on the heels of DPN, others were likely to be equally supportive. Amazingly, the little bill, introduced only months before, had succeeded in surging ahead of an untold number of bills and resolutions still waiting to be considered during the remaining weeks of the legislative session. Much of this was due to the industrious work of House staffers Pat Laird of the office of Congressman Owens (D-N.Y.) and Mary Hayter of the office of Congressman Gunderson. An exhaustive letter-writing campaign organized by consumer advocates Barbara Chertok, Leslie Hall, Irene Leigh, William Nye, and Sally Taylor also contributed to the bill's success. Through the tireless work of these individuals and members of the NAD, SHHH, and AG Bell, 5,000 signatures on petitions and hundreds of individual letters had been pouring into House offices urging the legislation's passage.

It turned out, however, that it was far too early to pull out the champagne. During the week after the House committees approved the federal relay bill, the legislation lay dormant. The second week was equally uneventful. Despair began to set in as consumers realized that if the bill did not reach the floor of the House for a vote during the remaining days of the legislative session, the legislation would die when Congress adjourned for the year. All of their time and energy spent thus far would have to be repeated when Congress reconvened in January of the following year.

Worry took hold when it was learned that Congressman Brooks (D-Tex.), chairman of the House Government Operations Committee—one of the committees to which the bill had been referred—was intentionally holding the bill back. With Jerry Covell, one of the four student leaders of DPN at his side, Weiner called Brooks's office to learn the cause of the congressman's resistance. They were told that Brooks saw little reason to bring the bill to a House vote because he had not yet seen much support for its provisions.

This was all that Weiner needed to hear. Again, the telecommunications activist set about rallying his troops—this time for a “TTY-a-thon” that would virtually shut down Brooks's offices. Using the Deaftek electronic messaging system and other communication mediums, Weiner reached out to Gallaudet's student body government

and the deaf community. His plan was simple: The activists were to make continuous TTY calls to Brooks's office, understanding that Brooks did not have a TTY. This would allow the congressman to witness, first hand, his own inability to communicate by telephone with the deaf public.

Over the next three days, individuals from all over the nation clogged Brooks's phone lines with TTY calls that the congressman was unable to accept.* During one of those days, Paul Singleton, with a TTY in tow, made a visit to Brooks's office. He stood at the door and watched as an exasperated secretary repeatedly picked up her handset, listened for a few seconds, and then returned it to its receiver upon hearing the TTY beeps. After enjoying this sight for a while, Singleton walked over to her and introduced the TTY, politely explaining that she would be able to communicate with her boss's constituents if the federal relay bill was passed.

The calls were simply too much for Brooks's office to handle. After two days of the peaceful—but not so quiet—protest, Weiner received a message from David Nelson, a deaf individual (and fellow telecommunications access advocate) working for Congressman Coelho (D-Calif.), who had been told to get the calls to stop. But Weiner was intractable. The calls would stop, he said, when the federal relay bill was passed.

An extraordinary example of civil disobedience, Weiner's strategy again proved successful. When it appeared that nearly all hope for passage of the federal relay bill was gone, on October 12, 1988, the bill was brought to the House floor. In addressing his fellow representatives, Congressman Edward Markey (D-Mass.) charged that the federal government had been remiss in its failure to provide access to people with hearing and speech disabilities. If the bill did not pass, he cautioned, the pilot federal relay project would expire to the serious detriment of these individuals. He reminded his colleagues of the Communications Act's promise of universal service and concluded that the legislation would help to enfranchise Gallaudet students, members of the NAD, and others as "full players in our modern society."¹²

Congressman Gunderson, a member of the Gallaudet board of trustees, similarly referred to the legislation as "a blueprint for the future" in the effort to achieve equal telephone access for all Americans.¹³ After thanking fellow representatives and Senator McCain, he saluted what he referred to as the "real champions of the legislation"—the countless number of people throughout the country who had actively campaigned for the bill's passage and "the tireless efforts" of Gallaudet University, NTID, NAD, AG Bell, and TDI. Similarly, Congressman Matthew Rinaldo (R-N.J.) observed that although the legislation was not a "cure all," it would enable members of the deaf community to "catch up" so that they could finally share in the benefits of the telephone network. His parting words were encouraging to advocates working for a nationwide relay system: "I know it will not be the last [bill], because this is one of those truly bipartisan concerns that are common in the area of telecommunications."¹⁴

* At the time, Stephen Weiner, Fred's brother, was the deputy director of the Northern California Center on Deafness. When Stephen learned of his brother's plan, he and five colleagues set up a phone bank, and over the course of several days, made nonstop TTY calls to Congressman Brooks's office. Weiner's boss was less than pleased with the hefty toll charges (hundreds of dollars) that resulted from these calls!

More speeches followed and once a voice vote was taken, as expected, H.R. 4992 easily passed the House. But yet again, the celebrations had to be put on hold. As it turned out, Brooks's support was not without its costs. In exchange for his approval of the House bill, the congressman had requested considerable bill revisions—so many that by the time that the House vote was taken, many parts of the bill scarcely resembled the version that had been passed by the Senate. Unless one of the chambers was willing to give up its pride of authorship, the bill would need to go to a conference committee for final resolution. With so little time remaining in the congressional session, sending the proposed legislation “to conference” could again spell its doom.

A major difference between the Senate bill and the new House version concerned which agency would be given oversight of the new federal obligations for telecommunications access. Although the Senate bill had given this responsibility to the FCC, Congressman Brooks believed “that agency [had] no more to do with the internal operation of the federal government’s telecommunications system than does NASA.”¹⁵ The congressman insisted on shifting oversight responsibility to the GSA.

The second matter in dispute was the extent to which TTYs would have to be installed in all federal buildings. The Senate had made the purpose of this mandate quite clear—to ensure that all federal employers “take whatever steps possible to fully integrate persons with physical impairments into the workforce.”¹⁶ The costs of installing TTYs, it believed, were small when compared with the benefits of providing this access.

In contrast, Brooks complained that the TTY mandate was too imprecise. But then he also deemed the mandate to be a failure regardless of its construction. If the directive was interpreted to require equipping thousands of governmental offices with TTYs, Brooks believed it to be “an expensive and potential [sic] ineffective step.” If it simply required that a single TTY be installed in the headquarters of each agency, he called it “useless as a means of providing the hearing impaired and speech impaired with access to the resources of those agencies.”¹⁷ The congressman also expressed concerns about locking the federal government into any TTY technology when future software modifications in personal computers might permit the use of computers as communications devices.

Brooks was successful in ridding the House bill of the TTY mandate, and putting in its place an amendment that required GSA to conduct an analysis of modifications needed to make the federal telecommunications system fully accessible to people with hearing and speech disabilities. The amendment also authorized GSA, in consultation with the FCC, to encourage research by public and private entities on reducing the costs and improving the capabilities of accessible telecommunications devices. While the amendment watered down the Senate’s TTY mandate, consumers concluded that they could live with Brooks’s changes, so long as the requirement for an expanded federal relay service remained intact.

An attempt to resolve these significantly different views could have easily killed the bill in the final days of the 100th Congress. Fortunately, Senator McCain was far less concerned about getting credit for the legislation than ensuring its speedy passage. McCain’s genuine interest in improving telecommunications access was revealed when he brought the amended version of H.R. 4992 to the floor of the Senate, where it was

swiftly approved on October 14, 1988. To his colleagues in the Senate chamber, he explained why the new law was so important:

The passage of this legislation is evidence to the hearing and speech impaired communities that we in Congress intend to incorporate all our citizens into the Federal Telecommunications System. For 126 years, since the invention of the telephone, our hearing impaired citizens have not been granted this equal access. The spirit of the Communications Act of 1934 called for such integration, and the necessary technology has been available for years. But the progress was not evident, so I introduced S. 2221. . . . There is no good reason with today's technology to deny 27 million taxpayers the ability to fully communicate with their Government because of speech or hearing disabilities.¹⁸

The significance of McCain's actions during the final days of this session was best captured a few days later in a statement made by Senator Danforth: "Because he wanted this legislation to pass in the waning hours of the 100th Congress, more than he wanted recognition for his efforts, Senator McCain did not insist that we delay this legislation and use the Senate bill number. Senator McCain certainly deserves recognition for his efforts in making sure that this bill will become law."¹⁹ McCain, however, was quick to share this credit with the deaf and hard of hearing communities, without whose "support and tireless efforts," he said, this legislation would never have been possible.²⁰

On October 28, 1988, only days before the 100th Congress was set to adjourn, the Telecommunications Accessibility Enhancement Act (TAEA) was signed into law.²¹ In a mixed, but somewhat colorful, metaphor, Sonnenstrahl described the new law as having "avoided the guillotine of . . . adjournment by speeding through and bypassing the congressional jungle of obstacles with a big touchdown!"²² The many champions of the federal relay bill, both within the halls of Congress—Mark Buse, Mary Hayter, Pat Laird, David Nelson, Debbie Jans, and Mike O'Donnell—and outside those halls—Fred Weiner, Paul Singleton, Paul Taylor, Al Sonnenstrahl, George Covington, Lisa Gorove, Barbara Chertok, and Gail Steever—were to be hailed as heroes, for their undying efforts to successfully guide the legislation on its miraculous journey through the Senate and House.

The final version of the TAEA directed the immediate transfer of the day-to-day operations of the federal relay service from the Access Board to GSA, with the understanding that additional operators and equipment would be added if needed to meet the demand for relay calls.²³ On March 20, 1989, GSA took over the service, and in the first week of its new operation, two operators handled as many as 310 calls, approximately two times the number that were being handled prior to the act's passage.²⁴ On May 3, 1989, the Federal Relay Service (FRS) was officially inaugurated and expanded to three operators. Around that time, GSA also began providing relay training to federal agencies and added a toll-free access number, causing the relay volume to climb to 150 daily calls. By the end of July 1989, GSA had hired another two operators and was making plans for further expansion in the coming year.

While the improvements made to the federal relay service during the late 1980s were appreciable, continued restrictions made consumers aware that GSA still had a lot to learn before it could offer high-quality relay services that truly met the community's needs. An indication of how right they were came when GSA published interim

rules for the new federal relay service. The publication listed only a voice number for additional information—neither a TTY number nor the new federal relay number appeared anywhere on the agency’s document!²⁵

Consumer leaders were now well prepared to tell GSA what was needed to provide effective relay services. For months, NCLD’s relay task force had been meticulously refining the list of features that would be vital to a nationwide interstate relay system; this same list could now be utilized to ensure the success of the Federal Relay Service. Among other things, advocates requested federal relay calls to be answered with the same speed that voice calls could be made; telephone rates equivalent to industry rates for voice calls; an end to the relay’s limited hours (which penalized residents in the western part of the country); training for relay operators in ASL, deaf culture, spelling, vocabulary, and grammar; the confidentiality of all calls; and outreach through governmental publications.²⁶ Virtually all of these features would eventually find their way into the federal government’s relay program.

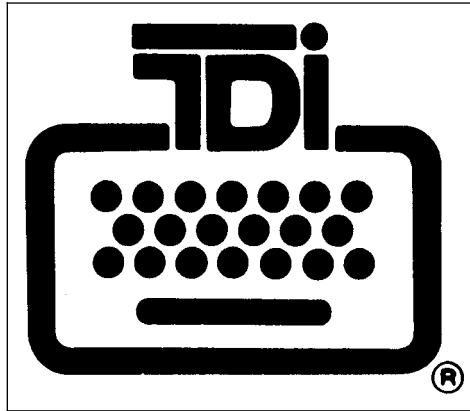
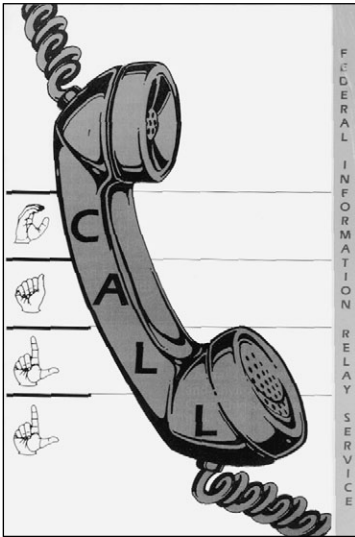
By 1998, the FRS would become a twenty-four-hour, seven-day-a-week service. And around the year 2000, the service would boast a staff of more than 100 communications assistants who would respond to a whopping 10,000 to 17,000 inbound calls and 15,000 to 23,000 outbound calls each month. A few years later, the service would expand even further to offer a plethora of relay options to its users, including an option to use sign language interpreters to relay video messages.

The expansion of the federal relay system, while the primary focus of the TAEA, was not its sole component. The new legislation contained other directives to improve the federal government’s telecommunications access, including a directive to members of Congress to procure their own TTYs, a requirement for the creation of a federal directory of TTY numbers, and the inclusion of TTY numbers in existing federal phone directories.

The TAEA also required the design of a TTY logo to identify where TTYs are located in federal agencies.²⁷ An international logo design contest was held, and in July 1989, the winner was selected from among 500 entries at Gallaudet University’s first Deaf Way, a spectacular festival and conference on the language, culture, and history of deaf people from around the world.²⁸ Sonnenstrahl worked with Tom Willard of Deaf Artists of America in orchestrating the contest, which was overseen by three judges—one from GSA, one from the Access Board, and one from Deaf Artists of America. The winning logo, created by Jennifer Hummel, is used to this day to identify TTYs throughout federal agencies, private facilities, and many locations around the world.

A lesser-known aspect of the TAEA, one that might have truly made a difference in the way that people with hearing loss could interact with the federal government, was never actually enforced by GSA or any other federal agency. Specifically, the TAEA directed GSA, in consultation with the Access Board, the FCC, the Interagency Committee on Computer Support of Handicapped Employees, and affected federal agencies, to issue rules to make the federal telecommunications system fully accessible to individuals with hearing and speech disabilities.* Although GSA did di-

*The GSA had established the Interagency Committee in 1984 to promote information technologies that could enhance federal worker productivity.



(Left) An early brochure for the newly created Federal Relay Service. (Right) International TTY logo, illustrated by Jennifer Hummel, selected in a TDI contest concluded at the first Deaf Way in July 1989.

rect federal agencies to consider the needs of people with disabilities when the agencies developed specifications for acquiring telecommunications services and equipment, GSA never did much to enforce compliance with this obligation.²⁹

It would be another ten years before the Workforce Investment Act of 1998 would finally force the federal government to take telecommunications accessibility by people with disabilities seriously.³⁰ The new legislation amended Section 508 of the Rehabilitation Act to require all federal agencies to develop, procure, maintain, and use accessible electronic and information technologies. It specifically mandated that federal employees with disabilities as well as individuals with disabilities outside the government be given access to federal agency electronic information and data that was comparable to the access provided to individuals who were not disabled, unless the agency could prove that doing so would create an undue burden. In so directing, Section 508 went far beyond telecommunications, to cover computers, software applications, and web-based intranet and internet information and applications.

Section 508 also directed the Access Board to work with consumer organizations, the electronic and information technology industries, and representatives of federal agencies in developing federal accessibility standards that would assist federal agencies in complying with their new obligations. To accomplish this, the Access Board set up a federal advisory committee called the Electronic and Information Technology Access Advisory Committee (EITAAC), a twenty-seven member group which convened from October of 1998 to May of 1999. During this seven-month period, EITAAC crafted recommendations for detailed accessibility guidelines, which became the basis for the Access Board's formal Section 508 standards, released on December 21, 2000.³¹

Section 508 accessibility standards apply to all governmental purchases made after

June 21, 2001. Among other things, the standards require federal agencies to acquire and maintain telecommunications products that provide amplification and hearing aid compatibility, and that support TTY transmissions.³² Under the new law, GSA shares responsibility for providing technical assistance on Section 508 with the Access Board. In addition, the law requires DOJ to regularly report to Congress and the president on the extent to which electronic and information technologies provided by federal agencies are accessible to and usable by people with disabilities.³³

The TAEA may not have achieved all that consumers had hoped for with respect to making all of the federal government's telecommunications services fully accessible. Even now, efforts to achieve full compliance with the mandates that Section 508 imposes on federal agencies present considerable challenges. But by beginning to tear down some of the obstacles to telephone access with and within federal programs and activities, the TAEA succeeded in helping to pave the way for other advocacy efforts, including those to secure relay services nationwide.

Notes

1. Architectural Barriers Act of 1968, P.L. 90-480, 42 U.S.C. § 4151 et. seq. (1968).
2. Carol D. Leonnig, "Phone Relay Service Aids Deaf—Pilot Program Provides Help to Federal Callers," *Federal Times*, February 9, 1987, 24.
3. The Access Board, created by Section 502 of the Rehabilitation Act of 1973, was designed to ensure compliance with the Architectural Barriers Act by all federal agencies. 29 U.S.C. 792.
4. 51 *Fed. Reg.* 23251 (June 26, 1986). The ICC had been established by Section 507 of the Rehabilitation Act, 29 U.S.C. §794(c), to ensure efficiency among federal agencies in the implementation of that act. This included efforts to coordinate implementation of Section 501 of that act, which required federal agencies to provide reasonable accommodations for their employees with disabilities. 29 U.S.C. 791; 29 C.F.R. §1614 et. seq.
5. Leonig, "Phone Relay Service;" H. Rep. No. 1058, Part 1, 100th Cong., 2d Sess. 3 (October 6, 1988).
6. I. King Jordan, letter to Senator John McCain, March 25, 1988.
7. "Telecommunications Services for the Hearing Impaired," 134 *Cong. Rec.* S3279 (daily ed., March 29, 1988).
8. Statement of Al Sonnenstrahl, TDI, Hearings on S. 2221 before the Senate Committee on Commerce, Science, and Transportation, 100th Cong. 2d Sess. (June 23, 1988).
9. Statement of Dr. I. King Jordan, S. 2221 Hearings, 7–8.
10. S. Rep. No. 464, 100th Cong., 2d Sess. 2 (1988).
11. Paul Taylor, "Reagan Signs!" *GA-SK* 18 (Fall 1988): 1.
12. 134 *Cong. Rec.* H10000, H10002 (daily ed., October 12, 1988).
13. *Ibid.*, H10002.
14. *Ibid.*, H10001.
15. *Ibid.*
16. S. Rep. No. 464, 100th Cong., 2d Sess. 2 (1988).
17. 134 *Cong. Rec.* H10001 (daily ed., October 12, 1988).
18. 134 *Cong. Rec.* S16779 (daily ed., October 18, 1988).
19. *Ibid.*, S16780.
20. *Ibid.*, S16779.
21. P.L. 100-542, 102 Stat. 2721(1988), codified at 40 U.S.C. §762a-d (1988).
22. Al Sonnenstrahl, "We Won! Thank you!" *GA-SK* 18 (fall 1988): 1.
23. S. Rep. No. 464, 100th Cong., 2d Sess. 6 (1988).
24. "Nation-wide Federal TDD Relay Service Now Available," *Wisconsin Association of the Deaf Newsletter* 18 (September/October 1989): 1.

25. 54 *Fed. Reg.* 42302 (October 16, 1989).
26. Comments of NCLD, TDI, the NAD, Office of the Maryland's People Counsel, OUT, the Northern California Center for Law and the Deaf, and the Bay Area Center for Law and the Deaf (November 15, 1989).
27. This provision was added upon the recommendation of Al Sonnenstrahl.
28. Deaf Way was held in Washington, D.C., from July 9–15, 1989.
29. See former rule 41 C.F.R. §201-38.009.
30. Rehabilitation Act Amendments of 1998, P.L. 105-220 § 408(b), codified at 29 U.S.C. §794d.
31. 65 *Fed. Reg.* 80499–80528 (December 21, 2000), codified at 36 C.F.R. §1194. On April 25, 2001, GSA, the Department of Defense, and the National Aeronautics and Space Administration published amendments to the Federal Acquisition Regulation to incorporate these new standards.
- 66 *Fed. Reg.* 20894 et. seq. (April 25, 2001), amending 48 C.F.R. Parts 2, 7, 10, 11, 12, 39.
32. 36 C.F.R. § 1194.23.
33. 29 U.S.C. §§ 794d(d).

5

Relay Goes National

Legislation . . . cannot alone break down the walls of isolation or solve all [the] problems. Action at all levels of society, by each of us, is critical. If given the opportunity, the only thing that limits these individuals are their own dreams—but we must all work especially hard to make sure they are given the opportunity. . . . Our Nation stands on the world stage as the torch bearer of freedom and opportunity. . . . We are sending forth a resounding message that we will not accept discrimination and that Americans should be viewed on the basis of merit, nothing else.

—Senator John McCain

PASSAGE OF the Telecommunications Accessibility Enhancement Act (TAEA) of 1988 gave advocates reason to believe that pushing for a legislative solution to a nationwide interstate relay system could be successful. If Congress was willing to direct the federal government to provide these services, it might also be willing to impose this obligation on the nation's long-distance telephone companies. In the TAEA, Congress directed the FCC to wrap up its own relay proceeding, begun in March 1988, within nine months—by July 1989. Unfortunately for consumers, this proved a mixed blessing. While the TAEA succeeded in forcing the FCC into action, we learned in the late fall of 1988 that Senators Harkin (D-Iowa) and Inouye (D-Hawaii) both wanted to wait until the FCC's relay proceeding was finished before they took any legislative action of their own.

Fortunately, other events swiftly put us back on our legislative track. Although proposals for the ADA had barely scratched the congressional surface when first introduced in the fall of 1988, by January of 1989, the Consortium of Citizens with Disabilities (CCD), a powerful coalition of organizations representing a cross-section of Americans with disabilities, had come together to revive the proposed law. But CCD knew that injecting the ADA with the substance it needed to become viable in the 101st Congress would require a thorough makeover of its original contents. Accordingly, in January 1989, the coalition asked different disability constituencies

Epigraph. Senator John McCain, May 22, 1990, 136 *Cong. Rec.* S6715 (daily ed., May 22, 1990).

what they wanted out of the ADA's next version. The nation's deaf and hard of hearing leaders responded with a laundry list of demands that included nationwide relay services, TTYs, captioning, visual alarms, interpreters, and assistive listening systems in hotels, hospitals, schools, and state and local governmental programs.¹

There had never been anything like the ADA. And because there might never be anything like it again, consumers wanted their bite at the apple to be as rewarding as possible. But many advocates feared that asking Congress for too much all at once might backfire; we needed to prioritize our demands. To begin this process, attorneys at NCLD worked with Paul Singleton to pull together the nation's foremost deaf leaders for a face-to-face gathering, to be held on March 8, 1989, at Gallaudet University.

On the day of the meeting, advocates arrived both enthusiastic and cautiously optimistic about the new legislation's promises. We would spend the next two hours intensely debating the merits of moving ahead with each of the recommended proposals, not an easy task given all that was on the table. One demand to which everyone agreed was the need to pursue a mandate for interstate relay services. During the months leading up to the ADA's first introduction, Gallaudet's relay task force had been operating under the assumption that a mandate for interstate relay would be put into a separate relay bill. But as we watched momentum build for a comprehensive disabilities rights law, we concluded that this mandate should reserve a seat on the ADA bandwagon.

As the attendees began packing up to leave the March meeting, Bob Richardson of IPR, stopped a few of us, a look of consternation upon his face. He said he thought the decisions reached at our meeting were fine, but he remained troubled by the fact that we were not asking Congress to mandate relay services *within*, as well as *between* the states. Maybe, he said, we needed to grab this opportunity—perhaps the only one we would get in a long time—to demand federally mandated *intrastate* services along with *interstate* services.

All along, Gallaudet's relay task force had focused on drafting legislation to enable individuals to make relay calls from one state to another. We had assumed that a federal mandate for relay services *within* state boundaries was beyond the scope of the FCC's jurisdiction, an assumption that seemed to be confirmed by FCC staff who expressed little interest in meddling in intrastate affairs.² Moreover, neither the NARUC petition nor any of the FCC proceedings to date had even broached the subject of a federal mandate for relay services within the states.

Richardson now asserted that there was no reason for the FCC not to exercise authority over relay programs within the states. He explained that the FCC already had jurisdiction over numerous state-related telecommunications programs. For example, Congress, the FCC, and the courts had long recognized the need for federal involvement in local phone services to ensure the affordability of telephone rates through the Lifeline and Link-up programs. Congress also had dipped into intrastate matters in the TDA of 1982 by directing state commissions to allow telephone companies to subsidize the costs of TTYs and other specialized telephone equipment with revenues from their telephone services. Richardson argued that because the same network of wires and switches would be used to carry both intra- and interstate relay services, FCC regulation of intrastate relay services would be consistent with these and other FCC intrusions into state affairs.³

By the time Richardson finished speaking, nearly everyone had departed from the meeting. Although the attendees had only agreed to ask for an ADA mandate for interstate services, we doubted that any of the participants would oppose broadening the scope of that mandate to include in-state services. We also thought that expanding our focus in this manner might even improve our chances of success. The fact was that our nation had created an extraordinarily uneven patchwork of state relay programs, each of which bore little resemblance to the other. Because each state made independent and isolated decisions about relay funding, operation, and standards, needless duplication of efforts continued to take place, and critical relay services were often delayed in one state, pending the outcome of decisions that had already been made in neighboring states. The disparity in procedures, technologies, and features and the lack of coordination among state relay programs were creating considerable confusion for relay users, especially travelers. It made sense to tell Congress that deaf and hard of hearing individuals had a right to full and equal access to the nation's public telephone network regardless of the state in which they lived. If the ADA was truly to eradicate discrimination in our nation's telecommunications system, there needed to be a seamless network of relay services across the entire country.

On the Way to Becoming a Civil Right

Having decided on this new approach, advocates now needed to sell the idea of a national relay mandate to Congress. We were concerned that as a nondiscrimination statute, much of the ADA seemed focused on ways to *prohibit* discriminatory practices in existing programs and activities, rather than ways to *create* new programs. A requirement for relay services, though clearly remedial in its attempts to rectify society's past failures to provide telephone access, we feared, might stray too far from Congress's general theme of simply *banning* discrimination.

Then again, it was very clear that if Congress was intent on enhancing the ability of people with disabilities to fully participate in society, a program that expanded access to the telecommunications system would be critical. Without access to telecommunications, other rights guaranteed by the ADA would never fully be realized. Title I of the ADA offered all types of new job protections, but deaf people needed telephone access to arrange for job interviews, as well as to carry out essential job functions. Being able to catch a government-owned bus otherwise covered by Title II's prohibitions against discrimination in state and local governments would be difficult without first being able to call for the bus schedule. And hospitals that widened their offices to accommodate wheelchair users under Title III's public accommodation provisions could not provide effective medical services to people with hearing loss if there was no way for these individuals to call for test results and medical advice. Telecommunications access was as much a civil right as any of the other rights being pursued by the ADA's drafters. And the refusal of society to acknowledge this right had already resulted in dependence and isolation for deaf and hard of hearing people for nearly a century.

In the end, getting Congress to accept mandates for both intra- and interstate relay services as part of its disability rights agenda proved far easier than we had expected.

Indeed, over time, both the ADA statute and its implementing regulations came to contain a variety of detailed and affirmative remedial programs, including requirements for accessible bus and rail transportation, structural changes to buildings, and reasonable accommodations and auxiliary aids, all of which went far beyond mere prohibitions against discrimination.

We next needed to convince the legislators that mandates for nationwide relay services were both technically feasible and economically sound. Fortunately, experience had shown that relay services obviated the need for more expensive measures, such as the purchase of individual TTYs by all businesses and governmental offices. A coordinated nationwide relay system would also ease the financial strain caused by the present collage of state relay programs. Among other things, states with smaller deaf and hard of hearing populations would be able to join regionally based relay centers at a substantial cost savings. Disability advocates were also able to argue persuasively that without relay services, society would incur lost productivity, unemployment, diminished markets for goods and services, and other heavy expenses associated with excluding an entire segment of the population from the telephone network. Spiraling increases in relay volumes across the nation confirmed the immediate and urgent desire of these individuals to lead independent and self-directed lives.

All of these arguments had their intended effect. Within only days after submitting a revised, all-inclusive draft to Senator Harkin's chief legislative aide, Bobby Silverstein, Congress agreed to include mandates for both *intrastate* and *interstate* relay services in the new version of the ADA.

On May 9, 1989, Senators Harkin and Kennedy (D-Mass.) introduced the revised ADA, S. 933, with thirty-three cosponsors in the Senate.⁴ Congressmen Coelho (D-Calif.) and Fish (R-N.Y.) introduced parallel legislation, H.R. 2273, with eighty-four cosponsors in the House. The landmark legislation had attracted the endorsement of more than eighty-five national disabilities and civil rights organizations, as well as the Leadership Conference on Civil Rights, an umbrella organization representing an additional 185 advocacy organizations.⁵ Powerful remarks by Senator Harkin accompanied the bill's introduction:

The ADA sends a clear and unequivocal message to people with disabilities that they are entitled to be treated with dignity and respect and to be judged as individuals on the basis of their abilities and not on the basis of presumptions, generalizations, misperceptions, ignorance, irrational fears, patronizing attitudes, or pernicious mythologies. . . . No longer will our Nation tolerate the continued building of architectural, transportation, and communication barriers that prevent or restrict individuals with disabilities from living independent and productive lives in the mainstream of American society. The ADA, plain and simple, is a broad and remedial bill of rights for individuals with disabilities. It is their emancipation proclamation.⁶

From the start, Harkin took a particularly strong interest in the section of the ADA dealing with relay services. Having grown up with a deaf brother, Harkin was able to speak about the ways that telephone access could empower people to have control over their lives and how the denial of that access perpetuates "second-class citizenship." The ADA's very first draft clung to the approach that telephone access was a

civil right, declaring the failure of any telephone company to provide relay services an act of discrimination punishable by hefty fines.*

The deaf and hard of hearing community heralded the news of the ADA's introduction with cheer and high hopes. While the TDA of 1982 and the TAEA of 1988 had made a dent in our nation's telecommunications barriers, the ADA promised a far more comprehensive vehicle for deaf and hard of hearing consumers to achieve full and complete assimilation into American society. Most importantly, because it treated telephone access as a civil right to be guarded and protected along with other civil rights, the ADA offered hope that relay services were to finally lose their status as a social service; under the new law, telephone companies, not governmental bodies, would be charged with making sure these services were provided.

When hearings on the ADA were held by the Senate, Gallaudet's new deaf president, I. King Jordan, was one of the first up to the plate. Jordan immediately drew the crowd's attention to the Deaf President Now movement, which, he said, had "captured the hearts of people throughout the nation and generated more support than we had anticipated in our wildest dreams."⁷ Jordan went on to share the poignant story of a five-year-old boy whom he had met months earlier while visiting a class at the Rhode Island School for the Deaf. The boy had sauntered over while Jordan was speaking, put his arm on Jordan's shoulder, and gazed up at him with a smile. Instantly, Jordan knew that his appointment to the Gallaudet presidency had imparted a powerful message to this boy and other deaf children: despite their hearing loss, they could achieve anything to which they aspired. But this message could be realized only if federal laws enabled them to be judged on their individual abilities, without the discrimination characteristic of earlier decades. Having telephone access would be a start to breaking down these barriers.

Testimony by Paul Taylor next drew the senators' attention to the acute need for telephone access as a tool of independence, employability, and career mobility. Taylor explained that the lack of telephone access had caused thousands of deaf employees to be passed over for promotions and other job opportunities, keeping members of the deaf community underemployed despite their high school diplomas and college degrees. Lest the legislators believe that states were already adequately addressing telecommunications access matters, Taylor went on to detail the intolerable funding and staffing problems that had plagued state programs. For example, in many states, for every telephone relay call that was answered, as many as twenty went unanswered.

By the time that the Senate held its ADA hearings, AT&T was already providing relay services in California, New York, and Alabama. Although deaf and hard of hearing advocates had spent decades fighting AT&T's unwillingness to adequately address telecommunications access issues, when Gerald Hines, AT&T's witness, presented his remarks, he was warmly received by all. Hines boasted of the "indispensable link" that relay services provided for the deaf community and the overwhelming feedback that his company received on these services.⁸ The California Relay Service, for example, was now handling 250,000 calls each month. Similar growth was occurring in New York. Although its statewide service had just begun in January of 1989, monthly call

* Specifically, this early draft of the ADA provided that if a state designated entity failed to provide relay services, the state could be slapped with penalties of up to \$10,000 for each offense of discrimination.



Senator Tom Harkin, chief sponsor of the ADA, reviews a fine point with Al Sonnenstrahl, former executive director of TDI.

volumes had already jumped from 45,000 to 65,000, with short-term predictions that these would increase to 100,000 calls.⁹

When Hines got through touting the benefits of relay services, he did the unthinkable. Although AT&T had historically shunned federal regulation, Hines went on to request the federal government's assistance to expand these programs. Noting that consumer relay needs had "greatly outstrip[ped]" the resources of the local relay programs," he asserted that "we do not think that state action alone is enough," and in a move that only years earlier scarcely seemed possible, called upon Congress to help bring about twenty-four-hour-a-day nationwide relay services that would be staffed with sufficient personnel and supplied with enough equipment to meet the very standards put together by the Gallaudet relay task force.*

Meeting Eye-to-Eye with Industry

Unfortunately, AT&T's vision of a relay future did not entirely mesh with the one envisioned by relay advocates. Not wanting to bear the costs of providing relay services on its own, AT&T still believed that these services needed to be funded by the general treasury. Relay advocates continued to vigorously oppose the use of tax revenues for this purpose, even more so now that telephone access was finally to be granted its rightful place among the nation's civil rights. Advocates feared that if access depended on the "goodness" of governmental appropriators, it would not truly be defined as a right, but merely a privilege that could be rescinded at any time. They believed that telecommunications access should not be subject to the whim of the budgetary process, where it could come and go with the political and fiscal winds. Instead, advocates wanted Congress to force telephone companies to treat people who were deaf and hard of hearing no differently than they treated hearing people. Just as the higher

* For example, Hines's testimony said that relay operators should be able to translate ASL syntax into spoken English, have excellent typing, spelling and vocabulary skills, be "sensitive to the cultural and linguistic differences between the deaf and hearing communities," and "adhere to the highest professional standards of ethics and confidentiality." AT&T also agreed with consumers that relay operators should be required to "relay whatever messages they receive accurately, without passing judgment with respect to their content, conveying communications and not in any way editing or censoring the messages."

costs of providing telephone access to rural customers were spread equally among all telephone subscribers, so too consumers argued, should the costs of providing relay services.*

In addition to disputes over funding, an even greater source of conflict soon surfaced, this time with other segments of the telephone industry. Just weeks after the ADA was introduced, advocates learned that U.S. West, one of the seven regional Bell companies, had begun circulating its own proposal for a nonprofit, quasi-public, federally funded “relay corporation.” Under the U.S. West proposal, existing state relay programs could continue their operations, but primary responsibility for establishing and overseeing relay services on a national level would rest with this corporation, rather than with the telephone companies. Because U.S. West’s proposal removed all financial burden from the local telephone companies, it swiftly secured the endorsement of those companies, and consequently attracted the support of a good number of senators.

Consumers, on the other hand, were immediately skeptical of the recommendation. The proposal effectively treated relay services like a charity, geared to addressing the social welfare needs of people with communications disabilities, rather than a utility service that facilitated communications between deaf and hard of hearing people and the general public. By removing all responsibility from the telephone companies, consumers feared that the proposal would simply perpetuate discrimination against deaf and hard of hearing communities.

During the third week of June 1989, as the plan for a relay corporation continued to gather steam, relay advocates were presented with a dilemma. Only a few weeks remained before July 12, 1989, the date set for the Senate Committee on Labor and Human Resources to mark up the ADA. With its strong industry and Senate support, we were uncertain whether we had enough votes to kill the proposal entirely. In an attempt to instead soften the plan’s blow in case it was ultimately adopted by the majority, we decided to call together a series of meetings with U.S. West, members of Congress, NARUC, and other telephone companies. The goal was to try to better the proposal—for example by ensuring that a majority of the proposed board consisted of consumers, or by giving greater oversight of its operations to the FCC. But while we tried to work with the companies’ approach during these negotiations, we remained convinced that a federally created and funded corporation would go against the grain of treating relay services as a fully integrated civil right.

As the Senate markup drew nearer, we were still short of the support we needed to beat down the U.S. West approach. Perhaps readying ourselves for a fate that we had not anticipated, we began to second-guess our initial decision to dismiss the proposal as a viable alternative. Perhaps our “inside-the-beltway” reaction would not be shared by those out in the relay field. After all, there were some advantages to having a single corporation govern all relay services. A single entity could promote uniformity and consistency across the states, could facilitate the establishment of regional centers for

* The costs for providing telephone service to rural communities are higher than they are for urban or suburban communities because the rural areas are located further away from central telephone office switching facilities.

areas with small populations of deaf consumers, and could reduce overall costs by eliminating the involvement of state public regulatory commissions.

On June 23, 1989, Al Sonnenstrahl and I decided to conduct an informal survey of the greater relay community. We wrote to relay advocates from around the country about Congress's new push for a relay corporation, and asked whether others believed that compromising on this point might serve the best interests of the deaf and hard of hearing communities.¹⁰ It did not take long before responses came back that confirmed our initial impressions.

The nation's deaf and hard of hearing leaders wrote that so long as voice telephone services and networks are regulated by the FCC and local public utility commissions, it would be inappropriate to "single out" relay services by putting these under the control of a separately chartered, social service organization. They feared that U.S. West's model could even usurp the authority of the FCC and state commissions in their efforts to establish standards for relay quality. That the proposed corporation would be dependent on federal funds made matters even worse. Deaf consumers were tired of fighting state appropriation battles, and the last thing they wanted to do was to shift those battles to the federal arena.*

Armed with new ammunition about the ways that the U.S. West proposal would impede our quest for equal telecommunications access, relay advocates returned to Congress with renewed determination to defeat it. Unfortunately many senators, having been heavily lobbied over the course of several weeks by the regional telephone companies, had become even more locked in to its support. Even worse, some of the very same staff members who had long backed our efforts to expand telephone access now began expressing frustration with our insistence that this access be achieved in a specific manner. Heated conversations took place in which staffers believed to be our friends used every effort at persuasion to get us to accept U.S. West's proposal.

But the more that staffers pressured us to yield, the more we dug in our heels. As the days brought us closer to the Senate markup, the nature of our discussions with congressional aides intensified. Several long, angry, and sometimes exasperating arguments took place, forcing us to stretch our own powers of persuasion as far as they could reach. Eventually, we convinced key staff members that they would lose the support of the deaf community for the entire ADA if the relay mandates did not put deaf and hard of hearing people on an equal footing with other telephone consumers. The threat worked. Shortly before the markup, staffers finally relented and agreed to return to the original plan to hold telephone companies responsible for relay services. We breathed our first collective sigh of relief.

While we were fighting our battles to preserve the core of the relay mandates, Gallaudet University was readying itself to host its first Deaf Way conference. Held in July 1989, the event attracted approximately 5,000 people from around the world, providing an extraordinary display of deaf talent through poetry, dance, art, and performance. Sonnenstrahl convinced the Deaf Way organizers to let him hold TDI's

* Arkansas, Kansas, Massachusetts, New Hampshire, Vermont, Virginia, and Wisconsin were states that still used governmental appropriations to fund their relay services. "Dual Party Relay Services," NCLD: Washington, D.C. (July 1989).

biennial convention in conjunction with the international event. This provided an unprecedented opportunity for representatives from foreign nations around the globe to exchange information about their advances in technology and telecommunications through workshops, presentations, and hands-on exhibits. At one of these events, an international audience of relay experts gathered together under the leadership of Judy Viera, one of America's leading relay advocates, to explore procedural, technical, and legal issues associated with starting a full-scale relay service.¹¹ Their contributions offered new and invaluable insights for the ongoing battles for relay services in Congress and at the FCC.

Back to the Commission

July of 1989 presented advocates with an unexpected surprise. This was the month by which Congress had instructed the FCC to complete its own interstate relay proceeding. A few months earlier, a new and highly dedicated FCC staff had begun working on these issues, and to the delight of the relay task force, the Commission now released a ruling that finally mandated the creation of a nationwide interstate relay service.¹²

It was clear that the pending passage of the ADA was having its influence on the FCC. In stark contrast to many of the Commission's earlier rulings expressing reluctance to address the telecommunications needs of people with disabilities, the FCC's new order readily acknowledged the critical role that relay services could play in enabling people to become full participants in society. The Commission now wrote that these services would remove barriers to employment and productivity, provide access to government services, expand opportunities to travel, and increase independence among TTY users. Most importantly, the Commission finally recognized that a mandated interstate system would benefit not only TTY users, but everyone else who had been unable to communicate with these individuals.¹³

Because the ADA had not yet been enacted, however, the Commission was forced to look elsewhere for its authority to require relay services. For this, it turned to its general obligation under the Communications Act to ensure universal telephone service for all Americans, its overall authority to issue rules in the public interest, and its responsibility under the TDA to ensure "reasonable access to telephone service" by persons with hearing disabilities.¹⁴ The FCC rejected attempts by some industry members to postpone a ruling until technological advances could bring about their automation. While the Commission acknowledged that automatic speech recognition, voice synthesis, and similar technologies might one day enhance relay services, it ruled that the immediate communication needs of people who were deaf and hard of hearing warranted more instant results. This decision responded to hundreds of deaf people who had written in urging swift FCC action.

Advocates were pleased to see that, like all telephone services, the FCC expected relay services to be funded by the broad base of interstate service subscribers. But the Commission stopped short of adopting federally mandated TTY discounts. The cost-benefit balance, it said, was best struck by having TTY users pay the same end-to-end charges as all other telephone users.

The FCC now sought information on how best to set up an interstate relay program. Over the next few months, advocates kept watch over the FCC's proceeding,

offering detailed recommendations to accomplish this goal. Among other things, consumers emphasized three principles: to consult consumers in establishing minimum relay standards, to ensure that relay services kept abreast of technological advances, and to reserve a portion of relay funds for research and development intended for the improvement of these services.¹⁵ But while advocates devoted time and resources to the FCC docket, the extraordinary speed with which the ADA was now making its way through Congress made it increasingly likely that Congress would issue a relay mandate before the FCC finalized its own relay guidelines. Moreover, the FCC's proposals were still limited to *interstate* services. Consumers feared that if the FCC completed its proceeding prior to passage of the ADA, Congress might abandon its pursuit of a federal relay law—and with it the *intrastate* relay component. And so, with the tacit agreement of deaf and hard of hearing advocates, the FCC decided to postpone its ruling on interstate relay services pending the ADA's passage.

Meanwhile, in the Courts . . .

Although we had successfully beaten back the U.S. West proposal for a charitable relay corporation, muted opposition by local telephone companies to the federal relay mandates continued to loom over us. A few years earlier, when U.S. District Court Judge Harold Greene issued his decree breaking up AT&T's telephone monopoly, he imposed prohibitions on local telephone companies that prevented them from providing long-distance and information services, the latter defined as services that involved “generating, acquiring, storing, transforming, processing, retrieving, utilizing or making available information which may be conveyed via telecommunications.”¹⁶ Local telephone companies interpreted this decree as preventing them from operating their own relay services. They resisted the proposed ADA mandates because if they were unable to integrate relay services into their other telephone offerings—and receive compensation for doing so—they would be forced to purchase these services from a third party, possibly at very high costs.

As relay programs in the states proliferated and passage of the ADA seemed likely, the regional telephone companies decided to go back to Judge Greene to seek clarification and a waiver of his restrictions so they could compete in the relay service market. On July 21, 1989, Bell Atlantic filed the first of these petitions. The company argued that a relay service was not an information service because it involved the mere translation of TTY messages into speech and vice versa, and did not affect the content or the “processing” or “transformation” of information.¹⁷ And although the relay system did store messages briefly, the company argued that this type of storing was the sort of “short-term” or “transient” storage permitted under the court's decree. Moreover, Bell Atlantic argued that even if relay services were information services, they should be permitted because they were a type of protocol conversion—also permitted under the court's order—that enabled users with different kinds of phones to communicate with one other.

In order to offer relay services, Bell Atlantic and other local telephone companies also needed Judge Greene's permission to provide long-distance telephone services. This was because even local relay calls often needed to travel across wide distances (across LATAs) to get from their point of origination to their point of destination.

For example, a relay call made from one street to another in Brooklyn, New York, needed to travel up north through the state's relay center in Albany before it traveled back down to its destination. Along the way, it would cross various LATAs.

On September 11, 1989, Judge Greene ruled on Bell Atlantic's petition. At first, things looked bleak. Judge Greene not only refused to exclude relay services from the definition of *information services*, he concluded that "the transformation of information is the very crux and purpose of the TDD relay services" because the service transforms messages from spoken words to TDDs (telecommunications devices for the deaf) and vice versa.¹⁸ He also rejected Bell Atlantic's argument that these services constituted protocol conversion, which he said was only permitted as part of a gateway service, not applicable to the present situation.

But fortunately, the court did not stop there. Judge Greene found that the "exceptional purpose and . . . limited nature" of Bell Atlantic's request merited a waiver of the information service restriction for the purpose of offering relay services, and that such a waiver "would not impede competition in the information services market." In a subsequent decree, the court also clarified that local telephone companies could provide relay services for calls traveling across LATAs, so long as callers were given the right to select their own long-distance companies and the local companies did not discriminate against any long-distance companies in their provision of relay services.¹⁹

The district court's order had a dramatic effect. With the way cleared to provide relay services on their own, any remaining resistance to a federal relay mandate by the regional Bell telephone companies seemed to completely disappear.

And Back Again to Congress . . .

During the summer of 1989, I and other advocates spent countless hours working with staff members Jill Ross Meltzer and Mark Buse of Senator McCain's office to refine the substance of the relay service section of the Senate's ADA draft.* By the end of that time, the ADA's relay mandates looked quite different from the passages that had been introduced in early May. We had since abandoned the original approach of imposing stringent financial penalties when telephone companies failed to provide relay services. The new draft focused instead on imposing affirmative obligations on the FCC to establish standards for relay services that would be "functionally equivalent" to conventional voice telephone services. This grew out of a concerted attempt to ensure that relay services approximated as closely as possible the telephone services that were available to hearing Americans. To this end, the newer draft now specified twenty-four-hour service, full confidentiality, and the elimination of any limits on the number, length, and types of relayed calls.

Two matters, however, remained unresolved. First, fearing that FCC personnel might not understand the uniqueness of deaf communication needs, advocates wanted Congress to direct the FCC to set up a relay advisory committee with a majority of deaf, hard of hearing, and speech disabled relay consumers as members. Various

* Senator Harkin's staff was occupied by the employment, local governments and public accommodations sections of the ADA, while members of Senator McCain's staff devoted themselves to the relay section.

states had already created similar bodies with considerable success.²⁰ Second, consumers wanted an effective complaint process built into the act's provisions. Huge demands, insufficient funding, and lack of attention to operator training for relay services were continuing to produce substandard services in most of the states, and consumers wanted to be sure that after the ADA was passed, there would be ways to enforce high-quality services at the federal level. Wrote one advocate: "Many hearing people in our state are so repelled by relay operator crudities and ineptitude that they will not use the system. Many deaf relay users religiously save, by the truckload, TDD printer tapes showing instances of inappropriate/unprofessional operator behavior. We currently have no effective complaint procedure, but we continue to fill our shopping bags with this printed evidence, assuming our day will come."²¹

Unfortunately, that day was not yet within reach. As then drafted, the ADA would have required consumers to submit relay complaints initially to state regulatory bodies, which would then be given up to 360 days to respond before the complaints could be forwarded to the FCC. Remarkably, this meant that nearly a whole year could go by before the FCC could even look at state relay complaints. By any standard, a delay of this length was unacceptable.

We sought Senator McCain's assistance in both revising the enforcement procedure and adding a requirement for an advisory board. His staff readily agreed to make our changes, but nearly as soon as they did, the Bush (Sr.) administration rejected the revisions in their entirety. McCain's staff reluctantly came back and urged us to give up at least one of these mandates, lest we lose both.

Disability advocates were presented with a tough choice. With the support of several telephone companies, we had spent nearly a decade trying to convince the FCC to create a disability advisory committee; virtually all of these efforts had been in vain.²² Although seemingly interested in the creation of an advisory body when it issued its first notice of inquiry on relay services back in 1987, the FCC later concluded that a formal, Commission-sponsored committee was unnecessary to address the needs of people with disabilities.²³ The Commission explained that it preferred to continue receiving input from consumers through *public forums* and encouraged informal outside groups to reach consensus amongst themselves on relay matters. We were now convinced that legislation mandating a committee might be the only way that its creation would ever come about.

On the other hand, relay mandates devoid of enforcement provisions would be meaningless. If consumers did not have a way to have their complaints effectively resolved, the substandard services that then existed could forever go unchecked. After considerable debate, advocates opted to continue pushing for the enforcement provisions, and reluctantly agreed to stop pursuing the creation of a relay advisory committee in the body of the legislation. Instead, Senator McCain preserved this issue by later including a passage in the Senate's legislative report on the ADA:

Given the unique and specialized needs of the population that will be utilizing telecommunications relay services, the FCC should pay particular attention to input from representatives of the hearing and speech impaired community. It is recommended that this input be obtained in a formal manner such as through an advisory committee that would represent not only telecommunications relay service consumers but also carriers and other interested parties.²⁴

While this would not be as strong as language in the statute itself, it would at least demonstrate Congress's interest in having the FCC receive the input of the deaf and hard of hearing community as it set about implementing the ADA's relay mandates. As for the enforcement section, a compromise was eventually struck, dropping the allotted time for a state's review to 180 days—still far too long for consumers, but far better than what had initially been proposed.

Another issue that emerged during this summer was the extent to which relay services should be funded through separate surcharges on telephone bills. Although we had won the battle against financing relay services through federal appropriations, many consumers felt just as strongly that separate billing charges tended to single out relay costs and brand them with an undesirable status.²⁵ They wanted relay costs to be treated like the costs of providing other telephone services, recouped through ordinary rate setting proceedings and incorporated into general telephone charges.

Part of the problem was that telephone bills in some states unwittingly carried labels for relay charges that stigmatized the deaf community. For example, California sometimes used the label "Deaf Trust Fund" to identify surcharges while Montana used "Telecommunications for the Handicapped." These references focused only on the TTY user, failing to recognize that two parties—one with a hearing loss and one without—shared each relayed conversation. Also, labels such as these tended to engender the wrath of some hearing people who, claiming not to have a need for these "disability" services, wanted these charges to be removed from their bills.*

Many states also coupled surcharges with fixed funding caps that did not allow for state relay systems to meet growing relay demands. In California, initial caps almost caused the state's relay program to shut its doors in 1987 when relay volume far exceeded original funding predictions. In such states, relay administrators and consumers found themselves having to plead repeatedly with legislators and regulatory bodies for funding adjustments. This contrasted sharply with voice telephone services, which were never dependent on predetermined amounts of funding.

Surcharges were also not typically usage dependent. Instead, these were often set amounts that applied to all consumer bills and, like regressive taxes, imposed a disproportionate burden on people who had lower earnings, or in this case, lower telephone charges. National mainstream consumer groups spent years waging battles against other types of telephone surcharges that had been skyrocketing since the breakup of AT&T and were displeased that our relay section might contribute yet another flat rate line item to phone bills.† The last thing we needed was for these organizations to oppose the relay mandates simply because of the way these mandates were to be funded.

In an effort to convince Congress to ban these charges, we directed its attention to

* This sometimes occurred even where surcharges were innocuously labeled. For example, a few years later, although Maryland listed its 45-cent relay surcharge as the "Universal Service Trust Fund" on subscriber bills, advertising about the purpose of this charge in billing inserts caused some residents to bitterly complain that they wished no part in a charitable service for deaf people. Many claimed they had no prior contact, nor predicted any future contact, with deaf people in their lifetimes. E-mail conversations between Brenda Kelly-Frey, director, Maryland Relay Service and the author, September 2, 2004.

† These groups included the Consumer Federation of America and the Consumers Union.

the example set by the N.Y. Public Service Commission (PSC). Two years earlier, New York had chosen to treat relay costs as an operating expense and had allocated the costs of providing these services to each of its forty-one telephone companies based on the number of each company's access lines. The N.Y. PSC believed that integrating relay costs into the rate base provided a flexible funding source that could fluctuate with the costs of its relay operations. A mere twelve cents a month was automatically added to every phone bill, an amount comparable to the relay surcharges collected by many other states. The difference was that New York subscribers did not see this charge as a line item; hence, they were not consistently and erroneously reminded that they were making a contribution to a "special" service. New York's model was said to be truly "in the spirit of full telephone accessibility."²⁶

McCain agreed with New York's approach and approved our request to add language to the ADA that prohibited surcharges on monthly bills for *interstate* relay services. Although he and other senators did not want to interfere with the ability of individual states to determine their own cost recovery mechanisms for *intrastate* relay services, he also later agreed to add language to the ADA's legislative history expressing the Senate's preference for state relay costs to "be considered a legitimate cost of doing business and therefore a recoverable expense through the regulatory ratemaking process."²⁷

By August 1989, the draft that McCain's staff and relay advocates had produced was so different from the one originally incorporated into the ADA that McCain decided to introduce a substitute amendment to the pending bill, to ensure that all of the new changes would find their way into the final legislation. At the same time, McCain introduced the entire relay section as a separate bill, S.1452, so that nationwide relay services would become a reality even if the ADA as a whole ran into trouble. Representative Steve Gunderson (R-Wisc.) provided the same legislative insurance on the House side, with the introduction of H.R. 3171. Later on, it would be this version that would find its way into H.R. 2273, the House version of the ADA.

On August 2, 1989, the Senate Labor and Human Resources Committee marked up and approved the proposed ADA legislation, complete with our substitute relay language, by a unanimous vote of 16 to 0. Only two days later, Senate members departed for their summer recess. While the wording of the ADA's provisions was critically important, we knew that a legislative history that would accurately support the community's objectives for a full and equal telecommunications system was nearly as critical. We used the recess to work with McCain's staff on the Senate committee report, so that it would be ready by the time the Senate returned on September 6. A vote on the ADA was to be taken soon thereafter.

By late August, everything seemed to be in order. Confident that our relay task force had put together the strongest relay language possible, I left town for a three-day trip to my parents' home in Brooklyn. When I left Washington, the ADA draft sitting on Senate desks mandated telephone companies to provide relay services within two years, allowing a third year for companies that were able to prove they would otherwise suffer an undue burden. In the brief time that I was gone, however, the two-year timeline evolved into three, still with an additional year for companies that qualified for an undue burden exemption. In under three days, the telephone industry had

aggressively pushed for and successfully secured an extra year for compliance, even though states had been successfully setting up relay programs in a fraction of that time. Although advocates spent the days leading up to the Senate's ADA vote making every attempt to recover the extra year, it was too late to reverse this eleventh-hour turn of events.

By the time the ADA reached the floor of the Senate for a final vote on September 7, it had garnered the bipartisan support of sixty cosponsors, paving the way for a landslide victory of 76 to 8. Although relay advocates were disappointed with inclusion of the fourth year, overall, we knew we had cause for celebration. Despite its extraordinary breadth, the ADA had sailed through Congress in only four months, with scarcely any real opposition.

The ADA Goes to the House

Having successfully worked through the various ADA issues in the Senate, relay advocates felt confident that the bill would glide through the House. There was reason for this optimism. By the time the Senate approved the ADA, nearly one-half of the representatives in the House had already signed on as cosponsors of the bill.

But those who predicted an easy ride in the House were soon proven wrong. The speed with which the ADA had dashed through the Senate had enabled the bill to escape the close scrutiny of most businesses before the bill left that chamber. Titles I, II, and III of the ADA created extensive requirements for private employers, state and local governments, and private businesses to provide access to people with disabilities, access that would often require new expenditures. Over the summer, these groups had taken the time to scrutinize the ADA, and many had begun to worry that compliance would not only be prohibitively expensive, but would result in extensive and unbridled litigation. As a result, an onslaught of industry lobbyists greeted the ADA when it arrived in the House. House legislators now began to shift their focus from the rights that the ADA would create to the impact that the bill would have on businesses.²⁸

In addition, while in the Senate advocates had had the relatively easy task of securing ADA approval from only one committee, the House would require the ADA to jump through the hoops of four committees—Education and Labor, Energy and Commerce, Public Works and Transportation, and Judiciary—each of which would have partial jurisdiction over the ADA's various areas. This quadrupled the chances that the ADA would be delayed or even killed in a committee.

As it turned out, however, the challenges that Titles I through III would eventually face in three of these committees were not to be duplicated in the House Energy and Commerce Committee, which took on review of the relay provisions. We quickly developed strong relationships with House Committee Chairman John Dingell (D-Mich.) and his chief staffer, David Leach, and Subcommittee on Telecommunications and Finance Chairman Edward Markey (D-Mass.) and his chief staffer, Gerry Salemme. These individuals, together with other legislative aides, worked with us to push the relay section swiftly through their committee, and on September 27, less than three weeks after the Senate's passage of the proposed ADA legislation, succeeded in getting their House subcommittee to hold relay hearings.²⁹ Disability advocates work-

ing on other sections of the ADA were astonished at our progress as they confronted roadblock after roadblock in the House committees addressing their issues.*

The truth was that by any standard, our position in the House was a strong one. By the time the ADA came under House consideration, as many as seventeen states were operating formal relay programs.³⁰ Ten additional states were scheduled to begin operations within the next one to two years, and three other states had proposed legislative or regulatory changes to establish statewide systems.³¹ Even more states had initiated efforts to study or take other action toward relay implementation.³² Although most of the existing state programs were still plagued with restrictions and slow answer speeds, their very existence continued to demonstrate the viability of a nationwide relay mandate. In addition, unlike the other ADA provisions, there was no real industry opposition to the relay mandates. To the contrary, many telephone companies perceived these to offer opportunities to tap new consumer markets.³³

On October 12, 1989, the Subcommittee on Telecommunications and Finance unanimously approved the relay mandates. We were particularly pleased that an amendment introduced by Congressman Markey succeeded in removing the undue burden waiver that would have given telephone companies up to a fourth year for compliance.³⁴

However, House deliberations on Title IV did not proceed entirely without any glitches. Although AT&T had backed down somewhat from its position that relay services be funded through governmental appropriations, the company was now vehement about enabling long-distance carriers to use line item surcharges to recover their interstate relay costs. As the dominant long-distance telephone company, AT&T did not want to be the only company that had to pay for relay services. It feared that if other companies were unable to recover their relay expenses directly through subscriber charges, those companies would intentionally discourage consumer use of their relay services and shift all relay costs to AT&T. A surcharge, AT&T believed, would provide broad-based funding across all subscribers and give these other companies the financial support they needed to share the relay burden.

AT&T was so concerned about this matter that it initiated an aggressive lobbying campaign to convince the House to lift the Senate's prohibition against interstate surcharges. Not only were we upset with AT&T's insistence on reintroducing this debate; the consequences of changing a key ADA provision this late in the game were potentially devastating. National mainstream consumer groups remained fairly vocal about their opposition to any type of interstate surcharges; at times they had vowed to fight any new legislation that contained these charges. If the Senate's ban was removed by the House, opposition by these groups might again surface and create a serious conflict between the Senate and House versions of the ADA. A significant disagreement between the two chambers could force the ADA to be sent to a conference committee where a breakdown in negotiations between the Senate and House versions could kill the entire bill.

* By the time it reached the House, Congressman Steny Hoyer had replaced Tony Coelho as the bill's leading champion in the House chamber. He and his chief legislative aide, Melissa Schulman, worked with CCD to passionately defend the ADA against industry's many objections as it made its way through each of these other committees.

To prevent this from occurring, CCD began to put pressure on the deaf community not to accede to *any* major changes in the House. Unless the Senate agreed to take out its prohibition on interstate surcharges, we were told, the ADA could be in jeopardy. Pushed from both directions, we were caught in the untenable position of needing to please everyone, but not knowing how.

In an effort to avoid hurting the ADA's chance of passage, we arranged a meeting with AT&T on October 19, where we were informed that Senate staff members had now agreed to delete the surcharge prohibition. While we remained opposed to surcharges, giving in on this issue began to seem like a small price to pay for nationwide telecommunications access. In any event, the ADA only addressed *interstate* surcharges; consumers could continue to contest the use of *intrastate* surcharges at the state level.* We decided that if the Senate was willing to accede, we too would give up this battle and bring the bill a step closer to passage.

Upon returning from that meeting, however, I called my Senate contacts to confirm their change in position. To my surprise, I learned that a number of influential senators had *not* agreed to relinquish their hold on the surcharge prohibition. We had no choice but to call back AT&T and inform the company that unless it could change the minds of these senators, we too, would have to continue opposing these charges.³⁵ We were back to square one.

With only a few weeks remaining before the House was planning to release a newly revised draft of the ADA, we needed to take a firm stance on the surcharge issue while it was still before the House Energy and Commerce Committee. To this end, we arranged for I. King Jordan to send a letter to Chairman Dingell, unequivocally opposing interstate surcharges. Gary Olsen, executive director of the NAD, sent a second letter, urging the chairman to consider the universal benefits that relay services could offer for hearing as well as deaf people: "With this in mind, we strongly discourage surcharges. . . . People who cannot use telecommunications equipment to the maximum extent possible because of technological and societal limitations should not be singled out for special treatment."³⁶

At around this time, we became aware of other industry proposals designed to chip away at the basic telecommunications protections we thought we had already won. Nor were we alone. Members of other industries were parading around congressional offices attempting to weaken various ADA provisions. The bill's sections on transportation access were especially vulnerable, with industry representatives attempting to slash the required number of accessible new rail cars. We realized that nothing was yet set in stone, and we needed to be extremely vigilant lest we lose any of the safeguards that we had secured to date.

One of the changes to the relay mandates now being proposed concerned the carriage of illegal calls by relay operators. The Senate version of the ADA contained a

* By then, most states that already had relay systems had chosen to use surcharges because of their low administrative costs and their ability to reimburse companies dollar for dollar. Some examples were: Alabama: 20 cents; Arizona: 3 cents; Illinois: 3 cents; Louisiana: 5 cents; Minnesota: 10 cents. Another reason that states preferred this funding method was that although cost recovery through the base rate treated all telephone services equally, it required companies providing relay services to go through the rate-making process to obtain reimbursement. Each time an increase or decrease in relay funding was needed, public regulatory bodies would have to review all aspects of the company's business—a process that could take months.

strict requirement for all relay calls to be kept confidential and directed the handling of all types of calls, without regard to their content. But concerns about the completion of illegal relay calls, including those that dealt with drug transactions, were now being raised with increasing frequency by House members.

Advocates knew that the answer was not to give relay operators authority to monitor call content. Law enforcement agencies did not routinely screen conventional telephone calls. If they suspected illegal activity, these authorities needed a court-ordered wiretap to listen in on conversations. The same needed to be true for relay calls. If a wife jokingly typed to her husband, “I am going to kill you for what you did this morning,” she should not have to worry that she might be arrested for threatening spousal homicide.

To ensure that telephone companies offered an equal level of privacy for relay calls, but were still able to capture truly illegal relay communications, new language was added to the ADA that would “prohibit relay operators *from failing to fulfill the obligations of common carriers* by refusing calls . . . that use telecommunications relay services.”³⁷ The new language tied the responsibility of telephone companies handling relay services to existing prohibitions against the use of network facilities for unlawful purposes contained in the Communications Act of 1934. The FCC would later interpret this clause to only hold relay providers liable for the carriage of unlawful relay conversations if they had “knowing involvement in unlawful transactions.”³⁸ The Commission explained that this was unlikely; relay operators were generally not expected to have a high level of involvement in illegal activity taking place during a relay call.

The second threat to the relay service mandate came when AT&T requested that telephone companies be relieved of their individual relay obligations once an independent relay service provider was chosen to provide services in a given area.³⁹ The ADA afforded considerable flexibility in the way that telephone companies could provide relay services. Each company could do so on its own, jointly contract with others within a state, or even team up with others in regionally based centers designed to share the costs of facilities, labor, administration, publicity, and research. States could also take on relay responsibilities on behalf of the telephone companies operating within their jurisdictions—and receive FCC certification to do so—so long as their programs met the FCC’s minimum technical and quality relay standards. But regardless of who actually administered the relay services, consumers believed it was critical for the telephone companies to remain accountable if the services ever fell out of compliance with the FCC’s rules. Only then would relay services become an integral part of these companies’ general telephone offerings. House staffers agreed with this approach, rejected AT&T’s request, and added a new provision clarifying that although telephone companies could choose relay vendors through competitive bidding, the companies would ultimately be held accountable for those vendors’ actions.⁴⁰

On January 10, 1990, the House released a revised draft of the ADA. It was in this version that, despite our best efforts, the House removed the Senate’s ban against interstate surcharges once and for all. On January 16, in a letter to the Energy and Commerce Committee, we renewed our opposition to the surcharge, offering yet another reason for our objection. Because under the ADA, states would be permitted

to use surcharges as their relay funding mechanism, we said, permitting interstate telephone companies to do the same could result in confusion and consumer dissatisfaction with what would appear to be a double surcharge for the same service.

Within a few weeks, when it became clear that even these last efforts to kill the interstate surcharge were destined to fail, we considered alternatives. It was Sonnenstrahl's suggestion that we seek two legislative assurances in place of the surcharge ban: first a directive to telephone companies not to "red flag" relay surcharges on phone bills in ways that singled out deaf and hard of hearing people, and second, a mandate for telephone users of *all* communications services to contribute to the costs of providing relay services.⁴¹

On both of these points, advocates were successful. First, the House report was revised to include language that "recognize[d] that relay services are of benefit to all society" as well as an admonition not to use any funding mechanism that would "be labeled so as to prejudice or offend the public, especially the hearing-impaired and speech-impaired community."⁴² The report even called upon states to avoid California's poor choice of words ("Deaf Trust Fund"), going so far as to describe those words as "offensive." Second, the House bill was revised to include language requiring relay costs to be recovered from all intrastate and interstate telephone subscribers, further defined in the House report to include both private and public telecommunications systems.⁴³ Although we had lost the surcharge battle, inclusion of this language proved to be a major victory. After years of financial struggles, the requirement heralded a new and welcome level of financial security for relay service operations.

On March 13, 1990, the House Energy and Commerce Committee marked up and favorably passed the relay section. In addition to the above changes, the House version added two new requirements, readily approved by the Senate: The FCC could certify only state relay programs that had adequate enforcement procedures and remedies, and public service announcements produced with federal funds had to be closed captioned.⁴⁴ No one could dispute that the ADA's relay section had weathered the House storms exceedingly well. Not only were consumers still guaranteed functionally equivalent telephone services, but the House had added assurances for secure financing, strengthened the enforcement provisions, shortened the deadline for compliance, and made a small, but important inroad on captioning. Congratulating ourselves, we did not realize that one outstanding issue remained that posed a threat to equal telephone access.

Although we had been able to confer daily with Senate staff in the preparation of their legislative report to ensure that it accurately reflected Congress's intent to achieve telecommunications equality, House staff members proved to be far more evasive while preparing their legislative history. In the Senate, our recommendations had been eagerly sought, and nearly always accepted; in the House, our repeated requests to review the report before it was finalized were routinely denied. Fearing that something critical might be left out, or worse, that something detrimental might be included, we sent a stream of unsolicited recommendations to the House committee members.*

* For example, we pushed for language to direct the creation of a consumer-based advisory committee, to require relay transmissions in both Baudot and ASCII formats, and to ensure that relay callers would

After weeks of steady refusals to see drafts of the House report language, we had all but given up hope that consumers would be able to provide input into this portion of the ADA's legislative history, when, on the afternoon of May 10, 1990, I received a call from David Leach of Chairman Dingell's office. Leach informed me that if I came over to his committee offices immediately, I could read the report in his office and let him know what I thought of it. I grabbed my coat, a pad, and pen and ran to my car.

Speeding along the streets of D.C., I wondered how I would ever be able to provide input on such short notice. Preparation of the Senate report had been slow and methodical. The exchange of numerous drafts and discussions with consumers on how best to formulate the issues had taken place on nearly every issue. By contrast, I would now be given mere minutes to race through the House document and provide instantaneous feedback. I was concerned that the committee's refusals to share the House drafts with us meant that they had all but ignored our recommendations. It was hard to be optimistic, but perhaps I was overreacting. We did have a good working relationship with the House members and their staffs; perhaps the report would be fine.

When I arrived at the offices of the House Energy and Commerce Committee, I was taken to a private room, handed the draft, and given strict instructions not to copy it, remove it, or show it to anyone. Although I typically provided feedback to Congress in typewritten memos, it was clear that this was not an option. My handwritten scribbles would have to suffice.

An initial reading of the document brought both comfort and concern. While the document did in fact contain many of our suggestions, other critical items were missing. Many of the omitted items—such as the need for fast answer speeds, the need for relay operators to be sufficiently trained in typing, grammar, and the communication needs of deaf people, and the need for FCC input from the deaf community in the preparation of its relay rules—had already been addressed in the Senate report. While added support for these items in the House report would have been useful, their appendage to this document was not critical.

But as I kept reading the draft, I realized that it seemed to exclude a whole category of telephone services from the ADA's coverage. Specifically, one of its passages stated that it was *not* the function of the ADA to facilitate access to audiotext services, which included 900 and other pay-per-call telephone numbers, as well as interactive voice response (IVR) systems. IVR telephone systems use menus that direct a caller through various options at the start of a telephone call. The Report suggested that because these were *recorded*, and not *voice* telephone services, they fell outside the ADA's protections.⁴⁵

This interpretation of the ADA's mandate was both confusing and disturbing—while IVR systems used recordings, weren't there *voices* on these recordings that

have the ability to access 911 centers. Many 911 centers screen out calls originating from outside their service areas. This can present a problem for relay callers, whose calls are often channeled through calling areas located outside of those specified 911 jurisdictions. For example, a call from a person in Dallas, Texas, might be directed through the state's Austin relay center to reach its final destination. We did not want emergency service 911 centers located in Dallas to refuse local 911 relay calls that originated in Dallas, but appeared as though they were coming from Austin.

guided callers through the call? We all knew, even back in 1989, that IVR systems were becoming ubiquitous. Businesses, schools, and governmental agencies had begun to realize the cost savings of using automated menus to direct callers to their desired destinations. These systems, however, rarely had TTY counterparts that made them accessible to deaf people. Without a requirement for these interactive systems to be accessible via relay services, deaf and hard of hearing individuals would continue to be denied telephone access to millions of locations that now used these systems with increasing frequency.* This thwarted the very intent of the relay provisions to *expand* access to the telecommunications network.

Over the next several days, advocates expressed strenuous opposition to the audio-text exemption. Most disturbing was that House members had never raised this issue with consumers before putting it into the report. Leach explained that the language had been added to respond to telephone industry concerns about the infeasibility of providing IVR services via relay. Our guess was that companies believed relay operators would not have enough time to read prompts to a caller, ascertain the caller's preference, and respond to those prompts before the IVR system timed out and the call ended. We understood these technical problems, but countered that even if it were not feasible to provide these services at the present time, speech synthesis and other voice recognition technologies could make handling interactive calls through relay services possible in the future. We argued that if a blanket exemption for these services were kept in the ADA, people with hearing loss would forever be prevented from accessing these services. We urged House committee members to either delete the passage entirely or to provide a clear statement that even if these calls were not required now, they would be required in the future once they became technologically viable.

Despite some House staff members who appeared sympathetic to our concerns, the language was not changed. Frustrated with having been excluded from the dialogue that produced this restriction, we did the next best thing—we sought formal clarification of the audiotext issue, as well as a few other issues that had been left unresolved, through a colloquy to be delivered on the floor of the House.† The conversation was conducted between Representatives Steny Hoyer (D-Md.) and Thomas Luken (D-Ohio) in May 1990:

Mr. Hoyer: Mr. Chairman, I am concerned about a provision contained in the report filed by the Committee on Energy and Commerce which states: "It is not the function of this legislation to facilitate access to audiotext services." Is it the gentleman's understanding that this bill precludes such access?

Mr. Thomas A. Luken: The gentleman raises a good question. While the legislation does not require access to audiotext services at this time, if future technology can make these services available utilizing a relay service, it is our intent to ensure such access.

* * *

* In addition to barriers for TTY users, to this day IVR systems create hardships for people with other types of disabilities. Audio quality is often not sufficient to enable access by people with milder forms of hearing loss and the response times needed are often too fast for people with mobility and cognitive disabilities.

† Colloquies, like House and Senate committee reports, can offer guidance to agencies that are charged with implementing federal statutes.

Mr. Hoyer: Mr. Chairman, if the gentleman will continue to yield, the bill calls for relay services to be functionally equivalent to ordinary voice telephone services, How, exactly, is functionally equivalent service to be achieved?

Mr. Thomas A. Luken: Title IV requires the FCC to establish certain minimum standards and criteria, which will define functional equivalence for all relay providers.

Mr. Hoyer: If the gentleman will continue to yield, where can the FCC turn for guidance in developing these standards?

Mr. Thomas A. Luken: . . . Individuals have urged the FCC to create a Federal advisory committee to assist the Commission in setting up such a system. It is our intent that the FCC turn to such a committee, which could be made up of relay consumers, telephone companies, and other interested parties, to develop standards for functionally equivalents [sic] for both an intrastate and interstate relay system.

Mr. Hoyer: If the gentleman will continue to yield, the success or failure of relay services will depend to a great extent on the competence of the operators who will act as translators for those using the system. Does the gentleman anticipate that the FCC's regulations will require that the operators . . . be trained to respond effectively to the special communication needs of hearing and speech-impaired users?

Mr. Thomas A. Luken: The gentleman is correct. The committee expects the regulation will require the appropriate training for relay operators, including typing, grammar, spelling, and other training necessary to ensure that operators contribute to the success of the service.⁴⁶

On May 14 and 15, 1990, all four House committees submitted legislative reports on their respective ADA sections to the House Rules Committee, which was tasked with synthesizing the ADA's various components. There was no question that the months during which the act had traveled through the House had often been harrowing. Congressman Hoyer described the process as "a procedural and jurisdictional labyrinth" that could have killed any piece of legislation.⁴⁷ But compared with the other ADA issues addressed by the House's legislators, our relay journey had been the easiest. While other sections of the ADA were forced to survive an onslaught of amendments that frequently went to their core, most of our battles had been incidental to our principal goal of achieving telecommunications equality. And even our defeat on the audiotext issue would later be remedied. More than a decade later, the FCC would use the Hoyer-Luken colloquy as the basis for a rule that would finally mandate the handling of IVR calls by relay systems.⁴⁸

On May 22, the House passed the ADA by an overwhelming margin of 403 to 20.⁴⁹ Though the Senate eventually ceded its position on the interstate surcharge ban without much protest, conflicts that remained among other sections of the House and Senate versions of the ADA—unrelated to relay services—were significant enough to send the bill to a conference committee. Among the most contentious issues were the extent to which Congress would be covered by the ADA and the degree to which food establishments could remove people with contagious diseases from food handling positions. Arguments over the latter issue, one that disability advocates feared would unfairly discriminate against individuals with AIDS, were so heated that it took nearly two more months before opposing parties could reach their final compromise. Once consensus was achieved, the conference version of the ADA was re-sent to the

House floor, where, on July 12, 1990, it was approved by a vote of 377 to 28.⁵⁰ A day later, the Senate approved the new version by a similarly overwhelming vote of 91 to 6.⁵¹

On July 26, 1990, President Bush (Sr.) signed the ADA into law.⁵² Surrounded by dignitaries and thousands of disability advocates on the White House's South Lawn, the ceremony signaled the start of a new journey of telecommunications equality. More than two decades had passed since Weitbrecht, Saks, and Marsters created the very first tools of telephone communication for people who could not hear. The dream that these men shared, a dream for deaf and hard of hearing people to become equal partners in our nation's telecommunications system, was now finally becoming a reality.

Other ADA Provisions on Telecommunications Access

The ADA's relay service provisions are not the only ones that were designed to expand telecommunications access. Title I of the ADA requires private employers with fifteen or more employees to provide reasonable accommodations, including TTYs and other accessible phone features.⁵³ State and local governments covered under Title II,* as well as places of public accommodation covered under Title III,† must also provide auxiliary aids and services needed to ensure effective communication.⁵⁴ In addition to TTYs, this includes telephone amplifiers, assistive listening devices, hearing aid compatible telephones, and captioning services and equipment. For example, hospitals, hotels, and other places of public accommodation that typically provide the opportunity to make telephone calls on "more than an incidental convenience basis" from their facilities must provide TTYs upon request.⁵⁵ TTY access must also be provided where needed to enter public accommodations that are accessible only through security phones. In addition, Title II has a separate mandate requiring direct TTY access to 911 emergency services.⁵⁶

Titles I, II, and III do not require the above aids and accommodations to be provided where covered entities could prove that doing so would cause an undue burden.⁵⁷ This is generally determined by a balancing of the cost and nature of the aid or accommodation with the financial resources available to the facility, the effect of the accommodation on its operations, and the difficulty of providing the accommodation.

The ADA also requires state and local governments and places of public accommodation to make certain structural changes to existing physical facilities. While local governments are obligated to make such changes unless they would cause an undue financial or administrative burden, places of accommodation only have to make structural adjustments if doing so is "readily achievable," defined as "easily accomplishable and able to be carried out without much difficulty or expense."⁵⁸ Places of public accommodation and commercial facilities that are *newly* constructed or altered are held

* Examples of entities covered under Title II are libraries, local and state courts and legislatures, state operated transportation agencies, public hospitals and schools.

† Places of public accommodation include nearly all private businesses, such as hotels, restaurants, stores, parks, recreational facilities, and professional offices, but do not include religious entities or private clubs.



Celebrating the passage of the ADA on the White House lawn. Left to right: Kevin Nolan, Sy DuBow, Gerald Buckley, the author, Al Sonnenstrahl, Senator John McCain, Larry Evans, Paul Taylor, Jack Gannon, I. King Jordan, and Tim Rarus.

to a greater standard of structural accessibility than those already built:* these facilities must be “readily accessible and usable by individuals with disabilities,” regardless of whether the structural changes are easy to accomplish.⁵⁹

In 1991, the Access Board issued technical requirements, called the ADA Accessibility Guidelines, or ADAAG, to provide detailed guidance for making these physical structures accessible.⁶⁰ The guidelines contain a number of provisions specific to telecommunications accessibility, including requirements to make public phones TTY-accessible in places such as convention centers, covered malls, stadiums, hospitals, and transit facilities. ADAAG also requires a certain percentage of newly constructed or renovated hotel rooms to be TTY-accessible and has standards for phones to be both hearing aid-compatible and equipped with volume control features.⁶¹

The Access Board’s ADA guidelines are notable for being the first set of federal standards to take a “universal design” approach, a philosophy for designing structures that are usable by people with the widest possible range of functional capabilities. Many years later, this approach would be borrowed and successfully applied in the Telecommunications Act of 1996, in mandates requiring telecommunications manufacturers and service providers to incorporate accessible features in the design of their products and services.⁶²

Notes

1. In order to gather this information, NCLD sent a letter out to the nation’s deaf and hard of hearing leaders. Among the many who responded were Bob Davila and Roz Rosen of Gallaudet University, Donna Dickman of AG Bell, and Charles Estes of the NAD.

2. Minutes of the sixth meeting of Dual Party Telephone Relay Services Task Force (May 3, 1988), describing a meeting between Paul Singleton and Gerald Brock of the FCC.

3. See Bob Richardson, Angela Campbell, Sy DuBow, Karen Peltz Strauss, memorandum to Bobby Silverstein on “Historical Precedents for FCC Involvement in Intrastate Communications Issues,” March 17, 1989. This memo also laid out other legal justifications for taking legislative

* Commercial facilities include all facilities used by private entities with operations that affect commerce. This category is broader than public accommodations, as it includes office buildings, factories, and privately operated airports.

action, including Congress's authority under the Commerce Clause of the U.S. Constitution to regulate intrastate telecommunications operations.

4. Senator Weicker, the original Senate champion of the ADA, had lost his bid for reelection in Connecticut.

5. 135 *Cong Rec.* 8506 (May 9, 1989).

6. *Ibid.*

7. Statement of Dr. I. King Jordan, Gallaudet University, Hearings on S. 933 before the Subcommittee on the Handicapped, Senate Committee on Labor and Human Resources, 101st Cong. 1st Sess. (May 9, 1989). Hereinafter cited as S. 933 Hearings. Access to the telephone was so important to Jordan that he had become one of the only people in America to have a TTY installed in his car.

8. Statement of Gerald A. Hines, director of special long-distance services, AT&T, S. 933 Hearings, 1.

9. As predicted, by March 1990, New York would handle 104,000 calls each month. See Jay Ferrill, Transcript of statement, TDI Relay Subcommittee Conference Proceedings, Tempe, Arizona, April 4-5, 1990, 91.

10. Individuals contacted included Claudia Foy (Ariz.), Jack Levesque (Calif.), Peggy Schmidt (Fla.), BJ Wood (Mass.), Pam Ransom (Ill.), Barbara Brasel (Conn.), Charles Estes (Okla.), Patty Hughes (Wash.), Paul Taylor (N.Y.), Frank Bowe (N.J.), Francine Lauer (Mich.), and Mark Seeger (Tex.).

11. "Answer Now! Questions for Relay Planning," included panel discussions by Charles Estes and Phyllis Shapiro (Calif.), Robert Yaeger (Minn.), Cheryl Graham (N.Y.), Patty Hughes (Wash.), Ruby Griffin (Ala.), and Claudia Foy (Ariz.), as well as representatives from Canada and Great Britain, and the author. Previously, Viera had pioneered the relay guidelines used to develop the nation's first statewide fully operational relay system in California.

12. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Order Completing Inquiry and Providing Further Notice of Proposed Rulemaking, CC Dkt. 87-124, FCC 89-242, 4 FCC Rcd. 6214 (1989) (July 27, 1989).

13. *Ibid.*, ¶43.

14. *Ibid.*, ¶13 (universal service obligation under 47 USC §151); ¶15 (FCC's general public interest authority under 47 USC §154(i)); and ¶14 (authority under the 1982 Disabled Act under 47 U.S.C. §610(a)).

15. Advocates provided feedback to the FCC through in person meetings and comments submitted on September 29, 1989, by NCLD, NAD, TDI, OUT, TEDI, the New York League for the Hard of Hearing, the Maryland Office of People's Counsel, the Hearing and Speech Agency of Metropolitan Baltimore, Inc., the Maryland Department of Health and Mental Hygiene, Maryland Governor's Commission on Hearing Impairments, Maryland Governor's Office for Handicapped Individuals, the NorCal Center for Law and the Deaf, the Bay Area Center for Law and the Deaf, and the Chicago Hearing Society.

16. *U.S. v. AT&T*, 552 F. Supp. 131, 229 (D.D.C. 1982)

17. Bell Atlantic's Motion for a Declaratory Ruling Concerning Relay Services for Disabled Customers, *U.S. v. Western Electric Co.* (D.D.C. July 21, 1989).

18. *U.S. v. Western Electric Co.*, Memorandum, Civil Action 82-0192 (September 11, 1989).

19. *U.S. v. Western Electric Co.*, Order, Civil Action 82-0192 (November 6, 1989). The court later granted a similar waiver to NYNEX on November 28, 1989, and a few months later, to Ameritech (Ameritech request filed on August 1, 1990).

20. For example, New York's board, which consisted of representatives of telephone companies and consumers, offered valuable guidance on operator training, problem solving, and relay enhancements. Statement of Gail Garfield Schwartz, deputy chairman, N.Y. PSC, on behalf of NARUC, Hearings on S. 2221 before the Senate Committee on Commerce, Science and Transportation, 100th Cong. 2d Sess. (June 23, 1988). Other states with advisory committees included Alabama, California, Minnesota and Arizona.

21. Bill White, "Dual Party Relays: How Far Will They Fly?" *Silent News*, (May 1990), 13, 15.

22. NYNEX, Southwestern Bell, U.S. West, and other telephone companies had each expressed

an interest in having the FCC establish an advisory committee. AT&T was one of the few companies that opposed such a committee, which it feared would impede the initiation of interstate relay service.

23. See *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Notice of Inquiry, CC Dkt. 87-124, FCC 87-150, 2 FCC Rcd 2836 (May 15, 1987), ¶7; *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Notice of Proposed Rulemaking and Further Notice of Inquiry, CC Dkt. 87-124, FCC 88-123 (March 29, 1988), ¶70.

24. S. Rep. No. 116, 101st Cong., 1st Sess. 81 (1989). Hereinafter cited as Senate Report 1989.

25. See generally “MD Relay Service to Begin in 1991 . . . Finally!” *GA-SK* 22 (Spring 1991): 23.

26. Paul Taylor, TTY communication with the author, May 5, 1989. The Delaware PSC also funded its relay system through its rate base, believing the use of a surcharge to violate fundamental principles of traditional ratemaking.

27. Senate Report 1989, 82.

28. National Council on Disability *Equality of Opportunity: The Making of the Americans with Disabilities Act* (Washington, D.C.: NCD, 1997), 127.

29. Witnesses at the hearing included I. King Jordan (Gallaudet), Gail Garfield Schwartz (N.Y. PSC), Merrill Tutton (AT&T), Linda Hirshman (USTA), and the author. Hearings on H.R. 2273 before the Subcommittee on Telecommunications and Finance, House Committee on Energy and Commerce, 101st Cong. 1st Sess. (September 27, 1989). Hereinafter cited as H.R. 2273 Hearings.

30. These states were Alabama, Arizona, Arkansas, California, Connecticut, Kansas, Massachusetts, Minnesota, New Hampshire, New York, Oklahoma, Oregon, South Dakota, Utah, Vermont, Virginia, and Wisconsin. NCLD Summary of State Dual Party Relay Services (September 1990).

31. The ten states that had begun operations were Colorado, Delaware, Hawaii, Illinois, Louisiana, Maryland, North Dakota, Tennessee, Texas, and Washington. The three states about to acquire relay services were Florida, Michigan, and Rhode Island.

32. For example, studies were underway in Georgia and funded in Maine, Nevada, New Jersey, New Mexico, Ohio, and Pennsylvania were also considering state action.

33. See, for example, Statement of Merill R. Tutton, AT&T, H.R. 2273 Hearings, 1, touting the economic benefits of using relay to sell a greater array of consumer products and services.

34. Only a little more than a week before, I. King Jordan had sent a letter to Markey complaining of the Senate’s last minute decision to delay the start up of relay services. I. King Jordan, letter to Congressman Markey, October 3, 1989.

35. I conveyed this in a telephone conversation to Bob Morgan of AT&T on October 19, 1989.

36. Gary Olsen, letter to Congressman Dingell, November 8, 1989.

37. 47 U.S.C. §225(d)(1)(E) (emphasis added).

38. *Telecommunications Services for Individuals with Hearing and Speech Disabilities, and the Americans with Disabilities Act of 1990*, Report and Order and Request for Comments, CC Dkt. 90-571, FCC 91-213, 6 FCC Rcd 4657, ¶15 (July 26, 1991).

39. Merrill R. Tuton, AT&T, letter to Congressman Markey, October 4, 1989.

40. 47 U.S.C. §225 (c)

41. See Karen Peltz Strauss, NCLD, memorandum to David Leach and Gerry Salemme, House legislative aides, April 23, 1990, requesting language in the House report that prohibited the placement of offensive surcharges on monthly telephone bills.

42. H. Rep. No. 485, Part 4, 101st Cong., 2d Sess. 68 (1990). Hereinafter cited as House Report 485.

43. *Ibid.*, 67. See also Statement of Congressman Dingell on the need to ensure that the “the burden of paying will be equitably shared.” 136 *Cong. Rec.* H2432 (daily ed., May 17, 1990).

44. See 47 C.F.R. ¶¶64.605(a); (b)(2); 47 U.S.C. §611.

45. See House Report 485, 66.

46. Colloquy between Congressman Hoyer and Congressman Luken 136 *Cong. Rec.* H2434 (daily ed. May 17, 1990).

47. Nancy Jones, “Essential Requirements of the Act: A Short History and Overview,” in *The*

Americans with Disabilities Act, From Policy to Practice, ed. Jane West (New York: Milbank Memorial Fund, 1991), 28, citing J. Rovner, "Congress Clears Sweeping Bill to Guard Rights of Disabled," *Congressional Quarterly* (July 14, 1990): 2227.

48. *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. 98-67, FCC 00-56, 15 FCC Rcd 5140, ¶¶88-98, n.184 (March 6, 2000).

49. For an interesting article on the House's passage, see Tom Kenworthy, "House Votes New Rights for Disabled," *Washington Post*, May 23, 1990, A1, A10.

50. 136 *Cong. Rec.* 17296 (July 12, 1990).

51. 136 *Cong. Rec.* 17376 (July 13, 1990).

52. P.L. 101-336, 104 Stat. 327, codified at 42 U.S.C. §12101, et. seq.

53. 42 U.S.C. §12112 et. seq.

54. 42 U.S.C. §12131 et. seq. and 42 U.S.C. §12181 et. seq., respectively. ADA guidelines on telecommunications access, issued by DOJ, can be found at 28 C.F.R. §35.160-62 (Title II); 28 C.F.R. §36.303(c)-(e)(Title III).

55. 28 C.F.R. §36.303(d)(1).

56. 28 C.F.R. §35.162. See chapter 8 for an in-depth discussion on 911 access requirements.

57. Title I refers to "undue hardship," but the factors to be considered in making an undue burden and undue hardship determination are nearly identical. See 47 U.S.C. § 12111(10); 28 C.F.R. §36.104; 56 F.R. 35555 (July 26, 1991).

58. 28 C.F.R. §35.150(a)(3).

59. 28 C.F.R. §36.401(a).

60. Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG), 36 C.F.R. Part 1191, appendix A.

61. *Ibid.*, §§4.1.3(17)(c); 10.3.1(12); 4.31.9.

62. 47 U.S.C. §255 (1996). See chapters 15 and 16 for a discussion of these telecommunications access requirements which have their basis in universal design principles.

6

Relay Reality

Today, the doors of equal opportunity to all Americans with disabilities are open. Today we say no to fear, no to ignorance, and no to prejudice.

—Senator Tom Harkin

AN ADVERTISEMENT that commonly appeared in magazines of deaf and hard of hearing advocacy groups after passage of the ADA pictured an individual sitting at a TTY getting ready to order a pizza.¹ Although getting pizza delivery by phone had long become routine for most of the American public, it represented a whole new world of access by people who were deaf, especially for those who lived in states that were only beginning to offer relay services.

After the ADA's relay mandates went into effect, many deaf and hard of hearing consumers were overwhelmed by their newfound telephone freedoms. In "Confessions of a Relay Junkie," David Coco explained how he sometimes spent an entire day on the phone, taking only a lunch break, in an effort to make up for twenty years without telephone access.² Coco was not alone in discovering the freedoms and independence that relay services could bring. After the ADA passed, relay call volumes grew at an astounding rate. Unfortunately, much of this growth came before the FCC had an opportunity to issue its final relay guidelines. Congress had given the FCC one year to prepare relay standards, and had given telephone companies an additional two years after that to comply with those standards. As a result, many states were not yet prepared to meet either expanded call volumes or rising expectations for improved relay service quality.*

The ADA was explicit in directing the FCC to develop rules that would ensure telephone communication services for people with hearing loss and speech disabilities that were "functionally equivalent" to services offered to people who did not have these disabilities. Few consumer advocates, however, wanted to leave such a monumental task to a governmental agency that, until this point, had had little or no contact with the deaf and hard of hearing communities, and only minimal experience with disability access issues. To ensure that the FCC had the consumer input

Epigraph. Senator Tom Harkin, letter to the author, NCLD, July 26, 1990.

* As an example, by May 1990, Washington state's relay volume reached 30,000, up from an estimated 14,000 monthly calls in November 1989, when the service first began. The extraordinary demand resulted in a blockage rate (the percentage of times relay users confronted busy signals) to soar to 74 percent. Patty Hughes presentation, typescript of TDI Relay Subcommittee Conference Proceedings, Tempe, Ariz., April 4, 1990, 93.

it needed, TDI decided to host two national forums. The organization's goal was to help the FCC draft its regulations by drawing upon the collective expertise of relay pioneers around the country who had been successful in initiating nearly forty state relay programs.

The first of TDI's conferences, sponsored by AT&T, U.S. West, USTA, and Sprint, was held in April 1990 in Tempe, Arizona; the second was held in November 1990 on Capitol Hill in Washington, D.C. Each of the conferences offered rare opportunities for the telephone industry, public service commissions, the FCC, consumers, and relay administrators from around the United States to debate openly the merits of a variety of relay issues.³ The timing of the second conference was particularly fortunate, as the FCC had released its proposed relay mandates just days earlier.⁴

During the second conference, attendees considered and adopted a number of principles that would forever change the role of relay service from that of a charitable or social service to a utility service that would be fully integrated into the public switched telephone network.⁵ First and foremost, participants agreed that a nationwide relay system needed to be seamless. Whether there were fifty separate state systems or only a few regional relay programs, relay consumers needed to be able to make phone calls with the same ease enjoyed by conventional voice telephone users, regardless of where their calls originated.⁶ Moreover, as the human equivalents of the dial tone, relay operators needed to transmit the spoken side of the conversation at a speed as close as possible to speech, be trained to handle a variety of communication needs and call contexts, and apply appropriate tones and diction. Comprehensive training to ensure that operators had sufficient knowledge of ASL, deaf culture, relay procedure, and the ethics and willingness to handle virtually any type of call would also be critical to the program's success.

The conference participants also recognized that comprehensive education and outreach would be critical to ensure the widespread use and acceptance of relay services throughout America. They agreed that brochures, videotapes, magazine and newspaper articles, television and radio talk shows, open houses, conference workshops, and the distribution of "relay service business cards" would go a long way toward educating the general public about the availability and use of relay. And consumers and industry alike acknowledged the importance of involving deaf and hard of hearing consumers in the establishment, administration, and operation of relay services, for example, through a federal advisory committee. Consumers hoped that now that the ADA had become law, the FCC would reconsider its refusals to establish a permanent advisory body.

But while attendees to the TDI conference readily achieved consensus on these guiding principles, tackling issues concerning the day-to-day operations of relay services proved far more difficult. The quantity and breadth of issues that needed to be addressed seemed endless: How were operators to identify themselves to called parties? "Hello" was fastest, but was this enough for the uninitiated recipient of a relay call who might be confused by the long delays between speakers? Should relay operators inform callers of their gender? How fast should typing speeds be? If the TTY caller used ASL, to what extent should the operator change the text to standard English? Did operators need to convey the tone of a caller's voice or background noises? To what extent should operators be permitted to switch calls in the middle of

a conversation? What basic qualifications did operators need to be hired and what type of training did they need after accepting employment? How quickly should a relay center be required to answer a relay call? How were calls that reached answering machines to be handled? Often it seemed as if as soon as the group reached consensus on one issue, a new one would sprout.

Collaborative efforts between consumers and many industry members produced agreement on several of these issues, including relay operator qualifications and training, appropriate response times and blockage rates, matters of confidentiality, privacy and call content, emergency calls, relay gender choice, relay funding, outreach, and recorded messages. During the weeks following the Capitol Hill forum, I turned these recommendations into comments for submission to the FCC.⁷ Pam Ransom of the Chicago Hearing Society then painstakingly gathered the support of over seventy local and national organizations, and on January 15, 1991, our colossal group filed the joint document. During the weeks that followed, an additional ten organizations joined in a second round of comments to the FCC.⁸ In the midst of these advocacy efforts, USTA sponsored yet another conference for telephone companies to provide feedback on the consumer proposals.⁹ FCC officials who attended were startled by the extent to which consumers and industry already agreed on nearly all the issues. Shortly thereafter, the FCC hired Paul Taylor to help draft its relay rules.*

As many of us plodded through the policy issues, others worked on the technologies needed to bring about functionally equivalent relay services. One trial of several hundred people, conducted over the course of many months in 1990 by Jim Tobias, resulted in several new ways to automate relay functions. For a number of years, Tobias's role at Bellcore, the research arm of the regional bell telephone companies, had been to evaluate the accessibility implications of new telecommunications services and products designed for the general consumer market. This new Bellcore effort, called Telecommunications Network for the Deaf (TND), introduced the first system to truly integrate relay services into the telephone network in a manner that promised to reserve both resources and operator time. Among other things, TND introduced automated ways to route calls to the most appropriate relay operator, allowed for alternative billing methods, and served as the forerunner for caller profiles—a means by which relay users could pre-specify their preferred long-distance carrier, operator gender, billing method and other calling features.[†] Around the same time, telecommunications pioneers Lee Brody and Jim Steel of Phone TTY were also creating a new software application, Computer Assisted Relay System or CARS, that would enable state relay programs to process out-of-state calls, handle credit card and other toll calls, connect to ASCII terminals, and perform various other functions to achieve compliance with the ADA's new provisions.¹⁰

As required by the ADA, the FCC released its final rules on July 26, 1991, exactly one year after the act's passage.¹¹ Reaction in the consumer community was mixed.

* Over the coming year, Taylor would work side by side with FCC employees Linda Dubroof and Abe Lieb to secure rules that could fully meet the needs of deaf and hard of hearing consumers.

[†] In the future, caller profiles would be used to specify many other user preferences, including appropriate emergency numbers, frequently dialed numbers, and language preferences, including the extent to which ASL should be translated to English or whether text messages should be read at slower speeds. The TND trial was conducted in conjunction with the Chesapeake and Potomac Telephone Company of Virginia, Bell Atlantic, and TEDI.

The rules did offer some improvement over the FCC's original relay proposals released back in November. The FCC was now expanding its requirements for relay operator training, improving safeguards for confidentiality and consumer complaints, and mandating voice carryover (VCO) and hearing carryover (HCO)—new forms of relay services that enabled callers with residual hearing or voices to use those abilities during a relay call. With VCO, a person with hearing loss uses his own voice to talk directly to the called party and only uses the relay operator to type back messages; with HCO, a hearing individual with a speech disability uses the relay operator to speak what she types, but listens directly to the other party.

However, the FCC rejected other suggestions that relay advocates had proposed. For example, consumers had urged the FCC to mandate a specified typing speed for relay operators, believing the transmission speed of conversations to be key to effective communication. But the FCC feared that entry-level qualifications that were too restrictive could inhibit the availability of relay services given wide variations in labor pools across the nation. Rather than mandate “a low threshold of expectations,” the agency did not assign a typing speed, noting that it expected relay providers to “deliver the excellent level of service all telephone consumers demand.”¹² The Commission only agreed to monitor relay quality and impose additional typing standards if needed in the future.

Consumer requests for a relay call discount were similarly rejected. Since the late 1970s, TTY users had been fairly successful in convincing telephone companies and state governments to offer toll discounts to make up for the extra time needed to complete TTY calls. Advocates feared that the toll charges associated with relay calls, which took even longer than point-to-point TTY calls, would make employers reluctant to allow their deaf employees to use these services. Although various parties had offered the FCC ways to calculate a discount, the Commission now claimed that it was unable to come up with an appropriate way to determine reduced relay charges.* Instead, the FCC merely encouraged providers to voluntarily offer these discounts as a competitive feature. Also denied were consumer proposals for mandated access to audiotext or interactive voice services (including access to 900 numbers), designation of a single 800 number for access to relay services nationwide, and once again, a federal advisory committee. And, yet again, the FCC again only encouraged, but did not require, relay providers to secure ongoing consumer input through consumer advisory boards.¹³

Relay Confidentiality

The FCC's relay order did focus considerable attention on the need to keep relay calls confidential. At the time that the FCC drafted these rules, state programs varied widely in their confidentiality policies. Some states, including Tennessee and Texas, were so strict about maintaining relay call privacy that they made any disclosure of a relayed conversation subject to a criminal penalty. In sharp contrast, other states

* Methods proposed had included comparing the speed of the transcription with the prevailing speed of voice communications, applying AT&T's discount criteria, and using relay samples to determine a discount factor.

had affirmative disclosure laws that required all residents with knowledge about child, spousal, or elder abuse to alert the police, even when such information was acquired during a relay call. Other states continued to grapple with the extent to which relay providers should handle obscene, harassing or illegal calls.¹⁴

A few years prior to the FCC's relay proceeding, attendees at Gallaudet's Speech to Text Conference had explored the matter of relay confidentiality. Then, Phyllis Shapiro of the California Relay Service pointed out that a common phrase used for curing marijuana was to "cut the grass." She asked what would happen if each relay operator was forced to figure out the true meaning of this phrase while relaying calls. Although advocates agreed that it was not easy for a relay operator to ignore certain call content—especially when it contained profanity, obscenity, or violence—empowering relay operators to make judgments about the conversations they facilitated entered dangerous territory. What one operator considered light hearted humor, another might find extremely offensive. Never knowing whether their calls would pass muster, consumers would become hesitant to use the relay system, frustrating Congress's goal of achieving equal telephone access. Only a policy of absolute confidentiality would suffice: If hearing individuals could enjoy their private conversations without fear of being reported to law enforcement, relay users similarly had a right not to have their conversations subject to ongoing scrutiny.

The FCC agreed with this approach, and in its final rules concluded that relay operators were intended to act as "transparent conduits relaying conversations without censorship or monitoring functions."¹⁵ Affirmative disclosure statutes took a backseat to the ADA's confidentiality protections. In order to achieve functional equivalency, relay providers could not divulge the content of *any* conversation, regardless of state statutes to the contrary.¹⁶

The FCC did, however, carve out one exception. Prior to enactment of the ADA, Section 705(a) of the Communications Act already permitted telephone personnel who assisted in interstate or foreign telephone communications to disclose these communications in response to a court-issued subpoena or upon demand of a lawful authority. Because Congress never indicated an intent to repeal Section 705 when it enacted the ADA, the FCC concluded that this section might still be used to require the disclosure of illicit *interstate* and *foreign* relay conversations. However, the FCC made clear that this law—unlike the general state affirmative disclosure statutes—would apply only to authorized requests by government officials in connection with "specific incidents of possible law violations."¹⁷ The Commission concluded that these events were likely to be extremely rare.

What's in a Name?

As the FCC went about its implementation of the relay mandates, the nomenclature associated with relay services took on a significance all its own. The goal was to establish wording that was consistent across the states to minimize confusion among relay users. Prior references to "dual party" or "message" relay services were discarded and replaced with "telecommunications relay services" or "TRS," a term that more aptly captured the real-time and mainstreamed nature of these services. And so as not to confuse telephone operators who handled traditional telephone matters with

those who handled relay calls, “communications assistant” was adopted to refer to the latter.

But while changes in these terms were made without much fanfare, the attempt to modify the terminology used to describe teletypewriters was full of twists and turns. Although these machines were called “TTYs” when they were first redesigned for the deaf community’s use back in the 1960s, the more portable, electronic devices that had proliferated in the 1980s had become known as “TDDs,” or “telecommunications devices for the deaf.” But even this term came under scrutiny in the 1990s when consumers decided that the word “deaf” in the “TDD” label failed to take into account hard of hearing, speech disabled, and hearing persons who routinely used these devices.

In an effort to be more inclusive, both the FCC and the Department of Justice began using the term “text telephone” to replace TDD. While this term was neutral enough, it too, carried some inconvenient baggage. When abbreviated and signed, the double “t” wiggled back and forth looked strikingly similar to the ASL sign for “toilet.” During the winter and spring of 1992, it became increasingly clear that a more appropriate acronym was needed. TDI responded with a national poll that offered participants various choices: TTY, TDD, TT, or TTP, the latter for Text TelePhone.¹⁸ Along the way, the public volunteered other terms, including text telephone yoke, and even TPT for “that phone thingy.”¹⁹ In the end, “TTY” was selected by overwhelming margins, in large part because of the historic contribution that that original TTYs had come to play in expanding telecommunications access and its long term acceptance as a household phrase in the deaf community.²⁰

Annoyance Grows as Interstate Calls Are Put on Hold

Although the ADA had left decisions about the funding of intrastate relay services to the states themselves, decisions about how relay calls *between* the states would be funded were given to the FCC. The legislation provided little direction in this area, other than to generally require the costs of these services to be recovered from all interstate subscribers.²¹ In its haste to release rules on the technical and operational aspects of relay services in July 1991, the FCC had not had time to decide whether long-distance companies should provide these services on their own and then recover their costs through customer charges, or whether they should contribute proportionally to a shared fund that could then be used to compensate relay providers for their services.

After witnessing inadequate relay funding at the state level for so many years, consumers preferred the shared funding alternative. They wanted a funding method that could both handle fluctuations in relay volume and motivate providers to offer high quality relay services. Many advocates feared that if providers were forced to individually fund their own relay services, they might try to keep costs down by providing poor service that drove away customers. A shared fund, on the other hand, would create strong incentives for carriers to offer innovative and high quality relay services that could attract relay users. It would also level the playing field for smaller relay providers and spread the financial liability for relay services across all subscribers of every interstate service. Shared funding mechanisms were not new; they had been successfully

used to fund Lifeline and Link-up assistance programs designed to provide telephone service for individuals with low incomes. In fact, the very same program administrator being proposed for relay services—the National Exchange Carriers Administration (NECA)—was already collecting and disbursing funds under those programs.

Although many telephone companies supported shared relay funding, AT&T, the company that still had the greatest number of individual long-distance subscribers, initially opposed this method, fearful that it would force AT&T to make the largest contribution to the fund. But AT&T was not completely sure about what it did want, and as a consequence, spent the next year and a half flip-flopping on this issue during a string of FCC and consumer presentations. Not sure itself which way to turn, the FCC engaged in its own endless series of deliberations and analyses, causing this matter to seemingly drag on indefinitely.²²

Although the ADA's relay mandates were not set to take full effect until July 1993, the passionate demand for relay services had caused most states to move ahead long before this deadline. But while many of the states were willing to provide relay services for their own residents during these early years, they remained reluctant to finance services on the interstate level until the FCC gave its final word on interstate funding. As a consequence, by 1991, only half of the forty states that had implemented relay systems were willing to offer interstate service for both incoming and outgoing calls.

When the FCC still had not resolved the funding issue by spring 1992, consumers began to grow impatient.²³ Full compliance with the ADA's functional equivalence mandate could not be achieved until consumers had access to interstate calls. In an effort to bring the issue to closure, two consumer-industry forums were held, one on May 7, 1992, with long-distance companies, and one on May 14 with the regional bells. When another half a year went by without an interstate funding ruling, impatience turned to anger. An article in *Communications Daily*, reported that "millions of deaf or hearing-impaired people in some 26 states can't make interstate telephone calls using Telecommunications Relay Service (TRS) because state regulators are waiting for the FCC to set pricing rules for interstate calls."²⁴

It was not until February 25, 1993, that the FCC finally decided on a shared funding plan for interstate relay services, and not until July of that year that the Commission finalized the details of that plan.²⁵ The FCC's rules would require all carriers of interstate services, including cellular, paging, personal communications service, packet-switched, 800, 900, private line, telex, satellite, international and resale services, to contribute to the interstate fund.²⁶ Relay users were glad to see the FCC include cellular carriers within this group, in spite of Southwestern Bell's arguments that people with hearing disabilities were unlikely to use mobile telephone services.²⁷

Consumers were also pleased with the FCC's decision to prohibit interstate telephone companies from identifying relay surcharges on consumer bills, a ruling that was somewhat startling given the aggravating legislative fights over this issue in Congress. The FCC's rules now directed companies to recover their relay contributions as part of their general interstate service costs. Even though individual states could go on using surcharges for local relay services, consumers had finally prevailed in their federal battles to prevent relay services from being treated as "special" services on long-distance telephone bills.

As the fund administrator, NECA was directed to collect contributions from inter-

state telephone companies and to distribute payments to interstate relay providers for the services they provided. Relay providers eligible to receive reimbursement were those that either operated under a contract with a certified state relay program or an interstate common carrier, or those that were themselves interstate common carriers offering TRS.²⁸ Under the FCC's direction, NECA established an advisory committee composed of relay users, providers, interstate telephone companies, and state representatives to assist in monitoring interstate cost recovery issues.²⁹

Relay Calls and Payphones: A Match Not Meant to Be

The FCC's 1991 relay rules required relay providers to be capable of handling any type of call typically provided by common carriers, unless doing so was not technically feasible.³⁰ Well prior to the July 1993 deadline for the rules' implementation, NYNEX and approximately eighteen other telephone companies challenged this requirement as it pertained to relay calls made with coins from payphones.³¹ The companies argued that the system used to process and rate these "coin sent-paid calls," the Automated Coin Telephone System (ACTS), was simply not compatible with relay services.

Calls made from coin telephones must be routed through a network, called the Traffic Operator Position System (TOPS), which is only equipped to determine the rate for the first leg of any call. After this rate is determined and coins are deposited, the connection to TOPS terminates. Because there are two legs to a relay call, the first from the caller to the relay center and the second from the relay center to the called party, TOPS is unable to rate a relay payphone call all the way from the payphone where it originates, to the party being called. In addition, even if TOPS were able to rate both legs of the call, relay operators do not have the capability to collect or return coins to payphone users. These shortcomings brought the TOPS system into conflict with the ADA, which specifically prohibited relay users from being charged any more for their calls than they would have been charged if they had made those calls directly.

When the industry pointed out these technical limitations in requests to have coin sent-paid calls exempt from the new TRS rules, the FCC expressed concern about discriminating against people with disabilities who did not have available to them other means of using payphones. In February 1993, the FCC rejected the requested exemption, noting that telephone companies had not met their burden of proving that this relay service feature was not feasible: "Merely stating an incompatibility between TRS and ACTS without any analysis of alternative solutions does not meet the heavy burden carriers have to prove infeasibility of providing a service readily available to voice telephone users."³² In particular, the FCC was concerned that granting a waiver "without persuasive evidence of infeasibility would certainly impair and discourage the development of improved technology."

As the July 1993 deadline for full implementation of the ADA's relay service mandate approached, telephone companies again notified the FCC of their inability to provide coin sent-paid service. Around this same time, states too, began to raise concerns about the infeasibility of handling these calls. With little alternative, the FCC finally agreed to suspend enforcement of the rule for two years with an instruction to industry to make concerted efforts to find a technological solution to the coin sent-paid dilemma.³³

In response to the FCC's directive, the telephone industry put together a technical team, the Industry TRS Coin Sent-Paid Project, which spent several months testing new protocols to alleviate the coin sent-paid problem.³⁴ But when this team convened with consumers in September of 1994 to present its results, the news was not good. Although researchers had succeeded in designing a proposed "Coin Signaling Interface" for relay centers and payphones to interact with one another, the costs of developing and deploying this system were estimated to be in the hundreds of millions of dollars.³⁵ Added to this was the \$100–200 cost to process each call, and a twenty- to thirty-second delay each time someone used the system. To make matters worse, the proposed system could not accommodate relay calls made in the ASCII format and would require all relay calls made through payphones to be accessed via a separate relay number.*

Industry and consumers alike agreed that the disadvantages of the proposed technical solution far outweighed its benefits. The TRS Industry Team went back to the drawing board, and after considerable collaboration with consumers, emerged with an alternative plan.³⁶ Under this plan, telephone companies promised to allow relay users to make local calls from payphones free of charge, and long-distance calls from payphones with either calling or prepaid (debit) cards at rates that were equivalent to or less than coin rates.[†] Telephone companies would also educate relay users about these alternative payment methods and obtain ongoing consumer feedback about the effectiveness of the plan's various provisions. At the same time, carriers made a commitment to continue exploring new technical developments to find a coin sent-paid solution.

This plan went into immediate effect and lasted the full two-year period of the suspension. But when the two years were up in 1995, industry maintained, and the FCC agreed, that coin sent-paid relay calls were still not technically feasible. So the suspension, along with the alternative plan, remained in place for another two years.³⁷ During this period, carriers agreed to step up efforts to educate consumers and to report back to the FCC on the plan's effectiveness.

Over the next two years, although industry developed billing inserts, press releases, informational letters, and articles for consumer publications, consumers remained dissatisfied with what they viewed as superficial efforts to fulfill the consumer education mandate. Specifically, consumers felt that the companies' educational efforts had been more akin to advertisements for their services, than attempts to truly educate users on payphone use.³⁸ Consumers also were not ready to let industry give up on finding a technical solution and continued to oppose permanent adoption of this plan.

On August 21, 1997, after endless meetings with consumers and industry on the subject, the FCC's Common Carrier Bureau again suspended the coin sent-paid requirement for another year.³⁹ In response to the consumers' concerns about the failure of telephone companies to engage in adequate outreach, the FCC specifically directed

* This occurred at a time when advocates were pushing the FCC to adopt a single nationwide access number for relay services. See chapter 7 for an in-depth discussion of the efforts to secure 711 relay access.

[†] Each carrier could decide whether to offer the coin sent-paid rates for *either* calling or prepaid cards or for *both* types of cards.

telephone companies to prepare a consumer education letter for all relay centers, to better educate consumers at regional and national conferences through presentations and demonstrations, and to work with disability organizations on an instructional laminated card and other informational materials.

Over the next several years, the FCC granted three additional suspensions.⁴⁰ When the industry team filed an activity report with the FCC on December 1, 1998, it reported having attended hundreds of regional and local consumer meetings, having produced a video tape with step-by-step procedures for making relay calls from payphones, and having distributed letters, laminated pictorial cards, and various other materials.⁴¹ But throughout the winter and spring, the Consumer Action Network (CAN), a coalition of deaf and hard of hearing consumer organizations, continued to point to consumer surveys that demonstrated low consumer awareness of payphone rates and billing arrangements.* CAN joined other national advocacy groups in trying to convince the FCC that the telephone companies simply were not doing their job to educate deaf and hard of hearing consumers. They insisted that an educational letter jointly prepared by consumers and industry had *not* been printed in organizational newsletters, that exhibits at conferences on payphone relay calling did *not* include prominent displays, that wallet-sized cards were *not* conspicuously displayed as promised by industry, and that conference program books did *not* list information about coin sent-paid workshops.

As consumers and industry warred over the sincerity of the industry's outreach efforts, major changes were taking place in America. Although Americans had used coins to make a full 17 percent of their payphone calls in 1996, this figure now hovered around a mere 4 percent. The dramatic increase in prepaid and credit card billing, as well as expanded reliance on wireless phones, were all but replacing the use of coins for toll calls at public payphones. As a result, many in the telephone industry began questioning whether the FCC needed to even bother continuing to address the coin sent-paid relay issue.

Five more years passed without a resolution, during which time the FCC issued several additional temporary suspensions of the coin sent-paid requirement. During this period, the steep decline in payphone use began causing some telephone companies to abandon the payphone business entirely.⁴² Although payphones still served a purpose where wireless phones were either unavailable or not permitted, revenues from these public telephones had been falling as much as 10 to 14 percent each year since late 1998. It was against this backdrop that on September 27, 2002, the FCC finally eliminated entirely the requirement for relay providers to handle coin sent-paid relay calls.⁴³ Citing the general decline in payphone use and in particular, the scarcity with which coins were ever used to make long-distance payphone calls, the FCC concluded that after twelve years of trying, the industry had been unable to find a technically feasible solution that warranted keeping this mandate in place.

Although consumers understood the FCC's decision, they were very displeased with much of the FCC's order. While the FCC permanently adopted the Alternative Plan's directive to make local calls at payphones free for relay users, it abandoned

* At the time, Al Sonnenstrahl was CAN's director. Many years later, CAN changed its name to the Deaf and Hard of Hearing Consumer Advisory Network (DHHCAN).

prior directives to make long-distance charges incurred through prepaid and calling card billing equal to or less than coin rates. The FCC concluded that it could not require telephone companies to charge the lower of these billing methods because the FCC regulated neither the rates charged through calling or prepaid cards, nor the contractual relationship between telephone companies and payphone owners. In any event, the Commission reasoned, the calling card and prepaid card industry was so competitive that consumers would likely save money if they used these methods over coin rates.* To make matters worse, even though the FCC readily acknowledged the inadequacies of industry's prior outreach programs to increase consumer awareness about making relay calls from payphones, it declined to mandate any of the specific outreach methods to which both industry and consumers had previously agreed.⁴⁴

Believing that these very conservative decisions violated the ADA's mandates for functional equivalency, the NAD, TDI, CAN, and SHHH formally requested the FCC to reconsider these portions of its final rule. However, in June 2004, the Commission rejected this challenge, putting the final nail on the coffin of the coin sent-paid issue.⁴⁵

FCC Certification of State Relay Programs

Under the ADA, states may receive certification from the FCC to operate relay programs on behalf of the telephone companies in their jurisdiction so long as they meet the FCC's minimum relay standards and have in place procedures and remedies to enforce these requirements. When the ADA first became law, states sought out relay certification because it empowered them to continue operating their own programs in the manner they saw fit. Certified states were also given the opportunity to resolve in-state relay complaints before the FCC could get their hands on them.

But while national deaf leaders supported a grant of considerable discretion to the states, they also saw the need to monitor carefully state relay decisions that would shape their telecommunications future.⁴⁶ And so, when all fifty states plus the District of Columbia and Puerto Rico applied for FCC certification between the fall of 1992 and the spring of 1993, many consumers were leery about having the FCC summarily approve these requests without first having consumers conduct their own, presumably more thorough, review. In response to this concern, Pam Ransom, Heidi Norton (an NCLD attorney), and I took on the daunting task of wading through the reams of submissions.⁴⁷ With self-designed checklists, we scrutinized each application and made our own assessments of how well each state proposed to comply with the FCC's technical, operational and functional guidelines.

Shortly into our investigation, we discovered that far too many of the states were noncompliant in one or more areas. Some lacked adequate means for filing or resolving complaints, while others disallowed the opportunity for consumers to choose their own long-distance telephone companies. Still others used billing surcharge labels that

* Not all commissioners agreed with this portion of the FCC's ruling. Commissioner Copps raised concerns about whether this satisfied the Commission's obligation under the ADA to ensure that relay users "pay rates no greater than the rates paid for functionally equivalent voice communication services" (referring to 47 U.S.C. §225(d)(1)(D)). In particular, operator and other surcharges imposed through these alternative billing methods might cause the rates for these alternative billing methods to exceed coin rates.

Chart 6.1**First Telecommunications Relay Services Order****July 26, 1991****47 C.F.R. §64.601 *et. seq.***

- Relay services to operate 24 hours a day, 7 days a week without limits on call length, type, or content
 - Relay operators to have competent skills in typing, grammar, spelling, interpretation of typewritten ASL, familiarity with hearing and speech disability cultures, languages and etiquette
 - Relay providers to accept single or sequential calls
 - Relay operators to not disclose call content, nor keep copies of any relayed conversation
 - Relay operators to relay all conversations verbatim
 - Relay services to accept either ASCII or Baudot formats
 - 85% of all relay calls to be answered within 10 seconds
 - Relay users to be given choice of long distance telephone company
 - Relay users to pay rates no greater than rates for functionally equivalent voice communication with respect to duration of call, time of day and distance from point of origination to termination
-

inappropriately targeted only the deaf community.⁴⁸ Violations of the FCC's strict prohibitions against the disclosure of relayed information for law enforcement purposes were also common, as was the failure to provide adequate training for communications assistants. We meticulously recorded these and other deficiencies, and passed along our findings to the FCC.⁴⁹

The FCC took our concerns very seriously, and required nearly all states to supplement their initial applications before granting them certification. By July of 1993, all but one of the states—Oklahoma—had received FCC certification to operate their own relay programs for a period of five years.⁵⁰ A feud between the Oklahoma state government and its telephone companies over who was ultimately responsible for providing the state's relay services, coupled with the lack of state legislation determining how these services would be funded, had caused the state to withdraw its initial application for certification.⁵¹ During the summer of 1993, the FCC sent out a formal letter of investigation to Oklahoma's telephone companies, threatening to penalize them with substantial fines if they did not initiate statewide relay services. In response, Oklahoma's telephone companies, acting through the Oklahoma Telephone Association, quickly chose a relay provider on their own without the intervention of

their state's regulatory commission, making Oklahoma the only state not to receive certification during that first year.*

State Certification Put to the Test: The Arkansas Challenge

Under the FCC's rules, a state could become decertified if at any point it ceased meeting the FCC's minimum relay standards. It did not take long for the state of Arkansas to put this rule to the test.

On January 25, 1992, the Arkansas PSC temporarily approved the use of optional calling plans for all of its state's telephone subscribers.⁵² Under these plans, an Arkansas resident could pay a set monthly fee for unlimited calling to a designated calling area within the state, so long as those calls were dialed directly. On June 26, 1992, MCI, Arkansas's chosen relay provider, submitted to the Arkansas PSC its proposed plan for implementing relay services in Arkansas. The PSC's staff noticed immediately that the plan had two flaws: First, it proposed to deny relay users the benefits of optional calling plans, and second, it proposed to charge relay users for all local directory assistance, even though residents who did not use relay services received at least two free directory assistance calls per month from their local telephone companies. The staff recommended rejecting both of these restrictions, believing them to violate the ADA's mandates not to charge relay users fees above those charged to general telephone subscribers.⁵³

Ignoring the staff's recommendations, the full Arkansas commission approved the MCI relay plan during the summer of 1992.⁵⁴ The PSC explained that because optional calling plans were still experimental and could be modified or even eliminated, it would not be appropriate to order this service to be provided through the state's relay program. As for the directory assistance restriction, the PSC noted that AT&T already offered this as a free service to TTY users, and so there was no reason to order MCI to offer the same for relay users.

On October 1, 1992, Arkansas submitted its application for relay certification to the FCC.⁵⁵ The request did not mention the state's failure to offer optional service plans or free directory assistance calling to the state's relay users. On December 30, 1992, the Arkansas commission approved its optional calling plans as a *permanent* service for the state's telephone subscribers.⁵⁶ On July 8, 1993, the FCC, unaware of the billing restrictions imposed on Arkansas's relay users, granted relay certification to the state of Arkansas.

While the above proceedings were taking place, Beverly Esau, a hearing woman living in Arkansas who had purchased an optional service plan, began to notice that her local telephone company, GTE Southwest, was billing her twice every time she used the Arkansas Relay Service to call deaf colleagues in the calling areas covered by her plan. Although Esau paid a flat monthly fee of \$16.20 for unlimited calling to those Arkansas regions, she was billed a second time for each call placed through the Arkansas relay program.

* Sometime later, Oklahoma eventually acquired certification to operate its own relay program on behalf of its telephone companies.

On July 19, 1993, Esau filed a complaint with the Arkansas PSC against GTE Southwest and MCI for its double billing practices.⁵⁷ Around this same time, she also contacted the NCLD. During the next six months, I counseled Esau as her case made its way through the Arkansas commission. Both Esau and I thought the case was resolved when she, GTE, MCI, and the Arkansas Telephone Association reached an agreement that would have eliminated long-distance charges for all relay calls to locations covered by the state's calling plans. Although the agreement (reached at the end of January 1994) would require customers who wanted their charges dropped to first contact an MCI representative, ultimately it would put relay consumers on an equal playing field with their hearing friends and neighbors.⁵⁸

Having achieved the consensus of virtually every party involved, Esau and I were shocked when, only two weeks after the proposed settlement was tentatively approved by the Arkansas PSC staff, the Arkansas PSC administrative law judge presiding over Esau's case rejected the agreement: "There is no evidence that there will be any benefit to the general body of ratepayers from subsidizing the toll charges of Ms. Esau and a few others," he opined.⁵⁹ If toll charges could be applied when calls were not dialed directly—such as in the case of operator-assisted or credit card calls—he surmised, similar charges could apply when calls passed through the relay system. He added that because optional calling plans had not been included in the original relay contract terms accepted by MCI, adding this service now would unfairly impose upon the company huge expenses associated with tracking the participation of local customers who used these plans.

Relay advocates knew that in equating relay services with operator-assisted calls instead of directly-dialed voice telephone services, the Arkansas judge had misread the ADA. It was true that Arkansas's optional calling plans only applied to station-to-station calls completed without the assistance of an operator. But relay users did not have the luxury of dialing *any* telephone calls directly. Assessing extra costs on relay users for services not charged for direct dial calls violated the very essence of the ADA.

By now, virtually every opportunity had been afforded the Arkansas PSC to reverse its original decision. As there was no where else to turn, we decided to put the FCC's *de*-certification process to its very first test. On April 29, 1994, NCLD formally petitioned the FCC to either direct the Arkansas commission to cease and desist from engaging in its unlawful relay practices or to decertify the Arkansas relay program. No sooner had we filed the petition than it began to stir up nationwide controversy. Relay service providers, telephone companies, and consumers alike understood that the outcome of our case would have far-ranging consequences for both the reach of the ADA's functionally equivalent mandate and the scope of the FCC's authority to enforce its relay standards within the states.

Opposition to our petition was swift and vigorous. Virtually every telecommunications sector in Arkansas—MCI, the twenty-five companies of the Arkansas Telephone Association, the Arkansas's relay service provider, the Arkansas PSC, and GTE—attacked our claims. When MCI argued that the FCC had no place even meddling in Arkansas's state affairs, we countered that Congress could not have expected decertification to take place only upon a state's own initiative; this would have virtually stripped the FCC of all oversight of state relay programs, except where states

acknowledged their own infractions of the ADA! Certainly this could not have been the intended result when Congress gave the FCC jurisdiction over both intra- and interstate relay services.

Other opponents attempted to convince the FCC that granting the petitioner's request to rate relay calls under the state's many optional calling plans would be overly burdensome. We were able to dispute these allegations by pointing to the many other states that already offered relay parity for these types of plans. AT&T, for example, provided equal relay access to optional calling plans in all fifteen of the states where it offered relay services, in addition to Puerto Rico, the Virgin Islands, and the District of Columbia. "The Commission therefore should not uncritically accept the representation that it would be unduly expensive to implement OCP [optional calling plan] billing of TRS calls," wrote Elaine Hatcher of AT&T.⁶⁰ Hatcher also debunked the myth that all of AT&T's directory assistance calls were free. These calls, she pointed out, were actually subject to the same charges that applied to other AT&T tariffed services.

On June 5, 1995, nearly two years after Esau had first filed her complaint with the Arkansas PSC, she finally prevailed. In a scathing decision, the FCC found that Arkansas's relay program had clearly violated the ADA's prohibition against charging relay service customers more than they would be charged for equivalent voice services.⁶¹ The Commission went on to point out that Arkansas' failure to mention its optional calling plan and directory assistance practices in its October 1992 TRS certification application meant that the FCC had never truly approved these policies.

Providing equal relay access to optional plans, the FCC concluded, would not create the burden alleged by Arkansas' telephone companies. Not only did AT&T already provide this feature throughout its states, in fact no other relay provider had come forward to complain about making these plans available when the FCC asked the public for comment on the Arkansas de-certification petition. The FCC also ruled that Arkansas companies should provide relay users with the same access to two free directory assistance calls that they provided to other Arkansas residents.

The FCC gave Arkansas ninety days to come into full compliance with its rules or else risk revocation of its relay certification. On September 6, 1995, Arkansas' relay administrator responded with a report on revisions in the state's practices to conform with the FCC's mandates. The victory was far reaching. Not only did it help state relay programs to better understand what was meant by functional equivalency, it firmly established the FCC's authority to regulate and enforce intrastate relay programs, laying the groundwork for future nationwide compliance with the FCC's minimum standards.

Relay Services Get a Turn-of-the-Century Face-Lift

The ADA's definition of relay services was intentionally designed to be flexible, so that it could embrace new technological innovations as these developed over time.* The

* The definition reads: "telephone transmission services that provide the ability for an individual who has a hearing impairment or speech impairment to engage in communication by wire or radio with a hearing individual in a manner that is functionally equivalent to the ability of an individual who does not have a hearing impairment or speech impairment." 47 U.S.C. §225(a)(3).

act's 1990 description of TRS focused on text-based relay that facilitated communication by a person who used "a TDD and other non-voice terminal device," because this was the *only* relay technology available at that time, not because these devices *needed* to be used in making a relay call. Rather, aware that new relay technologies might one day become a reality, Congress directed the FCC to issue regulations that encouraged "the use of existing technology and [did] not discourage or impair the development of improved technology."⁶² The Senate committee clarified this congressional goal in its ADA report:

Current technology allows for communications between a TDD user and a voice telephone user by employing a type of relay system. . . . Although the Committee notes that relay systems represent the current state-of-the-art, this legislation is not intended to discourage innovation regarding telecommunications services to individuals with hearing and speech impairments. The hearing- and speech-impaired communities should be allowed to benefit from advancing technology. As such, the provisions of this section do not seek to entrench current technology but rather to allow for new, more advanced, and more efficient technology.⁶³

These legislative passages were the product of long and well thought-out discussions among consumers, industry and federal legislators, all of whom wanted to make sure that the FCC would take advantage of new technologies that could prove far superior to text-based services.

By 1997, consumers were spending as many as 193 million minutes annually on relay calls. Four years had passed since the FCC's rules had gone into full effect, but as many as ten years had passed since relay systems had first been established in many of the states. Although access to basic telephone service had been brand new for people with severe hearing loss when the ADA was enacted, by now many of these individuals had made the telephone an integral part of their lives. The initial thrill of using these services had long worn off, and was now being replaced with new demands for telephone features that exploited innovative and exciting technological advances.

Shortly after the ADA was enacted, Ed Bosson, a deaf telecommunications pioneer and the administrator of Texas Relay, began thinking about ways that relay services could allow individuals who used ASL to communicate in their preferred language over the telephone. A few years after that, Bosson approached Mark Seeger of Sprint, Texas's relay provider, to see whether his idea was technically feasible. After circulating the idea within his company, Seeger came back with good news. Not only could this be achieved, but Sprint would be willing to provide this service so long as the Texas PUC would pick up the bill. Bosson eagerly brought his idea to the Texas PUC, but was promptly rejected by officials who questioned whether video-based services belonged in their relay program.

Not one to give up easily, Bosson pursued efforts to convince his supervisor that the ability to use sign language over the phone for deaf people was the equivalent of using one's voice for hearing people. Finally, his boss agreed that if Bosson could get a lawyer to confirm that the provision of a "Texas Video Interpreting Service" was within the ADA's definition of relay services, she would reconsider her initial decision not to approve the service. Bosson rose to the challenge, and after weeks of searching, found a lawyer to convince the PUC to let him go ahead with trials to assess

the feasibility of providing Texas relay services using sign language. Instead of using communications assistants to read what a relay user typed, the trials would use interpreters, who would speak what an ASL user signed over remote video connections, and sign back all responses from the hearing party.

The very first video relay trials were held in Austin and were completed with the combined cooperation of Sprint, Southwestern Bell, and a company called Hanwave. Although the first trial conducted in January of 1995 only lasted a month, the second trial took place from September 3, 1996 through November 27, 1996, in ten locations, and allowed consumers to access remote interpreters through video conferencing equipment installed in schools for the deaf and other community locations. In the spring of 1997, Gil Becker, Maryland's relay administrator, worked with Sprint and Hanwave to launch yet a third trial, this time to serve Maryland's deaf and hard of hearing relay users. Other states began to follow suit, with North Carolina becoming the first state to officially approve video relay service (VRS) at a number of public stations in 1997, and Texas becoming the first state to purchase statewide services from Sprint and Communication Service for the Deaf (CSD) a year later.⁶⁴ Shortly thereafter, CSD also began experimental VRS programs in Washington, California, and Michigan.

Video relay services offered a vast improvement over text-based relay services for people who used sign language as their primary or preferred language. Although the cornerstone of the ADA's mandate for relay services was to provide services that were functionally equivalent to voice telephone services, text-to-speech relay services had always met with limited success for ASL users. Typing out an entire conversation in English was not natural when it was not the user's primary language. In addition, TTYs still required calling parties to wait through long pauses to receive each other's messages, resulting in delays that not only frustrated frequent relay users, but discouraged the use of relay altogether by many businesses and employers.

By vivid contrast, video relay services allowed deaf and hard of hearing people who used ASL to converse comfortably, using emotional context, voice inflection, and other non-verbal information that could not be conveyed through text. With these services, ASL and hearing individuals could have natural, real-time conversations with one another that mirrored the speed and style of voice-to-voice conversations. The ease of using VRS enabled deaf and hard of hearing people to use the telephone more effectively to conduct job searches, make appointments for interviews, arrange for references, and—once on the job—perform a number of job duties involving phone communications. In a country where the percentages of deaf individuals who are unemployed and underemployed far exceeds the norm for the general population, this alone was cause for consumers to want these services.

Yet the benefits of VRS did not stop at the workplace. For the first time in our nation's history, deaf children who were unable to type could call their friends and loved ones to share the events that defined their lives. For the first time, senior citizens whose hands were too arthritic to put words to text or whose cognitive abilities hindered their ability to type were able to break their chains of loneliness by calling their children or grandchildren for support and assistance. For the first time, many people with hearing loss could effectively access the menus of interactive telephone phone systems that increasingly dominated American businesses and government offices.

Around the same time that Texas was exploring video relay, Bob Segalman, a hearing man with cerebral palsy living in California, was also engaging in efforts to promote a new type of relay service. Segalman knew that there were thousands of Americans who, like him, had difficulty making their speech understood over the telephone, but whose limited manual dexterity prevented them from typing over traditional text-to-speech relay. Insisting that this population of consumers had an equal right to telephone communication, Segalman took it upon himself to lobby the state's legislators and public utility commission for a service that would use operators specially trained in understanding a wide variety of speech disabilities to relay telephone messages to and from other individuals. In the mid-1990s, Segalman was successful in convincing the California PUC to add this "speech-to-speech" (STS) service to its relay service line up, and for an eighteen-month period that began in June 1996, the PUC used Sprint to operate a trial of the new service.* Throughout this period, the PUC's repeated attempts to shut down STS kept Segalman busy in a letter-writing campaign to keep it going.

When the FCC caught wind of the exciting new benefits that could be realized through the provision of video relay and speech-to-speech relay services, it decided to explore ways to take TRS beyond its traditional characterization as a text-to-speech service. To this end, in January of 1997, the FCC released a new inquiry to gather general information on the feasibility, benefits, costs, and legal authority of offering these and other innovative features.⁶⁵

In response to the Commission's action, CAN decided to host a National Open TRS Forum on February 18–19, 1997. Reminiscent of the earlier relay forums hosted by TDI, the event facilitated the exchange of information among consumers, relay providers, administrators, and equipment vendors. So great was both consumer and industry interest in the issues raised in the Commission's inquiry, that in May of 1998, the agency decided to follow up with a more specific notice of proposed rulemaking.⁶⁶ With the feedback received on its two notices, the FCC released comprehensive revisions to its relay standards on March 6, 2000.⁶⁷

The FCC's new guidelines were truly designed to bring the nation's relay services into the twenty-first century. "Functional equivalence is, by nature, a continuing goal that requires periodic reassessment," the Commission explained, and the fact was that relay services around the nation needed substantial improvement and expansion to be in compliance with that goal.⁶⁸ After clarifying that references in the ADA to text-based relay services were "merely illustrative, and not exhaustive," the FCC went on to require both speech-to-speech relay services and interstate Spanish relay services, and to authorize the provision of video relay services.⁶⁹ Because there was no precise way to determine whether calls made through the Internet were interstate or intrastate calls, and because the FCC wanted to encourage the use of this improved technology, the FCC also agreed to allow all compensation for video relay calls to come from the Interstate TRS Fund.

In just a few short years, video relay services witnessed spectacular growth—exceeding 3 million monthly call minutes by the winter of 2006. But the earliest years

* There had also been a limited STS trial throughout November 1995, in which STS calls were processed on weekdays from 1:00 to 5:00 p.m. In late 1998, MCI took over California's STS, having won the state's bid to provide these services on a permanent basis.

of these services were fraught with turmoil. Early into the twenty-first century, very high NECA compensation rates of \$14 to \$17 per VRS minute attracted the FCC's careful scrutiny and resulted in a sudden and unprecedented decision by the FCC to slash this rate in half overnight, imperiling the future of this innovation.⁷⁰ In addition, long waiting times, erratic hours, questionable service quality, and restrictions on provider choice by some companies triggered a string of consumer complaints and visits to the FCC in 2004 and 2005. Exasperated with the FCC's slow response to these consumer concerns, deaf advocate Sheri Farinha (director of the NorCal Center on Deafness) arranged for the California Coalition of Agencies Serving the Deaf and Hard of Hearing (California Coalition) to petition the FCC for minimum VRS standards that would guarantee functionally equivalent service. She and other deaf leaders that included Claude Stout (now executive director of TDI), Kelby Brick (NAD), and Cheryl Heppner (DHHCAN) also established the National Video Relay Services Coalition (NVRSC). Through the group's efforts, more than 5,500 individuals joined an Internet petition in support of improved VRS standards.* Extraordinary pressure from these advocates eventually succeeded in getting the FCC to issue mandates requiring twenty-four hour VRS service and improved answer times in June 2005.⁷¹ The new mandates directed that 80 percent of all VRS calls be answered within three minutes by January 2006, within two-and-a-half minutes by July 2007, and within two minutes by January 2007—an improvement over some past practices that had kept some VRS callers waiting up to twenty minutes, but still nowhere near the speed of accessing a dial tone. In addition, the FCC ruled that VRS providers could begin receiving compensation for providing video mail (the video equivalent of voice mail) and handling video communications between ASL users and people who speak Spanish.[†]

The FCC's relay overhaul back in March 2000 also added more stringent complaint procedures, new standards for relay calls to be answered more rapidly, and mandates for improved emergency access. In addition, it was in this order that the FCC re-opened the matter of access to interactive telephone systems, notwithstanding unfortunate language that had been added at the eleventh hour to the ADA's House report exempting these systems from the TRS mandates. Citing the House colloquy prepared ten years earlier, the FCC concluded that the legislative language that originally limited interactive access “was only intended to preclude relay of audiotext services to the extent not then technologically possible.”⁷² More than a decade after the ADA's passage, the FCC finally adopted a number of measures to facilitate

* Some of the other individuals who participated in the NVRSC, such as Paul Singleton, Ed Bosson, and Patty Hughes, were the very same people who had been active in the early battles to secure nationwide relay services back in the late 1980s and early 1990s. Others, such as Lawrence Brick who had been active at the state level, now entered the national battles for telecommunications equality with a new vitality. Al Sonnenstrahl and I, now both affiliated with CSD, also joined these various efforts. As the deaf-run nonprofit organization that had started VRS, CSD believed it vital to meet these consumer needs, and wanted other VRS providers to do the same.

[†] One matter that relay advocates had raised that was not addressed by the FCC's June 2005 rulings was the interoperability of video relay services, i.e., the ability of VRS callers to use all VRS equipment to access any VRS provider. One VRS provider that gave out video equipment had been preventing recipients from using that equipment to make calls through other VRS providers, but despite overwhelming consumer support and near universal support by VRS providers to ban this practice, a year later, the FCC still had not released a decision on this issue.

access to voice menu systems through TRS, including a new requirement for relay operators to use hot keys alerting callers they had reached an interactive system, a directive for providers to record interactive messages for the duration of a relay call, and a mandate not to charge callers for successive calls needed to capture an entire interactive message.

Since the inception of relay services, a sizeable percentage of the public remained unaware about the use or function of relay services. As a consequence, individuals and businesses still routinely hung up on relay calls, believing these calls to be commercial solicitations. In addition, relay consumers commonly complained that banks, doctors, and even government agencies refused to accept relay calls, out of mistaken concerns for the need to maintain privacy.*

For many years, consumers had informed the FCC that the lack of federal mandates for comprehensive relay outreach was preventing relay services from achieving their full integration into American society. They wanted the FCC to develop a high quality, nationwide advertising campaign that could finally educate businesses, employers, and others about TRS programs. In its March 2000 order, the FCC acknowledged the general failure of its existing rules to expand public awareness of these services, but because it had not provided adequate public notice of its intent to require greater outreach when it first released its proposals in this proceeding, the Commission explained that it was powerless to make any final outreach changes at this time. Instead, the FCC released a formal request for public input on how to go about establishing a coordinated outreach campaign. Unfortunately, several years later, the FCC backed away from instituting any type of national program, even going to so far as to question its jurisdiction to institute this type of mandate.⁷³

Some individual states have picked up where the FCC left off, through the implementation of their own educational programs. For example, Maryland brought both call volumes and inquiries to an all time high through prime time TV commercials, a *Who Wants to Be a Relay Millionaire* game show, and *Relay Partners*, a business program specifically targeted to help businesses and their employees welcome new relay patrons.[†]

Internet Relay Services and Captioned Telephone Appear on the Scene

Over a half year after the FCC's first major order improving relay services, MCI WorldCom asked the FCC to authorize the provision and reimbursement of yet

* For example, in the 1990s, many people complained about the Social Security Administration's refusal to accept these calls. Even at the turn of the century, it was common to learn of doctors and other professional medical personnel hanging up on patients, out of misplaced concerns that they would disclose patient information to unknown sources. In 2004, the FCC released a public notice to make clear that medical personnel would not be in violation of new patient confidentiality rules when they discussed health-related matters over relay services. *Clarification of the Use of Telecommunications Relay Services (TRS) and the Health Insurance Portability and Accountability Act (HIPAA)*, Public Notice, DA 04-1716, 19 FCC Rcd 10677 (June 16, 2004). In 2005, the continued refusal of an investment house to accept orders through a relay service prompted Marc Charatz and Rosaline Crawford, NAD legal counsel, to bring the company to court. *Brunner v. Morgan Stanley* (filed in the U.S. District Court for the District of Connecticut).

[†] Maryland's outreach efforts were largely the product of innovative leadership by Gil Becker, Brenda Kelly-Frey, and Pamela Stewart. Virginia Relay has instituted similar programs under the directorship of Clayton Bowen.

another type of service that would dramatically change the TRS landscape.⁷⁴ The new service would allow callers to initiate relay calls from the Internet, through any computer or wireless device—such as personal digital assistants—that had Internet capabilities. In addition to providing TRS users with new mobility, unlike TTY conversations, Internet-based would relay allow both parties to send text at the same time, offering an experience more like conventional voice calls. Relay consumers could also make several calls over the Internet simultaneously, could conduct conference calls, and could browse websites during calls.

It took a little more than a year for the FCC to fully explore the ramifications of this new service, but on April 22, 2002, the Commission approved MCI's petition.⁷⁵ The Commission explained that Congress's general references to "telephone transmission services" in Title IV of the ADA were intended to encompass "all transmission using telephonic equipment or devices, whether over the public network, cable, satellite, or any other means, so long as the requisite functionality is provided." Because Internet relay was a new technology that facilitated two-way communication for deaf, hard of hearing, and speech disabled consumers, and because the Commission was charged with utilizing advanced technologies to improve telephone access by these populations, the FCC concluded that Internet relay fell within the scope of the relay services intended by the ADA. After the petition was granted, Internet relay services became wildly popular, so much so that many deaf and hard of hearing people, having grown accustomed to using the Internet for other purposes, began abandoning their TTYs altogether and relying solely on the Internet for their relay needs.*

In June of 2003, the FCC implemented yet additional changes to its relay mandates, this time paving the way for relay providers to offer caller ID and call blocking services and adding relay calls made between and among HCO, VCO, and TTY users to its already extensive line up of approved services.⁷⁶ In doing so, the FCC made clear that although until now Title IV of the ADA had been used to facilitate communication between people with hearing loss and hearing individuals, the provision of telephone communication between and among individuals with disabilities—even when a hearing person was not a party to the conversation—could also be considered relay services so long as a communications assistant was used to facilitate that exchange.

Another service approved in the 2003 order was two-line VCO, which enabled a hard of hearing person to use his voice to speak directly to another party over one line, and read responses typed back by the communications assistant over a second line. VCO had been the brainchild of Ultratec (a leading manufacturer of TTYs), whose president, an engineer named Rob Engelke, had sought a way to facilitate

* Unfortunately, a few years into its operation, Internet relay services would fall prey to use by fraudulent entities. In addition to teenage pranksters, the perpetrators were often hearing individuals from overseas who utilized these anonymous services to con unsuspecting businesses into sending them large quantities of products without payment. The resultant refusal by many sales establishments to accept even legitimate relay calls prompted great concern within the deaf community. Some companies went so far as to request that relay providers block all calls to their numbers, a practice which the FCC quickly prohibited. *Telecommunications Relay Service (TRS) Providers Must Make All Outbound Calls Requested by TRS Users and May Not "Block" Calls to Certain Numbers at the Request of Consumers*, FCC Public Notice DA 05-2477 (September 21, 2005). As this book goes to print, the FCC is exploring ways, including user registration, to curb these inappropriate calls.



Relay advances in the 1990s began when Ed Bosson (pictured left with former TDI board member Ken Rothschild) came up with the idea of using sign language interpreters to relay telephone conversations, creating video relay services. Ben Soukup (right), executive director of CSD, used his organization to develop these services across the United States.

telephone communication for people who could speak, but could not hear, in the 1980s. Back then, Engelke's preference had been to use voice recognition technology to achieve this goal, but the lack of modern digital technology made transmitting voice and text on the same line an enormously difficult task. Though single-line VCO was approved in the FCC's very first relay order in 1991, two-line VCO now offered a vast improvement. By eliminating the need for the caller to alternate between picking up and putting down the handset, this new service offered the opportunity to have a more naturally flowing call.

Still, senior citizens and others who lost their hearing later in life remained reluctant to use even these relay services. Having enjoyed a lifetime of making their own calls, these individuals were unaccustomed to having the intrusion of a third person, let alone the delays characteristic of text-based TRS. Fortunately, when voice recognition and digital technologies started to mature in the 1990s, Engelke had returned to his drawing board. Within a few years, he and his colleagues developed a "captioned telephone relay service" that allowed people with some residual hearing to simultaneously listen to and read captions of telephone conversations over a text-equipped telephone.⁷⁷ Unlike typical relay calls, which required callers to access a third party through a communications assistant, an individual with a captioned telephone could simply dial another person's telephone number directly. The call would automatically connect to both the person dialed and the communications assistant. After the caller spoke for himself, the communications assistant would re-voice all responses from the called party, while a voice recognition program automatically transcribed everything this operator said into text that would appear on the caller's captioned telephone text display. This would allow the caller with hearing loss to both hear what the called party was saying and read that party's responses. In this way, the caller would be



Ultratec President Rob Engelke developed captioned telephone relay services and worked with Pam Holmes and others at Ultratec to spread these throughout America.

able to enjoy a more private, interactive call that approximated real-time telephone communications.

From 2000 to 2002, private and state Capitol trials took place, with Wisconsin becoming the first state to formally offer the program to its residents. On August 1, 2003, the FCC agreed to authorize the new service, concluding that this was “just the type of advancement that the Commission contemplated when it called for innovation in TRS.”⁷⁸ Since then, captioned telephone service has become tremendously successful, reaching senior citizens and other segments of the American population who have difficulty hearing, but who were previously reluctant or unable to fully benefit from traditional relay services. In July 2005, the FCC approved two-line captioned telephone service as well, which allows an individual to make an outbound call on the primary telephone line directly to the called party and simultaneously connect to the captioned telephone relay service on the second telephone line.⁷⁹ The service then sends captions from the called party’s conversation back to the captioned telephone relay user over that second line. This method enables direct dialing to 911 services (permitting the automatic pass-through of number and location information), allows callers to use conventional telephone features, such as call waiting and call forwarding, and permits direct inbound dialing from hearing persons without their having to first dial a relay number.

By late 2005, an estimated thirty-three states had approved the provision of captioned telephone service for their residents. However, lack of participation by other states and funding limitations that severely limited participation in states that did have programs, caused consumers who were being denied this service for basic telephone and emergency communications to become disgruntled.* To rectify this situation, SHHH led a coalition of approximately thirty national organizations in a petition requesting the FCC to mandate captioned telephone and to approve an Internet version of this service.⁸⁰ In response, hundreds of consumers wrote to the FCC, submitting testimonials that urgently implored the Commission to make the service nationwide. The petition remains pending as this book goes to print.

* For example, only five individuals were added each month to the captioned telephone programs in Wisconsin, Vermont and South Carolina; Connecticut, Indiana and Nevada were three of the states that limited monthly entry to captioned telephone services to ten people.

A Start Rather than an End

Back in 1990, advocates urged the FCC to consider its first relay mandates a start, rather than an end, to implementation of the ADA's relay mandates. They believed that the ADA's intent to integrate people who were deaf, hard of hearing, and speech disabled into the mainstream of the telecommunications network could only be achieved if the FCC recognized the need to continually review ways to modernize the relay network. A decade and a half of relay implementation has proven this to be true. Since 1997, the FCC has had open proceedings in a never-ending journey to explore new and innovative ways to improve our nation's relay services, and the rapid pace of technological development suggests that the Commission is likely to continue to be barraged with a plethora of new relay issues for the foreseeable future. As relay services join mainstream telephone service in making the transition to the Internet, questions about who will fund and oversee these services will also have to be answered.* Similarly, regulators are already concerned with ensuring effective access to emergency services in an Internet-driven world that thrusts geographical distinctions into the back seat.⁸¹ One thing remains clear. The quest for ways to achieve the ADA's goals of functional equivalency is far from over. As our nation moves deeper into the twenty-first century, it is just beginning.

Notes

1. See, for example, Wisconsin TRS Advertisement: "Tonight, Robert Giuntoli Ordered a Pizza," *GA-SK* 24 (Summer 1993): 25.

2. David Coco, "Confessions of a Relay Junkie," *ALDA News* 6 (August/September 1992): 1.

3. Chaired by Claudia Foy, the Arizona conference hosted fifty-five individuals from twenty-three states, including, Paul Taylor (New York), Dan Pouliot (Montana), Madelaine Perkins (Utah), Tami Richardson-Nelson and Gene Hand (Nebraska), Francine Lauer and Roger D'Hondt (Michigan), Albert Burke (Alaska), Robert Yaeger and Herb Pickell (Minnesota), Bruce Sofinski and Joe Kolash (Virginia), Shelly Bergum, Dick Babb, Gerald "Bummy" Burstein, and Steve Schultz (California), Jack Cassell and Jennifer Kurt (Oregon), Patty Hughes and Ed Pothurst (Washington), Marsha Reynolds and Ralph Gurtin (Massachusetts), Stu Brackney and Mary Beth Meenan (Arizona), Lee Brody (New Jersey), Ed Bosson, Larry Evans and Elaine Powell (Texas), Don Bradford and Luke Walker (New Mexico), Bari Sanger (Colorado), David Rosenthal (Kansas), Wayne Bennett (Louisiana), Kathy Nash (Connecticut), and Willis Mann and Eleanor McClullum (Maryland). In addition, organizational and industry representatives included Al Sonnenstrahl (TDI), Bob Richardson (IPR), Alan Mock (USTA), Jay Ferrill (AT&T), and Peggy Fields (Sprint). Representatives from all of the major consumer organizations—the NAD, TDI, AG Bell, the Association of Late Deafened Adults (ALDA), the American Society for Deaf Children (ASDC), Black Deaf Advocates and AARP, as well as all seven of the regional bells, participated in the November Capitol Hill event, joined by interstate telephone companies, NARUC, the Access Board, DOJ, and Abe Lieb, Phil Chilick, and Jim Keegan from the FCC.

4. *Telecommunications Services for Hearing-Impaired and Speech Impaired Individuals, and the Americans with Disabilities Act of 1990*, Notice of Proposed Rulemaking, CC Dkt. 90-571, FCC 90-376, 5 FCC Rcd 7187, (November 16, 1990). The Capitol Hill conference was organized by a national committee that consisted of Pam Ransom of the Chicago Hearing Society, Dick Babb of

* Currently, only common carriers (telephone companies providing service over the public switched network) must fund relay services. As this book goes to print, Congress is already working on legislation that will expand this obligation to voice over Internet Protocol (VoIP) providers.

the Inland Service Center in Riverside, California, Jack Cassell of the Oregon Public Utilities Commission, Patty Hughes of the Department of Social and Health Services in Washington state, Judy Viera of Ultratec, and the author. See generally, “TDI Assists FCC [to] Develop Relay Regulations,” *GA-SK* 21 (Fall 1990): 9.

5. See generally, Ann Edwards, “Relay Standards Meeting: An Information Forum,” *GA-SK* 22 (Winter 1991): 10.

6. See, for example, Judy Viera, memorandum to the author, January 2, 1991.

7. A number of individuals provided invaluable feedback and assistance on these comments, including Al Sonnenstrahl, Judy Viera, Madelaine Perkins, Ken Kresse, Brenda Battat, Kathi Wolfe, Charles Estes, Bill Graham, Jack Cassell, Marian Petkovsek, Susan Coffman, and John Morgan.

8. The FCC also heard from as many as sixty other interested parties before the comment period was closed.

9. The USTA Conference was held on December 12, 1990, thanks in large part to Alan Mauk, a USTA official who took a deep interest in these issues. More information about the conference can be found at “Sonny’s TDIbytes,” *GA-SK* 22 (Winter 1991): 5.

10. The CARS software was quickly adopted by many states, including Texas, Kansas, Colorado, Mississippi, Massachusetts, North Carolina, and Missouri. See “Three Million Phone Calls a Month with Phone-TTY Modems,” *GA-SK* 24 (Summer 1993): 36.

11. *Telecommunications Services for Individuals with Hearing and Speech Disabilities, and the Americans with Disabilities Act of 1990*, Report and Order and Request for Comments, CC Dkt. 90-571, FCC 91-213, 6 FCC Rcd 4657 (July 26, 1991), 56 *Fed. Reg.* 36729 (August 1, 1991). Hereinafter cited as First TRS Report and Order 1991.

12. *Ibid.*, ¶9.

13. *Ibid.*, ¶41. In 1994, state relay administrators formed the National Association for State Relay Administrators (NASRA). Though not a consumer advisory body, NASRA has provided a national forum for comprehensive discussion of state relay issues on standards and policies.

14. See Comments of the Oregon Independent Telephone Association; Connecticut Department of Human Resources; and Arizona Council of the Hearing Impaired in CC Dkt. 90-571 (October 1991).

15. First TRS Report and Order 1991, ¶13; 47 U.S.C. §225 (d)(1)(F).

16. The FCC’s final rules on this point firmly state that relay operators are prohibited from disclosing the content of any relayed conversation, “even if to do so would be inconsistent with state or local law.” 47 C.F.R. §64.604(a)(2)(i). See also *Telecommunications Services for Individuals with Hearing and Speech Disabilities, and the Americans with Disabilities Act of 1990*, Order on Reconsideration, Second TRS Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. 90-571, 93-104, 8 FCC Rcd 1802 (February 25, 1993). Hereinafter cited as Second TRS Report and Order 1993.

17. First TRS Report and Order 1991, ¶14.

18. Al Sonnenstrahl, “TTY? TDD? TT? TTP? What’s In a Name?” *GA-SK* 23 (Spring 1992): 1, 6. “TDI Great TTY Debate Survey Form,” *GA-SK* 23 (Spring 1992): 7.

19. Al Sonnenstrahl, “It’s TTY By a Landslide!!!” *GA-SK* 23 (Summer 1992): 14 (“text telephone yoke” term proposed by Jim Fernandes); Kathryn Woodcock, “TPT—That Phone Thingy,” *GA-SK* 23 (Fall/Winter 1992): 22; See also Kevin McLeod, “The Great TTY Debate,” *GA-SK* 23 (Spring 1992): 6–7.

20. Al Sonnenstrahl, “TTY!” *GA-SK* 23 (Fall/Winter 1992): 15.

21. 47 U.S.C. §225(d)(3)(B).

22. These deliberations included various FCC meetings with consumers and the telephone industry, held on January 28, 1992, April 2, 1992, April 10, 1992, April 30, 1992, and November 23, 1992.

23. For example, on April 8, 1992, Elizabeth Noel, the D.C. people’s counsel, joined Hubert Anderson of the D.C. Association of Deaf Citizens, in a letter to the FCC urging the Commission to swiftly decide the interstate funding issue.

24. “Deaf Users Wait on States to Provide Interstate Phone Service,” *Communications Daily*, September 8, 1992.

25. Second TRS Report and Order 1993, ¶¶21–27; *Telecommunications Services, and the Americans with Disabilities Act of 1990*, Third Report and Order, CC Dkt. 90-571, 93-357, 8 FCC Rcd 5300 (July 20, 1993).

26. 47 C.F.R. §64.604(c)(5)(iii)(A).

27. Reply Comments of NCLD, TDI, and NAD in CC Dkt. 90-571(April 19, 1993).

28. 47 C.F.R. §604(c)(5)(iii)(F). In 2005, the FCC amended this rule to allow common carriers of Internet and video relay services (discussed later in this chapter) that do not offer other forms of relay to also become eligible for compensation from the Interstate TRS fund. *Telecommunications Relay Services and Speech-to Speech for Individuals with Hearing and Speech Disabilities*, Report and Order and Order on Reconsideration, CG 03-123, FCC 05-203 (December 12, 2005).

29. The author served on this advisory body, called the Interstate TRS Advisory Council, from 1994 to 1997.

30. 47 C.F.R. §64.604(a)(3).

31. Ameritech, Bell Atlantic, BellSouth, and AT&T were among the companies that objected to this requirement.

32. Second TRS Report and Order 1993, ¶9.

33. *Telecommunications Services, and the Americans with Disabilities Act of 1990*, Order, CC Dkt. 90-571, 93-1317, 8 FCC Rcd 8385 (November 29, 1993).

34. The group held its first meeting in May 1994 in San Ramon, California, and its second meeting in July 1994 in Richardson, Texas. These were followed by various conference calls and other in person meetings.

35. See generally, Robert D. “Mac” McCrossen, “The TRS Project,” *Perspectives* (January 1995): 13–15.

36. There were a large number of individuals involved in the effort to find a coin sent-paid solution. Only a few of these included Kathy Woods and Alan Mock of USTA, Elaine Hatcher, Mike Delcasino, Kathy Blackstone, and Fred Weiner of AT&T, Jim Tobias of Bellcore, Mark Seeger and Pat Myers of Sprint, Ginger Fish and Greg Hodges of Bell Atlantic, and various representatives from BellSouth, U.S. West, Southwestern Bell, Michigan Bell, and Hamilton Telephone. FCC representatives to these meetings typically included Linda Dubroof, Greg Lipscomb, and Pamela Geer, while consumers were represented by Al Sonnenstrahl and Paula Holbrook of TDI, as well as Louis Schwarz, Pam Holmes, Claudia Gordon, Ben Soukup, Nancy Bloch, and the author.

37. *Telecommunications Services, and the Americans with Disabilities Act of 1990*, Memorandum Opinion and Order, CC Dkt. 90-571, DA 95-1874, 10 FCC Rcd 10927 (August 25, 1995). This was in response to seven petitions filed from March 6 through May 3, 1995, by Sprint, AT&T, USTA, MCI, GTE, and various regional Bell telephone companies on the failure to identify an appropriate payphone technical solution.

38. Karen Peltz Strauss, NAD, letter to Kathleen Woods, USTA, August 21, 1996.

39. *Telecommunications Services, and the Americans with Disabilities Act of 1990*, Memorandum Opinion and Order, CC Dkt. 90-571, DA 97-1800, 12 FCC Rcd 12196 (August 21, 1997).

40. *Telecommunications Services, and the Americans with Disabilities Act of 1990*, Memorandum Opinion and Order, CC Dkt. 90-571, DA 98-1595, 13 FCC Rcd 15453 (August 10, 1998) (extending the suspension until August 26, 1999); *Telecommunications Services, and the Americans with Disabilities Act of 1990*, Memorandum Opinion and Order, CC Dkt. 90-571, DA 99-1682, 15 FCC Rcd 6675 (August 20, 1999) (extending the suspension until August 26, 2000); *Telecommunications Services, and the Americans with Disabilities Act of 1990*, Memorandum Opinion and Order, CC Dkt. 90-571, DA 00-1911, 15 FCC Rcd 15823 (August 23, 2000) (extending suspension for nine months or until a final rule was issued).

41. *TRS Coin Sent-Paid Industry Team Activity Report* (December 1, 1998) (primarily authored by Mike Delcasino, AT&T).

42. See, for example, *Comments Invited on AT&T’s Application to Discontinue Interstate Sent-Paid Coin Service*, FCC Public Notice DA 01-1613 (July 6, 2001). Through this petition, AT&T sought permission to accept only prepaid calling cards or substitutes, but not coins for payphone calls; Shawn Young, “BellSouth Says It Is Getting Out of Dwindling Pay-Phone Business,” *Wall Street Journal*, February 5, 2001, B6. This article noted that Bellsouth intended to shut down its 143,000

payphones by the close of 2002. It also referenced other companies, including Verizon and SBC, that were losing interest in the payphone field.

43. *Telecommunications Relay Services and the Americans with Disabilities Act of 1990*, Fifth Report and Order, CC Dkt. 90-571, FCC 02-269. 17 FCC Rcd 21233 (October 25, 2002). Hereinafter cited as Fifth TRS Report and Order 2002.

44. *Ibid.*, ¶28.

45. *Telecommunications Relay Services and Speech to Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, CC Dkts. 90-571, 98-67; CG Dkt. 03-123, FCC 04-137, 19 FCC Rcd 12475 (June 30, 2004), ¶¶ 207–8. Hereinafter cited as TRS Report and Order 2004.

46. See Pamela Ransom, “Together We Will Make it Happen,” *GA-SK* 22 (Fall 1991): 5. Ransom, then president of TDI, wrote how the decisions made in each of the states would “have a far reaching effect on the future quality of telecommunication relay and emergency services.” See also Al Sonnenstrahl, “To Relay Service Users: Beware!” *GA-SK* 23 (Summer 1992): 3, in which Sonnenstrahl complained about the decision of the FCC to let the states define standards on typing, knowledge of deaf culture and language, and processes for self-evaluation.

47. See *Common Carrier Bureau Domestic Facilities Applications*, FCC Public Notice, Report No. D-664 (October 7, 1992), seeking comments on twenty-four state applications; FCC Public Notice No. D-555 (October 14, 1992) seeking comment on twenty-one additional applications; FCC Public Notice No. D-668 (November 4, 1992), seeking comment on one state’s application.

48. For example, Louisiana wanted to label its relay surcharge “Telecommunications for the Deaf Fund” on telephone bills.

49. NCLD submitted comments on behalf of itself and TDI on November 9, 1992, November 16, 1992, November 23, 1992, November 25, 1992, December 1, 1992 and February 12, 1993. AT&T (on November 9, 1992) and MCI (on November 23, 1992) each responded to our comments. Fortunately, by the time AT&T’s response was submitted, AT&T, Sprint, MCI, and other interexchange companies had worked out methods to enable users to have equal access to their preferred long-distance telephone company.

50. See 58 *Fed. Reg.* 41277–78 (August 3, 1993).

51. Prior to the ADA, Oklahoma had treated relay service as a social service, provided through its Vocational Rehabilitation Services. “Sonny’s TDIbytes,” *GA-SK* 24 (Fall 1993): 4.

52. Arkansas PSC Dkt. 90-105-U.

53. See 47 U.S.C. 225(d)(1)(D); 47 C.F.R. 64.604(c)(3).

54. Tentative approval was granted on June 30, 1992, pending a public hearing that took place on August 26, 1992 on these two issues. Final approval was granted on September 25, 1992. Arkansas PSC Dkt. 91-051-U, Order No. 34.

55. Application for Certification TRS 26-92.

56. Arkansas PSC Dkt. 90-105-U, Order No. 40.

57. *Beverly Esau v. MCI Telecommunications and General Telephone*, Dkt. 93-187-C (July 19, 1993).

58. “Staff’s Response to Motion to Approve Settlement Agreement,” *Esau v. MCI and GTE*, Dkt. 93-187-C (February 4, 1994).

59. *Esau v. MCI and GTE*, Order No. 8, Dkt. 93-187-C (February 14, 1994), 14.

60. Elaine Hatcher, AT&T, letter to William Caton, FCC acting secretary, July 18, 1994 2.

61. *Request to Decertify the State of Arkansas Telecommunications Relay Services Program*, Memorandum Opinion and Order, File TRS-26-94, DA 95-1251 (June 9, 1995).

62. 47 U.S.C. §225(d)(2).

63. S. Rep. No. 116, 101st Cong., 1st Sess. 78 (1989). Later in the report, the Senate committee emphasized that the minimum federal standards used to govern the provision of TRS “should not have the effect of freezing technology or thwarting the introduction of a superior or more efficient technology.” S. Rep. No. 116, 80.

64. With the assistance of Linda Nelson, North Carolina and MCI set up nine public sites around the state on August 19, 1997.

65. *Telecommunications Services, the Americans with Disabilities Act of 1990, and the Telecommu-*

nications Act of 1996, Notice of Inquiry, CC Dkt. 90-571, FCC 97-7, 12 FCC Rcd 1152 (January 14, 1997).

66. *Telecommunications Services and Speech-to-Speech Services for Individuals with Disabilities*, Notice of Proposed Rulemaking, CC Dkt. 90-571, FCC 99-90, 13 FCC Rcd 14187 (May 20, 1998). In addition, on February 19, 1998, the FCC held a public demonstration of STS relay with Segalman's assistance.

67. *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. 98-67, FCC 00-56, 15 FCC Rcd 5140 (March 6, 2000). Hereinafter cited as *Improved TRS Order 2000*. FCC employees who spearheaded the drafting and release of this order included Pam Gregory, Meryl Icove, and Elen Blackler.

68. *Ibid.*, ¶4.

69. *Ibid.*, ¶13.

70. *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Order, CC Dkt. 98-67, DA 03-2111, 18 FCC Rcd 12823 (June 30, 2003). Specifically, from July 2002 through June 2003, the NECA rate for VRS was \$17.044 per minute. When NECA recommended reducing the rate to \$14.023 in May of 2003, the FCC rejected that suggestion, and instead adopted a VRS rate of \$7.751 on June 30, 2003. This rate went into effect the next day, on July 1.

71. *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, CC Dkt. 98-67, CG Dkt. 03-123, FCC 05-140 (July 19, 2005); *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Order on Reconsideration, CC Dkt. 98-67, CG Dkt. 03-123, FCC 05-139 (July 19, 2005).

72. *Improved TRS Order 2000*, ¶90.

73. *TRS Report and Order 2004*, ¶¶ 97–98.

74. *WorldCom*, Petition for Clarification, CC Dkt. 90-571 (December 22, 2000).

75. *Provision of Improved Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Declaratory Ruling and Second Further Notice of Proposed Rulemaking, CC Dkt. 98-67, FCC 02-121, 17 FCC Rcd 7779 (April 22, 2002); Order on Reconsideration, FCC 03-46 (March 14, 2003). As was true for VRS, the FCC again decided to allow compensation for all Internet relay calls from the Interstate TRS fund. In June of 2004, the FCC sought public feedback on a proposal to make Internet-based relay services a permanently mandated relay service. *TRS Report and Order 2004*, ¶¶ 231–32.

76. *Telecommunications Services and Speech-to-Speech Services for Individuals with Disabilities*, Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. 98-67, CG Dkt. 03-123, FCC 03-112, 18 FCC Rcd 12379 (June 17, 2003).

77. Engelke shares the success of CapTel (Ultratec's brand of captioned telephone service) with Kevin Colwell, Pam Holmes, Jeff Hilliard, Ron Schultz, Troy Vitak, Judy Viera, Christopher Jones and approximately twenty additional Ultratec engineers.

78. *Telecommunications Services and Speech-to-Speech Services for Individuals with Disabilities*, Declaratory Ruling, CC Dkt. 98-67, FCC 03-190, 18 FCC Rcd 16121 (August 1, 2003), ¶15.

79. *Telecommunications Services and Speech-to-Speech Services for Individuals with Disabilities*, Order, CC Dkt. 98-67, CG Dkt. 03-123, FCC 05-141 (July 19, 2005).

80. Petition for Rulemaking to Mandate Captioned Telephone Relay Service (October 31, 2005). Brenda Battat of SHHH worked with the various organizations to spearhead the petition.

81. See *Telecommunications Relay Services and Speech-to-Speech for Individuals with Hearing and Speech Disabilities*, Notice of Proposed Rulemaking, CG Dkt. 03-123 (November 30, 2005), in which the FCC requested public comment on the best means of handling emergency relay calls carried over the Internet.



David versus Goliath: The Story of 711

If you want to fully experience powerlessness, there's no feeling quite like being stuck in a strange airport far from home. More than once I've stood in front of an entire row of pay telephones at an airport, searching frantically for a TTY, and then finding one only to realize there is no telephone book and no posted telecommunications relay number.

—Cheryl Heppner,

Northern Virginia Resource Center for Deaf
and Hard of Hearing Persons

WHEN HIS father died in December 1991, Al Sonnenstrahl used the Maryland Relay Service to call family and friends, as well as to make arrangements for the funeral in New York City. After the funeral, Sonnenstrahl returned to Maryland to “sit shivah,” a Jewish custom in which friends and relatives visit and comfort the immediate family of the deceased. As a friend, I wanted to express my sympathies through one of these visits, but to do so, I needed to call Sonnenstrahl to get his home address. I had left my TTY at the office, but I figured this was no problem—Maryland’s brand new relay service could help me make my call. Without a second thought, I dialed 411 to get the service’s telephone number. I was excited about getting to enjoy firsthand the fruits of many years of relay advocacy.

When the directory assistance operator answered, I told her that I needed the number for the Maryland Relay Service. The operator had no idea what I was talking about and said she could not help me. I remained calm and decided to hang up and call back, hoping I would find another operator who was a bit more enlightened. I was wrong. The second operator gave me the same response. As my frustration grew, I called back yet a third time and asked to speak to a supervisor. While polite, she was equally unaware of the state’s new relay program. I realized there was no way for me to contact Sonnenstrahl. Once over my annoyance with the operators, I became angry that a significant barrier to functionally equivalent telephone access apparently

Epigraph. Cheryl Heppner, executive director, Northern Virginia Resource Center for Deaf and Hard of Hearing Persons, e-mail to the author, July 17, 2000.

still existed. ADA advocates had been hopeful that relay services would facilitate telephone communication for millions of deaf and hard of hearing people. How could this goal be achieved if *accessing* the relay system itself was so difficult?

The problem stemmed from the fact that every state had its own relay access number, and some had separate and multiple numbers for voice callers and TTY users. Also, the names of the relay systems varied across the United States. Often one needed to know the catchphrase for a particular state's relay service to get the correct number from directory assistance, a task that was at best difficult and at worst insurmountable.* Even getting help from a 411 operator presented a virtual catch-22 for TTY users—one needed directory assistance to get the local relay number, but needed the local relay to call 411, which was only accessible by voice! The only other way to find relay numbers in the early 1990s was to hunt for them in the depths of telephone books.

A New Cause

One day in June 1992, I got a call from Pam Ransom, an advocate who had worked closely with the deaf community on the implementation of the ADA's relay mandates. Ransom was now working for Issues Dynamics, Inc., a Washington, D.C., telecommunications consulting firm, and in that capacity, had learned that newspapers and other information service providers were looking for easy ways to use telephone services to disseminate information to the public. These companies regularly bought telephone exchanges through which they distributed weather, news, sports, and a menu of other services to consumers for a small fee. The market for these pay-per-call services had become quite lucrative, bringing in approximately \$1.1 billion in revenues per year and providing newspapers with an efficient way to supplement their incomes.¹ Despite their success, the companies were not satisfied with their current arrangements, which largely relied on the use of 900 exchanges.[†] Interested in reducing their costs and expanding their markets, the information service providers began to explore the use of three-digit, or "N11" numbers, as a solution to their business needs.

Ransom was not only well acquainted with the need to facilitate relay access, she herself was frustrated with having to find a new relay number every time she traveled to another state. After hearing about the information service providers' desire for N11 numbers, she came up with the idea of using one of the remaining N11 codes for nationwide relay services. She called to see what I thought of her idea.

It did not take much for Ransom to convince me. Certainly I could not be alone in finding the present state of affairs intolerable. If someone who was intimately familiar with relay was having a hard time finding access numbers, I could only imagine the difficulties of others who were new to the service. Ransom and I decided to move ahead, entirely unaware of the challenges that lay before us.

* For example, in Arizona, the relay service was called "TES, Inc." In South Dakota, it was the name of its provider, CSD, and in Minnesota, it was called D.E.A.F., Inc.

[†] Companies had to pay hefty long distance charges for 900 customer access. In addition, technical limitations that restricted the reach of these codes and negative association with "900" pornographic services discouraged their use.

The year before, Cox Enterprises, Inc., a colossal media conglomerate, had asked BellSouth for permission to use an N11 number to disseminate information services in Georgia and Florida. Uncertain about its own legal authority to allocate three-digit numbers to Cox or any other information service provider, in March 1992, BellSouth had contacted the FCC for permission to do so. Two months later, the FCC's general counsel sent a letter to BellSouth, giving the company permission to assign these codes, so long as it did so in a nondiscriminatory manner (e.g., on a first-come, first-serve basis).² In addition to directly responding to BellSouth's inquiry, the FCC opened a new rulemaking proceeding in which it proposed to allow any local telephone company to allocate N11 numbers for information services if those numbers had not yet been assigned for other uses by the North American Numbering Plan Administrator (NANPA).³ Bellcore, the research arm of AT&T, served as the administrator of NANPA and was responsible for overseeing numbering resources throughout World Zone 1, an area made up of the United States, Canada, and the Caribbean nations. Among other things, Bellcore had the job of distributing area codes, 800 and 900 numbers, and three-digit N11 service codes throughout this region.

The FCC's N11 proceeding came at a time of increasing telephone number scarcity. Americans had so expanded their telephone usage that the phone companies had used all but two of the country's designated area codes. Bellcore had been holding onto all N00 and N11 numbers in case these needed to be used as area codes before new numbers were released in 1995. The FCC now made very clear that companies interested in a N11 assignment would have to do so at their own risk; the Commission reserved the right to retrieve these codes for other purposes on short notice.

Even though one part of the Commission's notice paved the way for commercial information service providers to seize some of the remaining N11 codes, other parts focused on the need to find proper uses for the "extremely limited number" of these codes, as well as the need to assign these numbers in ways that promoted "innovative" uses of the telephone company's network.⁴ Surely, Ransom and I thought, providing easy access to the nation's relay services would be a far better way to meet these public interest objectives than providing access to commercially owned information services.

Although the odds of prevailing over media giants such as Cox were slim, we decided to ask leaders within the deaf community whether NCLD should proceed with asking the FCC for use of a three-digit code for nationwide relay access. The response was swift and unanimous. The thought of enabling anyone, anywhere, to be able to access relay services through three easy numbers was far too enticing for anyone to pass up.

Ransom and I realized that before moving any further with our N11 plan, we would first have to choose the most suitable N11 code for relay access. Since directory assistance had 411, emergency telephone services utilized 911, and several local telephone companies were using 611 and 811 for telephone repair and business services, this left only four numbers—211, 311, 511, and 711. We tried to pick a number that had some "relay" significance, but failed until we looked at the telephone dialing keypad. It was then we realized that the number "7" corresponded to the letters "P Q R S" on the keypad. . . . "relay" began with an "r." Relay-1-1 . . . 7-1-1 . . . that was it! We would ask the FCC to allocate 711 for nationwide, toll-free relay access by TTY users. For

voice users, we would ask for 5-1-1 because “5” was the closest available N11 number to the 7 on the keypad.

Deciding which numbers to use was simple compared with the tasks that lay ahead. We first had to scramble to submit comments in the FCC’s pending N11 proceeding. But we were encouraged by others, who had already voiced their opposition to the FCC’s proposal. AT&T complained that using the same N11 codes for different purposes in different states would confuse consumers and “seriously erode the public interest value of the existing nationwide, community service type applications that currently use N11 codes.”⁵ The Ad Hoc Telecommunications Users Committee added that consumers risked incurring unexpected telephone charges if they called an N11 code in one area where access was free but then traveled to an adjacent state where that same code accessed pay-per-call services.⁶ Other companies objected to the use of N11 exclusively for local uses. MCI urged that “nationally ubiquitous uses be given priority over regional or purely local applications.”⁷ Bell Atlantic concurred, and recommended creating “nationwide gateways” to permit as many consumers as possible to benefit from these codes.* Likewise, GTE urged the Commission to “affirm the traditional use of N11 numbers . . . to facilitate public access to the underlying network.”⁸

Several of the regional Bell companies argued that the “unique and limited nature” of these codes warranted their application for purposes “that serve the greater public interest,” such as fire or medical emergency services. After all, the other N11 numbers—411, 611, 811, and 911—were being used for services of general benefit to the public.⁹ Pacific Bell and Nevada Bell, among others, urged the FCC not to act prematurely in allowing assignment of these rare codes because once assigned, they would be “be extremely difficult, if not impossible” to recall.¹⁰

Ransom and I realized that NCLD’s request would not be the first to recommend reserving N11 numbers for something disability-related. In fact, Bellcore itself listed “handicapped access” as a possible “as-yet-unidentified noncommercial ‘public service’ use” for these abbreviated dialing codes.¹¹ Similarly, the Canadian Steering Committee on Numbering (CSCN) had the foresight to suggest that N11 codes be reserved for purposes that had a universal social value, such as “improving network access for the physically challenged.”¹² CSCN was particularly interested in establishing uniform uses for N11 codes throughout all of World Zone 1, and was afraid that it would be difficult to force a commercial entity to discontinue using a particular N11 code after it had invested substantial financial resources in it.

Before we submitted our N11 relay proposals to the FCC, we gathered together a coalition of national and local organizations to strengthen our impact. But while Ransom and I set about our respective tasks of garnering organizational support and drafting comments, Cox submitted a formal petition to the Georgia PSC for the assignment of 511. The petition claimed that Georgia’s consumers would benefit from more convenient access to information services and that the use of 511 would enhance competition in the information service market.¹³

* Bell Atlantic’s comments also spoke of using a new technology called advanced intelligent network (AIN) that would allow a call to an N11 number to connect the caller with a particular information provider. Nearly ten years later, this was the very same technology used by Bell Atlantic to provide 711 access to relay services.

Shortly thereafter (mid-July 1992), NCLD and TDI submitted its request to the FCC for two N11 codes for nationwide access to relay services: as planned, 711 for TTY users and 511 for voice users.¹⁴ The request was filed on behalf of twelve national organizations and twenty-six state and local consumer groups, telephone relay centers, and government offices. We pointed out that nearly all parties to the FCC's proceeding had already urged the use of these scarce numbering codes for the public at large, rather than a few private commercial interests; if N11 numbers were used for relay services, we insisted, they would benefit *all* Americans. We added that many of the proposed commercial service providers planned to use interactive voice prompts and pay-per-call access to their information services, both of which were not accessible to either TTY or relay users. Allowing these providers to capture the remaining N11 market for uses that *excluded* deaf, hard of hearing, and speech disabled populations would create a highly inequitable situation, especially when our proposal would *facilitate* access to basic network functions for these very same groups.

Advocates urged the Commission to consider the ultimate goal of the ADA—to fully integrate people with communication disabilities into the mainstream of the telephone network. This would only succeed if access to relay services were easy, convenient, and uncomplicated for both TTY and voice telephone users. We also argued that true functional equivalency demanded that the speed of entry into the public switched network be comparable with the speed of entry for conventional telephone users. Relay consumers had to dial seven to ten digits to call a relay service even before the relay operator could dial the number of the destination party. N11 codes would do a far better job of mirroring direct dialing.

We reminded the Commission that this was not the first time consumers had requested a uniform national relay number. Back in 1990, when the FCC first considered how best to implement the ADA's relay mandates, seventy organizations had asked for a single 800 nationwide relay number. Although the Commission rejected this request because 800 numbers were assigned to particular carriers, it had acknowledged the benefits of universal dialing: "We encourage state systems and all other relay providers to use numbers that are easy for consumers to remember and would further the goal of nationwide access to [TRS]."¹⁵ Now that many states had their statewide systems up and running, the need for swift, unencumbered access to relay services was even greater.

A few months later, Ransom and I learned that NANPA did not need an FCC directive to assign N11 numbers; it had sufficient authority to take this action on its own.¹⁶ Knowing that the FCC rarely moved quickly without a legislative fiat, we decided not to waste any more time. On August 17, 1992, I sent a letter requesting assignment of the TRS codes to NANPA's administrator, Bellcore, with copies to each of the FCC commissioners.¹⁷

The response received on August 31, 1992, from Alfred Gaechter, Jr. said that it had long been the position of NANPA that "the limited, and therefore valuable, N11 resources should be available for applications 'in the public interest' as opposed to commercial applications."¹⁸ He went on to explain that our request for an N11 code "appear[ed] to satisfy that position," but that the many requests for N11 codes and the FCC's proceeding required NANPA to be cautious in assigning the limited resources in its control. Gaechter's letter then posed an extensive—and seemingly endless—

series of complicated technical questions regarding the way that existing telephone network architecture could be used to activate and route a nationwide relay three-digit code. Several months passed before we were able, with the assistance of Bell Atlantic, to gather all of the information needed to respond.¹⁹

The Challenges Grow

We knew it would only be a matter of time before Cox Enterprises learned of our efforts. In September, we finally received a letter from the company's attorneys, claiming that Cox was "quite interested" in NCLD's proposal to assign N11 codes for relay access.²⁰ In a clear attempt to remove what was undoubtedly perceived as an obstacle to the conglomerate's efforts to capture the country's information services market, the letter did everything it could to convince us to back away from our N11 efforts.

Cox alleged that the costs for implementing N11 throughout the country would be prohibitive. It also claimed that modifying many of the nation's old telephone switches for N11 would result in delays that would lead to confusion and frustration for relay users and prevent nationwide access in the foreseeable future. The company proposed instead that we pursue relay access through a 555-XXXX or 950-XXXX number, as these were readily available, could be reached from older switches, and would use far less time and money. Cox even pledged its own support for the immediate assignment of these more "suitable" numbers.

Not long after receiving this letter, we suffered our first real defeat, when on October 20, 1992, the Florida PSC approved Cox's request for N11 dialing. Over a two-year period, Cox's subsidiary, the *Palm Beach Post*, could now operate a telephone database of information services, including stock quotes, political speeches, movie listings, classifieds, and sports scores. Consumers in West Palm Beach would be able to access these services by dialing 511 at \$.25 to \$.50 per call. The *Washington Post* declared the ruling a victory by media companies and other information-services providers over telephone companies, which had been exerting control over the emerging markets for information services.²¹

Rather than deter us, however, Cox's letter and the events unfolding in Florida and Georgia both inspired and challenged us. We realized that we were David, fighting for a vital civil right, against Cox's Goliath. NCLD responded to the Florida decision in early December by asking the Florida PSC to overturn its 511 ruling and to refrain from allocating any additional numbers in response to other petitions—including those already submitted by the *Sun-Sentinel* and *Florida Today*—until the FCC completed its own N11 proceeding.²² Both NCLD and Cox knew that local victories for either side would reduce the availability of N11 numbers and potentially diminish the others' chances of prevailing at the national level.

The knowledge that we were now in a full-fledged numbers war with some of the largest corporations in the nation motivated us even further to move ahead with our plans. NCLD and TDI quickly followed up our Florida challenge by filing comments in stiff opposition to Cox's formal request for N11 dialing in Georgia.²³ Soon after, two events occurred that propelled our struggle against the media giants to a whole new level. One took place in Canada, the other in Hawaii.

Canada Beats Us to the Punch . . . and Hawaii Follows Close Behind

In the summer of 1992, Henry Vlug, a member of the Canadian Association of the Deaf (CAD), attended a conference in the United States, where he heard a presentation on the benefits of 711 dialing. When Vlug went to his own CAD conference in Vancouver only a few weeks later, he shared news of our 711/511 movement and successfully secured a CAD resolution to follow our example.

On October 9, 1992, James Roots, executive director of the CAD, filed a petition with the Canadian Radio-television and Telecommunications Commission requesting assignment of 711 and 511 for relay access throughout Canada. What happened next was both shocking and amazing. In sharp contrast to the snail-like speed of our FCC, the Canadian commission—with nearly universal telephone company support—issued a favorable response only a few months later, on January 26, 1993.* The commission's order directed Canada's nine telephone companies to explore the use of N11 for relay access and to come up with both a plan and timetables for N11 implementation within the next six months. The companies were directed to work with the Canadian deaf community and the CSCN (which had already supported the use of N11 numbers for people with disabilities in the FCC's numbering proceeding). In response to this directive, Canadian representatives from industry, the deaf community, NANPA, and other interested parties formed the Message Relay Service Access Workshop (MRS Workshop) to study and recommend the final numbering preparations.

As the MRS Workshop started its work toward establishing N11 access in Canada, we experienced our first real victory in the United States. On April 22, 1993, the GTE Telephone Company announced its plans to use 511 for voice and 711 for text access to relay services throughout Hawaii. The new codes would go into effect on July 26, 1993, the very day that the relay mandates of the ADA were to become effective. Advocates were thrilled to learn that GTE's decision to adopt the two codes was motivated by the company's interest in "setting the stage for its future system wide roll-out" of these numbers across the country.²⁴

Events on the Mainland

In the hope that the actions of both Canada and Hawaii would influence the FCC to act on our nationwide N11 petition, Ransom and I made some visits to the FCC during the spring of 1993.²⁵ But rather than bolster our spirits, these meetings confirmed our worst fears. According to the FCC, small telephone companies in the United States simply did not have the programmable switches needed to implement N11, and rebuilding the equipment could take up to forty years! Though disheartened by the prospect of real technical barriers to universal 711 access in the continental United States, the victories that we had just witnessed gave us hope that the FCC's assessment was not entirely accurate.

* Of all the telephone companies in Canada, only one—Unitel, now Rogers Cantel—opposed the petition.

Unfortunately our concerns that Florida's grant of abbreviated dialing would open up the N11 floodgates to commercial interests were validated in the months to come. Once Cox initiated its N11 service in March of 1993, it began receiving about 20,000 calls per month. The enormity of this success triggered so many additional industry requests for Florida N11 dialing throughout the winter and spring of 1993 that the Florida PSC decided to hold hearings in order to allocate these numbers fairly. At this point, NCLD recognized that it would be difficult, if not impossible, to win this N11 battle from our offices in Washington, D.C. We needed local help, and we needed it fast.

On May 3, 1993, I jotted a letter to Peggy Schmidt of the Florida Council for the Hearing Impaired, describing our 711 efforts and warning that if Florida and other states began allocating N11 numbers on a state-by-state basis to commercial interests, our efforts to secure a nationwide number for relay services would be in serious jeopardy. I pleaded for the council's help to prevent this from happening.

Schmidt readily understood the urgency of the situation and, joined by Andrew Meyers, an attorney with the Florida Department of Labor and Employment Security, she attended and testified at the PSC hearings, where she was able to convince several telephone companies in attendance to back our position. In her testimony, Schmidt reported the findings of a recent PSC survey concerning Florida's year-old relay service.²⁶ At least four of Florida's local telephone companies had not even published the state's eleven-digit relay access numbers in their directories. In addition, few companies were able to provide these numbers through directory assistance even when the caller knew the name of the relay service. Schmidt advocated for 511 and 711 as a universal means of accessing relay services, reminding the PSC officials that all telephone service customers, hearing and deaf, were potential users of these services. As a result of Schmidt's efforts, the United Telephone Company of Florida, the Central Telephone Company of Florida, and GTE Florida agreed that the scarcity of N11 codes made them suited for purposes that served the public interest, like relay services. As expected, however, Southern Bell, newspaper companies, and other information service providers raised opposing concerns about the technical and financial limitations of using N11 for relay, including the high costs of converting central offices.

Cox achieved yet another success on May 18, 1993, when the Georgia PSC awarded the company a one-year trial period to use an N11 number in Atlanta. Compounded with the events in Florida, this triggered what journalists described as a "feverous desire for abbreviated dialing . . . raging through the information services industry."²⁷ Believing that all that stood between universal acceptance of telephone information services and consumers was the lack of easy-to-remember access numbers, newspaper publishers and other information providers began "knocking down doors of state public service commissions" for N11 codes.²⁸

Before we knew it, information service providers seemed to be everywhere, in an unrelenting march across the United States in pursuit of the remaining abbreviated dialing codes. By the summer of 1993, applications for the commercial use of N11 were pending in nearly every state. When the *Dallas Morning News* called these dialing arrangements "the latest entrant in the billion-dollar pay-per-call industry," we began to question whether we could realistically compete with the mammoth companies that made up this industry.²⁹ Did we have any real chance of success against their



Pamela Ransom (far left), the author, and TDI Executive Director Al Sonnestrahl take a break from advocating for 711 at TDI's May 1993 International Convention in Anchorage, Alaska.

financial resources? We wondered whether we were already reaching the end of our 711 rope, and considered cutting our losses by ending what seemed to be a quest beyond our reach.

But this was the era of disability empowerment. The Deaf President Now movement, the passage of the ADA, and new mandates for comprehensive relay services all proved that the deaf community had prevailed against difficult odds many times before. Although we continued to contemplate the wisdom of going forward with our potentially futile struggle, we also questioned whether we should give in to defeat on the N11 issue so early in the game. We decided to push ahead, and, over the course of the next year, opposed the commercial N11 applications wherever they were filed. From state to state, we pointed out the inequities confronting millions of relay users who were forced to overcome numbering obstacles just to obtain basic telephone access. Unlike commercial interests, we stressed, these individuals had a powerful congressional mandate for swift and uncomplicated dialing.*

On June 22, 1993, we again got some good news from Canada. The Canadian MRS Workshop had recommended 711 for TTY relay access and a national 800 number for voice access.³⁰ An additional N11 number, possibly 511, was reserved for voice relay access, but its final approval would depend on the outcome of this numbering issue throughout North America. The Canadian telephone companies wanted to first see what the American telephone companies used for their voice relay number.

However, even this victory in Canada was not without its challenges. Some member countries of World Zone 1 had wanted Canada to hold its assignment of 711 until all nineteen countries within that zone could agree on the use of the four remaining N11 codes.³¹ Although these concerns for uniformity across North America were not enough to deter the MRS Workshop from recommending 711, we were concerned that they could still have an adverse effect on the deliberations of Canada's numbering committee and the full Canadian commission. Reminding us that the successes

* During the first weeks of October, 1993 alone, we submitted oppositions to abbreviated commercial dialing in Alabama, Kentucky, Louisiana, Minnesota, Nebraska, Nevada, North Carolina, South Carolina, and Oregon. We later added to this list Alaska, California, Connecticut, Illinois, Kansas, Massachusetts, Missouri, Montana, New Jersey, New Mexico, Pennsylvania, Tennessee, Texas, Virginia, and Washington. This was in addition to our original oppositions in Florida and Georgia.

attained in each of our countries would be mutually beneficial, James Roots asked the NCLD for help, and we readily sent a letter of support. Even though we had come up with the idea of 711 first, ironically we found ourselves expressing our hope that the United States would follow the *Canadian* example!³²

It took only a few more months for the Canadian Radio-television and Telecommunications Commission to formally approve 711 relay access.³³ On August 16, 1993, Bell Canada, the country's largest telecommunications company, announced that 90 percent of its local exchanges would implement the access numbers over the next six months. The remaining exchanges would provide relay access as each was upgraded to digital transmissions over the following year. Right on schedule, on February 14, 1994, Canada's deaf and hard of hearing citizens began using the new relay access number. Roots graciously sent his good wishes for our success: "Hope this helps you in the fight with the FCC. You've inspired us, now our success should inspire you!"³⁴

Canada's swift 711 victory may have been due in part to the existence of only one relay provider and just a few local telephone companies throughout its country. By contrast, the United States had hundreds of local telephone companies and multiple relay providers across the fifty states. Our efforts also were hampered by the fact that President Clinton still had not appointed all of his FCC commissioners. The commissioners who were in office seemed reluctant to conclude the N11 proceeding until these new officials were in place.

During the late spring 1993, a new industry group, the Industry Carrier Compatibility Forum (ICCF), entered the relay numbering fray in the United States, intent on taking the matter out of NANPA's hands.* ICCF was a voluntary industry forum created under the Alliance for Telecommunications Industry Solutions (ATIS), a group charged with facilitating industry discussion and resolution of technical standards for communication technologies. ICCF's general responsibilities, to help resolve matters concerning the use of World Zone 1 numbering resources, seemed neutral enough, but NCLD worried whether the introduction of yet another arbiter would delay even further a resolution of the N11-for-relay proposal.

ICCF scheduled a meeting that would address the 711 issue in Toronto on July 15, 1993, but NCLD had neither the resources nor the staff to attend the event. As an alternative, we swiftly drafted and sent letters to both Alfred Gaechter and Madeline Bogdan, the ICCF moderator, describing various developments that warranted a prompt resolution of the N11 relay access issue. We explained that the effective date for the ADA's relay mandates—July 26, 1993—was nearly upon us. This would both focus national attention on relay services and undoubtedly increase relay call volume. We argued that, for the sake of uniformity, *this* was the time to reserve a single relay number throughout World Zone 1, *before* states and their relay providers became accustomed to different dialing arrangements.

A few weeks later, NANPA reported the results of an inquiry it had recently conducted within the industry on relay numbering access.³⁵ We were relieved to learn

*ICCF questioned Bellcore's role as the NANPA administrator because of its affiliation with AT&T. Bellcore had already opposed Cox's request for an N11 code in Florida and ICCF felt that Bellcore had too much at stake to be making decisions about number allocations.

that almost all the respondents agreed on the importance of a uniform national relay number, although many still questioned whether that number should be 711. GTE was our biggest champion; it not only supported 711 access regardless of the costs but reported that it was “actively pursuing” this access on a national basis. Ameritech and AT&T also contributed 711 endorsements (AT&T had even paid a visit to the FCC on this issue). Of course, Cox and the *Washington Post*, renewed their opposition to 711 access, churning out a list of its alleged disadvantages, including its high costs, lack of availability throughout the United States, and lack of compatibility with payphones.

NANPA’s survey also revealed some industry concerns about the need to upgrade telephone switching software to properly translate and route 711 calls. For example, Southwestern Bell argued that it would be much faster and cheaper to use a national 800 number for relay access because existing databases already had the capability to route such calls to the designated relay service provider in each state. If this was true, then the FCC could have easily granted consumers’ original request for a single nationwide 800 relay access number back in 1991. Although such action likely would have eliminated the need to pursue 711, at this late date, we were not about to settle for an 800 number alternative.

NANPA’s survey also raised two new and difficult questions that we needed to address. One concerned whether a single dialing code for relay would be sufficient to replace the two numbers—one for TTY access and one for voice access—that many of the states presently used. A single relay access number might increase the amount of time it took for relay centers to respond to incoming calls. The second issue concerned the extent to which an N11 number would support competition, or “multivending,” among relay providers. Each state generally used a competitive bidding process to choose a single relay provider to serve all of its residents, awarding such contracts for a period of three to five years. Many consumers disliked this model because they believed that relay providers would be far more responsive if they knew that consumers could change providers based on the quality of their services.³⁶ If N11 automatically routed all relay calls to the state-contracted provider, consumers would be locked even further into a single company.

By the end of the summer of 1993, we began to experience a few more successes. Not only had our issue begun to attract media interest and publicity, but as many as ten states and the District of Columbia had now rejected information provider petitions for N11 codes.³⁷ We could only speculate that, confident in the knowledge that the FCC had been on their side, information service providers were astonished to learn of the impact that we and others were having on these state proceedings.

One state that we successfully held at bay—against incredibly steep odds—was Virginia. After receiving several requests in 1992 for N11 codes, the Virginia State Corporation Commission had opened a docket to investigate the feasibility of and public interest in requiring abbreviated dialing. By then, the petitioner to that proceeding, the *Washington Post*’s dial-up information service, Post-Haste, was already receiving sixteen million calls per year. When we filed our opposition to this use of N11, the Virginia commission was less than receptive. It even questioned whether using N11 codes for relay services would truly maximize potential benefits for the

greatest number of customers since “there are many more people without hearing impairments than there are people with hearing impairments.”³⁸ Of course, this reasoning failed to recognize that a hearing person was a party to every relayed conversation.

Nevertheless, on August 31, 1993, the Virginia Commission’s staff recommended allowing information service providers to use three-digit dialing for two years, but disallowing use of either 511 or 711. After reviewing our comments and learning of GTE’s use of these numbers, the staff had decided that it would be prudent to reserve these codes in case either the FCC or NANPA later allocated them for relay services.³⁹ Over the next few years, this victory repeatedly came under challenge in multiple Virginia commission rulings that found commercial applications for N11 codes to be in the public interest.* Many more consumer filings would be necessary to convince Virginia not to relinquish our requested numbers.⁴⁰

An Emergency Petition Is Filed

By the fall of 1993, the efforts of commercial interests to secure abbreviated dialing in the states showed no signs of fatigue. A little more than a year had passed since we had asked the FCC for 711 access, but the FCC had done little, if anything, to bring the numbering proceeding to a close. We knew that once granted within the individual states, reclaiming these codes would be difficult, if not impossible, and decided it was time to take a more aggressive stance for these numbers on the federal level.

On October 1, 1993, NCLD and TDI filed an emergency petition for rulemaking, requesting the immediate allocation of 711 for nationwide relay access by text telephone users and a second N11 number for voice telephone users.[†] If the FCC was not ready to grant our petition, we asked that it at least direct NANPA to reserve both 711 and a second number, pending the outcome of our request. Much had changed since our first appeal to the agency for 711. Nearly every state now had a relay system, each with its own set of relay numbers and each meeting colossal demands for relay services. The N11 successes in Hawaii and Canada had also enhanced our numbering claims.

Just two weeks later, the FCC opened a proceeding devoted specifically to our N11 petition, giving it the national prominence it sorely needed.⁴¹ Right around this time, Tennessee also became the first state on the mainland to reserve 711 for statewide relay use for a one-year trial period.⁴² Staff of the Tennessee PSC proclaimed their “commitment and success with TRS [as] one of [their] proudest recent regulatory accomplishments.”⁴³

* For example, in November 1994, the Virginia commission’s senior hearing examiner recommended assigning all N11 codes on a first come, first serve basis to information service providers, failing to even mention our request for relay access in his findings. His sole focus was on the ability of N11 dialing to make information services more “convenient” and generate additional revenues for local companies. Glenn P. Richardson, Virginia State Corporation Commission, *In the Matter of Investigating N11 Access to Information Service Providers*, Report, Case PUC930019 (November 1, 1994).

[†] In July 1992, we had made this request through the back door, in reply comments submitted in an FCC proceeding that broadly addressed various numbering issues. The emergency petition that we now submitted was a much more direct way of getting the FCC’s attention on the relay issue.

Unfortunately, events occurring in other states were far less favorable to our national efforts. In September, Cox had started offering N11 information services in Atlanta. A few weeks after our petition was filed, Cox and BellSouth also announced a new partnership—InfoVentures of Atlanta—through which 511 callers could reach “The Answer Machine” and hear “the latest in sports, stocks, weather, entertainment, soap opera updates and a variety of other topics, 24 hours a day.”⁴⁴ A “Personal Portfolio” feature allowed callers to preselect their topics so they could immediately access information on those topics, while classified services enabled callers to search and locate businesses in the Atlanta area. Nearly as soon as Cox’s new 511 enterprise began operations, consumers richly rewarded the company for its endeavors. By November 1993, the Atlanta 511 exchange received up to 2,550 calls a day, more than twelve times the number of 900 calls Cox received outside the Atlanta region!⁴⁵

The quest for uniform N11 relay access suffered yet another defeat when the Florida PSC upheld the use of N11 dialing for commercial information services in November 1993. Although the PSC rejected petitions for *statewide* assignment of N11 codes, it permitted the use of these codes in local calling areas because it believed the significant call volume and few complaints received during Cox’s trial period proved these services to be in the public interest. To make matters worse, the Florida PSC explicitly rejected the allocation of 511 and 711 for relay services citing “the uncertainties involved in provisioning TRS via N11 codes.”⁴⁶

Still undaunted by the overwhelming odds against us, we put all our energies into gathering support for our national 711 petition. During the first two weeks of November 1993, Sonnenstrahl, Ransom, and I sent out urgent requests for help from relay users, advocates, and consumer organizations across the country to capitalize on the momentum from our state and Canadian victories. In addition to mailings, faxes, and phone calls, a good part of our outreach efforts took place over one of the earliest e-mail distribution lists devoted to telecommunications access issues—Telephone for All, or TFA. Two Gallaudet professors, Harvey Goodstein and Bob Weinstock, administered the list to keep deaf people informed about important national telecommunications developments; this now provided the perfect vehicle to reach relay consumers across the country.

Our efforts paid off. Twelve national consumer organizations and fifty-four local organizations, several local and long-distance telephone companies, and various state agencies from around the country sent comments to the FCC endorsing 711 relay access. All agreed that N11 codes should be reserved for vital public purposes, rather than private commercial interests. Prompt FCC action was needed, they cautioned, lest these codes be distributed haphazardly throughout the country.⁴⁷

Of course, not every party favored the petition, and as expected, Cox again came forward to poke holes in the consumer position. Cox argued that N11 dialing was unsuitable for relay access because it was not available throughout the country; many communities did not even have 411 or 911. We responded that significant changes to the telecommunications infrastructure were under way to make these dialing arrangements possible.⁴⁸ Also we queried why Cox and the other information service providers were so intent on pursuing these N11 codes if wide segments of the population could not access them. When confronted with the argument that other dialing arrangements could be achieved within a shorter period of time, we simply responded

that we were willing to wait: "Rather than accepting the quickest, but perhaps a shortsighted numbering alternative, TDI et al. has made every effort to consider what would be in the best interests of relay consumers in the distant, as well as the imminent future. With this in mind, N11, without question, offers the best solution for uniform relay access."⁴⁹

While we waited for the FCC to rule on our petition, information service conglomerates continued their efforts to snatch up the remaining N11 numbers.* But relay advocates were rewarded for being equally assertive. In February 1994, the North Carolina Utilities Commission rejected the use of N11 for commercial uses in favor of public service use; in March 1995, the Nevada Public Service Commission came to a similar conclusion.⁵⁰ Unfortunately, these state victories were not matched at the federal level, where all movement toward resolving the 711 issue now came to a complete halt.

ICCF Takes Over and Everything Stalls

ICCF's efforts to take over the relay numbering issue came to fruition in December 1993 when the group established a TRS workshop within its Industry Numbering Committee. The workshop members included information service providers, consumers, representatives of the FCC, and local and long-distance telephone companies. Its mission was to investigate the technical feasibility of various relay numbering alternatives such as N11 codes, seven-digit numbers, numbers beginning with 950, 555, or 800 dialing prefixes (e.g., dialing a variation of 10XXX prior to the phone number), and vertical service codes (dialing symbol keys, such as "**"), and then recommend numbers that were easy to remember, uniform, and allowed relay competition.⁵¹

Despite these noble objectives, the TRS workshop meetings proved to be long, frustrating, and mostly useless. Nearly from the start, it became apparent that many of the group's industry participants were intent on promoting any dialing solution for relay access *except* 711. The real futility of the group's efforts was best exemplified by its attempts to prepare a relay user survey. The goal was to have survey participants prioritize how important certain factors were to their choice of a relay access number, including the ability to choose their relay provider, the number of digits they would have to dial, and how quickly they could secure abbreviated dialing access. The workshop members planned to distribute the survey to hundreds of deaf and hard of hearing consumers at eight national conventions scheduled between June and October 1994.

The trouble began almost immediately. During interminable conference calls held between February and May 1994, the workshop's members drafted the survey questions, refined them, and then picked them apart again and again in an effort to craft the perfectly designed questionnaire. The process was painstaking, but the efforts seemed to pay off at the end of May, when the draft appeared nearly ready for release.

* For example, in the winter of 1993, the National Newspaper Association actively encouraged its members, mostly small community newspapers and information service providers, to vigorously pursue N11 codes from local telephone companies. The association even offered to help by writing state applications and, if necessary, challenging any denials. "Trade group representing small community newspapers," *Communications Daily*, December 8, 1993, 3.

The finishing touches were to be added at an all-day meeting of the workshop on June 9, 1994, at the Hyatt Regency in Arlington, Virginia. On that day, from nine in the morning until late in the afternoon, the workshop members again reviewed, probed, and dissected all of the survey questions to ensure they would elicit the desired information. During the final hour of the conference, however, one of the industry participants suggested that consumers might not truly understand the complex technical issues raised by the questions.* Concern among the group's industry representatives spread like wildfire, and before long, participants from the telephone and information service industries voted to scrap the survey in its entirety. With consumers strongly dissenting, the majority decided that obtaining consumer input was, in fact, not at all essential to the purposes of the workshop. Four months of intensive effort vanished in a single hour.

Although the survey had lost the workshop's official sanction, TDI and NCLD still saw value in obtaining information about the specific needs of the user community. To this end, they distributed their own questionnaire to participants attending the upcoming conventions.⁵² As expected, respondents overwhelmingly preferred a short, easy-to-remember number like 711, even if that number took a little longer to acquire.

Over the ensuing months, the workshop participants continued to spar over the benefits and disadvantages of each of the proposed numbering arrangements, during which time Cox submitted lengthy and detailed materials in opposition to the use of N11. In October 1994, the workshop voted to eliminate six of the numbering alternatives, *including N11*.[†] Given the prior leanings of this industry group, this decision was hardly surprising. The workshop also decided to abandon attempts to find a universal number that could promote relay competition, having concluded that this was a network architecture issue that was better suited to a different ICCF committee.

Still additional months passed without much progress until finally, in early spring 1995, the workshop recommended the establishment of three universal 800-855 relay access numbers for World Zone 1: 800-855-0511 for voice, 800-855-0611 for TTY-ASCII, and 800-855-0711 for TTY-Baudot.⁵³ For the most part, two criteria had guided this recommendation: (1) these dialing arrangements would not require telephone companies to make significant modifications to their switches, and (2) there were eight million potential 800 numbers, and fewer than three million of these were in use. The workshop members chose 800-855 numbers because NANPA had already set aside all 800-855-XXXX numbers—approximately 10,000 numbers—for TTY use throughout the United States, Canada, Bermuda, and the Caribbean.[‡]

Over the next several months, additional ICCF subcommittees considered the workshop recommendations, and final approval came on July 26, 1995, the fifth anniversary of the passage of the ADA.⁵⁴ The next step called for each of the state relay

* Some consumers speculated that this objection arose from industry concerns that the survey respondents would come out in favor of 711 access.

[†] I learned that these options had been eliminated while out on maternity leave.

[‡] A few state relays, including New York and Washington, D.C., were already using other 800-855 numbers for their statewide relay services. Originally, NANPA had reserved the 800-855 exchanges to make it easy for TTY callers across the nation to remember only the last four digits of these TTY-accessible numbers. Unfortunately, to this day, the failure to publicize these exchanges has continued to keep most businesses, governmental offices, and consumers in the dark about their availability.

providers to assume responsibility for working out the technical details to implement these numbers in their regions. At last, we had achieved one of our goals—ubiquitous access. However, two years had passed since the ADA's relay mandates had gone into effect, and four to five years had passed since most state relay systems had begun using their own 800 exchanges to access relay services. At this late date, we wondered whether states or their residents would still want to replace their existing relay dialing arrangements with these 800 numbers.

Others Discover N11 Applications

Soon after the ICCF chose the 800 numbers for nationwide relay, I received a call from NANPA, asking me whether consumers would now be willing to withdraw their FCC petition for N11 access. Though tempted to agree (convinced that our chances of prevailing on 711 had now gone from slim to none), when I called officials at the FCC, I learned that our petition was still very much alive. Despite the allocation of the 800 numbers, this was not the time to pull out.

In June of 1994, the FCC had released another inquiry on several new N11 petitions, providing the public an opportunity to supplement prior comments on the most appropriate use of N11 codes.⁵⁵ The notice had been in response to N11 requests from the National Association of State Telecommunications Directors for access to state government services and information, and the U.S. General Services Administration for a menu of federal governmental services.⁵⁶ It had the consequence—perhaps unintended—of unleashing even more requests for N11 dialing from various other federal agencies, each of which touted how it would use these codes. The Office of Personnel Management staked an N11 claim to disseminate information on federal health and insurance programs, the Transportation Department wanted to share emergency information on air, rail, water, and highway transportation, the Consumer Product Safety Commission wished to distribute materials on safe consumer products, and so it went.⁵⁷

Deaf and hard of hearing consumers were immediately skeptical of the new requests.⁵⁸ Many of the proposed N11 services intended to use interactive prompts and recordings, which would cause them to be inaccessible to both TTYs and relay services. NCLD again argued to the FCC that only the use of 711 for relay access achieved *basic* access to the telecommunications network. If the FCC was still inclined to grant one or more of these new N11 uses, we urged that it not do so without assurances that they be made fully accessible to people who were deaf and hard of hearing.*

The National Emergency Number Association (NENA) also raised concerns about the new N11 proposals. Fearful that the public might become confused about the differences between 911 emergency services and other N11 services, NENA pleaded for the FCC to resolve the N11 issue on a national basis, rather than let states distribute

* To support this, we cited to mandates for federal agencies to be program accessible under Section 504 of the Rehabilitation Act, 29 U.S.C. §794. We were not yet armed with the full force and effect of Section 508 of that act, under which all federal agencies would specifically be required to ensure the accessibility of their telecommunications systems.

these numbers to commercial interests one at a time. NENA was concerned that some people, believing they might be charged for 911 calls, might hesitate before using these emergency services.⁵⁹

By now, various media giants, including Cox, Advance Publications, Gannett, the Hearst Corporation, and the *Washington Post*, had banded together in a united coalition for commercial N11 dialing. These companies urged the FCC to break the regulatory “logjam” that was blocking further uses of these codes by information service providers. They argued that N11 was the only “practical way” for many newspapers to enter the electronic information services market and that “putting this powerful tool in the hands of the government instead of in the hands of the free press institutions, like community newspapers, would eliminate altogether . . . newspapers’ role in watching over the flow of public information to the people.”⁶⁰

A Battle Won, a War on Reserve

Despite the considerable interest that the FCC’s 1994 N11 notice engendered, the FCC did not address any of the N11 dialing issues for another three years. To make matters worse, just as we had predicted, individual states that had grown accustomed to their own relay dialing arrangements were now reluctant to use the 800-855 numbers that ICCF had approved. Although we had won the battle for ubiquitous numbering access, it seemed that we had lost the war to get people to actually use these numbers.

Unbeknownst to us, however, the FCC had carefully been watching the unfolding of a general public consensus to reserve valuable N11 codes for public interest purposes. After the passage of the accessibility provisions of the Telecommunications Act of 1996, the Commission had gradually come to the conclusion that the use of N11 dialing arrangements for relay services was far more compelling than those of our competitors. And so, to the great joy—and considerable astonishment—of relay advocates, the FCC finally agreed to reserve 711 for nationwide access to relay services on February 19, 1997.⁶¹ At the same time, the FCC reversed its original proposals to allow the local use of N11 codes for commercial information services, reaffirmed the continued use of 411 for directory assistance and 911 for emergency services, and reserved 311 for nonemergency police services.*

Unfortunately, this was not quite the end of our 711 journey. The FCC requested additional comment on a number of issues, including the technical feasibility of providing a gateway to multiple TRS providers and the feasibility of providing both voice and text through a single number. More significantly, the FCC’s assignment of 711 did not actually mandate its rollout across the states. Rather, as had been true for the 800-855 numbers, local jurisdictions could choose for themselves whether or not they wanted to implement 711 dialing. Nevertheless, the Commission did propose *mandating* 711 nationwide relay access within three years, if the remaining logistical problems could be resolved by that time.

* The allocation of 311 for nonemergency use did not come as good news to deaf TTY users living in New York. The New York Public Service Commission had been allowing the use of 311 for direct access to emergency services by TTY users. To continue ensuring adequate emergency access to people with hearing loss, the FCC gave New York a six month grace period before having to turn over this numbering code.

The telecommunications industry's reaction to the FCC's 711 ruling was quite positive. Though some remained concerned about the technical and operational details of 711 implementation, virtually all telephone companies appeared to support the FCC's decision. Most local companies also believed that three years would provide ample time to carry out the mandate with relative ease and minimal cost, and without the need to deploy new network arrangements.⁶² Again, GTE proved to be particularly helpful. In responding to the FCC's inquiries, it alluded to its own experiences with 711, confirming that the costs of 711 implementation were reasonable and its benefits great.⁶³ The lone dissenting voice was AT&T, which suggested that the FCC take the same "successful" approach it had taken for handling coin sent-paid relay calls, an approach that would require monitoring technical developments before mandating 711 technology. But seven years had already passed without a technical solution for coin sent-paid relay calls; no one else wished to repeat that ordeal.

In fact, consumers did not see a need for the FCC to wait even three years for 711 implementation. By now, there were at least 115 relay numbers throughout the United States, and the need for abbreviated and nationwide access had taken on a new urgency. Most companies could easily program their central office switches to translate 711 to either a seven-digit or 800 number that would, in turn, route calls to the designated state relay provider. This was a task that could be accomplished within months, not years.

When another year passed without a final FCC ruling on the mandated rollout of 711, consumers again began to grow leery. During this time, not a single state had taken the FCC up on its offer of 711 relay dialing. But before we had time to get too discouraged, another significant breakthrough occurred, one that had actually been in the making for a number of years.

Victory Is in the Air

In April of 1996, Steven Gregory, a hard of hearing member of the New Jersey Relay Advisory Board, had approached his telephone company, Bell Atlantic, about moving ahead with 711 implementation in that state. Although interested in 711, Bell Atlantic rejected Gregory's request because the FCC had not yet made its final decision on this and other abbreviated dialing codes. Specifically, the company was concerned that any premature state implementation of 711 might conflict with later FCC N11 rulings. When in 1997, the FCC issued its 711 order, Gregory and the New Jersey Relay Advisory Board renewed their request. Still, Bell Atlantic wanted the FCC's regulatory process to run its course.

In January of 1998, Gil Becker, the Maryland Relay Service's director, also approached Bell Atlantic for 711 access. At around this same time, New Jersey's regulatory commission, following up on Gregory's request, decided to ask competitive relay providers to include the costs of providing 711 access in their bids to provide relay service in New Jersey. This turned out to be enough to motivate Bell Atlantic to get a jump on the implementation of 711 along the eastern seaboard. Not long before, the company had released new universal design principles for making products and services accessible to people with disabilities. It decided that a rollout of 711 in Bell Atlantic territories would be consistent with this new company policy.

After an internal white paper on 711 received the unanimous approval of Bell Atlantic-New Jersey's Public Policy Committee, progress within Bell Atlantic began moving at lightning speed, largely through the efforts of the company's community relations manager, Sal Schifano. In July 1998, Bell Atlantic proudly announced that it would become the first local telephone company in the United States to provide 711 service throughout its thirteen states and the District of Columbia!⁶⁴

Only seven months later, Maryland became the first of the continental United States to offer 711 relay dialing. This service kicked off on February 8, 1999, with an extraordinary public relations campaign that included advertisements in newspapers and television commercials broadcast throughout Maryland and the D.C. metropolitan area. Within two months, Becker reported that 711 was "an overwhelming success," far surpassing anyone's expectations.⁶⁵ After several years of being stagnant, Maryland's call volumes increased by more than 12 percent during the first full month of 711 operations. After two months, over 41 percent of all of Maryland's relay calls came through 711, and Maryland saw a 23 percent increase in calls initiated by voice callers. While advocates for three-digit dialing had primarily focused on its ability to facilitate access for TTY users, Maryland proved that its use by hearing people was equally or more important. Now more than ever before, hearing people were finally returning relay calls.⁶⁶

Around this time, a number of other events continued to propel forward the deployment of 711. First, Jenifer Nordheimer, a consultant with Issues Dynamics, arranged for me to give a presentation on local 711 implementation to NARUC's Communications Committee at the end of February 1999. Two months after the committee received this "best practices" proposal (based on Bell Atlantic's 711 activities), NARUC released a report that included a recommendation to adopt 711 nationwide.⁶⁷ While this was being circulated, Bell Atlantic's Schifano continued his own 711 crusade, feverishly rushing around each of the Bell Atlantic states to muster support from company executives, network operators, long-distance carriers, and other key people. Simultaneously, Rich Ellis, Bell Atlantic's director of strategic alliances, actively monitored the pulse of the relay user community so that 711 implementation could fully meet the community's needs. It was clear that we were on a roll.

By the fall of 1999, Bell Atlantic predicted that 711 would be available throughout all of its states by July 2000. When the company was praised at a September 1999 FCC forum on 711 for its extraordinary efforts in front of relay consumers, state administrators, and the telecommunications industry, it seemed to receive an added shot of adrenalin.⁶⁸ Unfortunately, the rest of the country's telephone companies did not take their cues from Bell Atlantic's actions. The vast majority of these companies still had no plans for 711 relay access.

Triumph at Last

In November 1999, at the request of Chairman William Kennard, I joined the FCC as the deputy bureau chief of the Consumer Information Bureau (CIB).^{*} Early in my

^{*} CIB has since been renamed the Consumer and Governmental Affairs Bureau.

tenure, I realized that support for 711—by both telephone companies and consumers alike—was now universal, but that the FCC was standing between the desire for 711 and its complete nationwide deployment.

In the states that had already begun using 711, sentiment was unanimous: Relay users were rejoicing at the ease with which they could not only make relay calls, but the simplicity with which they could leave messages for hearing people, knowing their calls would now be returned.⁶⁹ By March, Massachusetts was added to the ranks of 711 states, followed by Nevada, Pennsylvania, New Hampshire, New Jersey, the District of Columbia, Delaware, Rhode Island, Virginia, and West Virginia. Bell Atlantic confirmed that it generally took only six months to implement 711 in each state, with expenses that were so small that they were typically “within the range of other routine network upgrades and changes.”⁷⁰ In fact, the greatest expense appeared not to be from setting up 711; rather, it was from misdialed N11 calls!

Many businesses found that 711 also had the unexpected benefit of allowing them to access millions of potential new customers. At least one state, Nevada, used the new dialing arrangement to attract vacationers. In a press release announcing its 711 rollout, Nevada proclaimed that it was one major tourist destination where TTY users would never have to look up the state’s relay number!⁷¹ Even companies that had been lukewarm about using 711 now seemed to come around. For example, AT&T’s web site revealed the company’s new attitude:

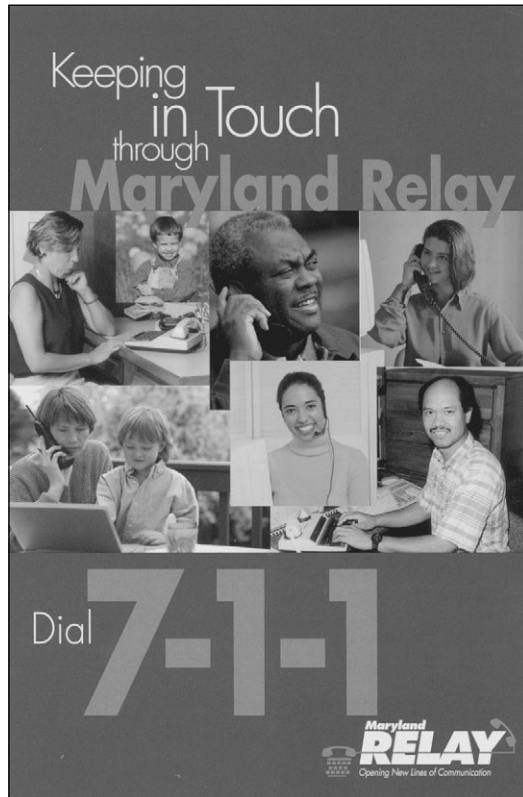
Could we get to the point a little faster? Sure. . . . Just dial 711 to access AT&T Relay Service! . . . Pack your friend’s telephone numbers in your overnight bag and dial . . . dial . . . dial! 711 is going national. So, whether you’re away on vacation, on the road, or away on business, chances are the 711 network is right there with you.⁷²

Notwithstanding all of this triumphant 711 activity, it remained clear that without an actual FCC mandate for 711 relay access, full acceptance across the nation would never happen. A number of local telephone companies, payphone providers, cellular systems, and PBX systems appeared unwilling to implement access to 711 unless mandated to do so.⁷³ Yet, absent any further opposition from industry, the states, or consumers, there seemed to be little reason for the FCC not to move ahead with a 711 mandate. When Pam Gregory, director of the FCC’s Disability Rights Office, and I pitched this idea to Chairman Kennard during the winter of 2000, he readily gave his approval.⁷⁴ Only a few months later, Kennard announced the agency’s plans to require nationwide 711 relay access to a jubilant audience of 300 at the biennial NAD conference in Norfolk, Virginia. The order itself, directing all telecommunications carriers nationwide to implement 711 dialing in a little over a year, was adopted on July 21, 2000.⁷⁵ It’s “fast, functional and free” became the Commission’s new 711 slogan.⁷⁶

The FCC viewed the implementation of 711 as a good way to heighten public awareness about relay services in general, and to that end directed telephone companies, relay providers, and the states to conduct comprehensive education and outreach programs on the new dialing code so that they reached “the largest number of consumers possible.”⁷⁷ Indeed, the rollout of 711 provided a unique opportunity to reach commercial establishments, business offices, senior citizens, and other segments of the American public still unfamiliar with relay services. The Commission



Before 711 most states had multiple relay numbers. These magnets illustrate the convenience of three-digit relay dialing.



Maryland Relay Service promoted the use of 711 through an extensive and very successful outreach campaign that included brochures such as this one.

recognized Maryland's outreach program as having pushed public awareness to an all-time high, and recommended that other states follow its fine example.⁷⁸

As to the issue of 711's compatibility with competitive relay markets, the FCC concluded that the greater demand for relay services spurred by 711 would encourage new relay providers to enter the market and, through that avenue, increase innovation, lower prices, and enhance its quality.⁷⁹ Several years later, California became the first

Chart 7.1**711 Timeline
A Decade of Advocacy to Achieve Easy TRS Numbering Access**

- 1991 — Cox Enterprises requests BellSouth for N11 numbers for information services
 - May 1992 — FCC opens national N11 proceeding; grants telephone companies permission to assign N11 numbers to information service providers
 - July 1992 — NCLD/TDI request 711 for TTY relay access and 511 for voice relay access in reply comments on new FCC proceeding
 - August 1992 — NCLD/TDI request NANPA for N11 relay access
 - October 1992 — Florida approves Cox's request for 511 for 2 year trial period
 - December 1992 — NCLD/TDI file request for reconsideration of Florida N11 decision and opposition to Cox's use of 511 in Georgia
 - January 1993 — Canada gives provisional approval for 711 relay access
 - April 1993 — GTE adopts 711 for TTY relay access and 511 for voice relay access in Hawaii
 - May 1993 — Georgia approves Cox's request for 511 for 1 year
 - October 1993 — NCLD/TDI submit emergency FCC petition for 711 relay access; Tennessee reserves 711 for relay access.
 - 1992–1995 — Information service providers pursue local N11 numbers around the country; NCLD/TDI oppose these petitions in 26 states
 - December 1993 — ICCF (industry) establishes TRS Workshop to explore TRS numbering options
 - February 1994 — Canada begins using 711 for TTY relay access; 800 number for voice relay access
 - March 1995 — ICCF chooses 800 numbers for nationwide TTY and voice relay access in America
 - February 1997 — FCC directs Bellcore to reserve 711 for nationwide relay access
 - July 1998 — Bell Atlantic announces commitment to roll out 711 in its states
 - February 1999 — Maryland becomes first state to offer 711 relay dialing
 - July 2000 — FCC mandates 711 relay access nationwide
 - October 2001 — Roll-out of 711 completed on schedule
-

state to use multiple-state relay vendors. California relay users can now pre-select their relay provider, and their 711 calls are automatically routed to that provider.⁸⁰

Although the FCC's order gave carriers until October 1, 2001, to implement 711 access, Bell Atlantic completed its entire 711 rollout by September 2000. BellSouth, too, sought to beat the FCC deadline by having all of its states provide 711 access by January of 2001. By mid-May 2001, twenty-four states and D.C. reported satisfaction with the new numbering arrangement, and by June 2001, the wireless industry pledged to work out still unresolved routing and billing issues to meet the FCC's deadline.

The eight-year battle against powerful and affluent media conglomerates was finally over. The deaf community had persevered and emerged victorious against spectacular odds and extraordinary resources. NCLD and other groups had spent nearly a decade advocating for ubiquitous relay access, and we owed a debt of gratitude to Canada, GTE of Hawaii, and Bell Atlantic, whose technical, fiscal, and regulatory 711 achievements paved the way for its ultimate success.⁸¹ Chairman Kennard left the FCC in early 2001, but when the final 711 deadline arrived on October 1, 2001, a new champion for disability rights emerged from the Commission. Commissioner Michael J. Copps applauded the nation's full compliance with the 711 mandate, as he urged his fellow commissioners to make sure that advanced telecommunications continued to open doors of opportunity for all people with disabilities.⁸²

Notes

1. Sam Loewenberg, "Phone Companies Face Turf Battle Over 3-Digit Codes," *Dallas Morning News*, August 14, 1993, F1.

2. Robert L. Pettit, FCC general counsel, letter to David J. Markey, vice president, BellSouth, May 4, 1992.

3. *Use of N11 Codes and Other Abbreviated Dialing Arrangements*, Notice of Proposed Rule-making, CC Dkt. 92-105, FCC 92-203 (May 6, 1992).

4. *Ibid.*, ¶¶15, 16.

5. Comments of AT&T in Dkt. 92-105 (June 5, 1992), 4, n*.

6. Ad Hoc comments in Dkt. 92-105 (June 5, 1992), 3-4.

7. Comments of MCI in Dkt. 92-105 (June 5, 1992), 3.

8. Comments of GTE in Dkt. 92-105 (June 5, 1992), 2.

9. Comments of NYNEX in Dkt. 92-105 (June 5, 1992), 2, 4; See also comments of U.S. West in Dkt. 92-105 (June 5, 1992), 6.

10. Comments of Pac Bell and Nevada Bell in Dkt. 92-105 (June 4, 1992), iii.

11. Comments of Bellcore in Dkt. 92-105 (June 5, 1992), 2, 7.

12. Comments of CSCN in Dkt. 92-105 (June 5, 1992), 1.

13. *In re: Southern Bell Telephone and Telegraph Company, General Subscriber Service Tariff Provisions Regarding N11 Service*, Petition of Cox Enterprises, Inc. for Assignment of N11 Code (June 6, 1992).

14. TDI, NCLD, NAD, SHHH, ASHA, the National Easter Seals Society, National Fraternal Society of the Deaf, United Cerebral Palsy Association (UCPA), United Church of Christ Office on Communication, the World Institute on Disability (WID), Canadian Association of the Deaf, and Gallaudet University joined in the submission with local deaf and hard of hearing consumer groups and governmental organizations from Arizona, Illinois, Iowa, Kentucky, Florida, Oregon, Maryland, Minnesota, California, New Jersey, Virginia, New Mexico, and Wisconsin. The reply comments were filed on July 13, 1992.

15. *Telecommunications Services for Individuals with Hearing and Speech Disabilities, and the*

Americans with Disabilities Act of 1990, Report and Order and Request for Comments, CC Dkt. 90-571, FCC 91-213, 6 FCC Rcd 4657 (July 26, 1991) ¶42.

16. Meeting between Pam Ransom and the author and members of the FCC's Common Carrier Bureau, August 13, 1992.

17. Karen Peltz Strauss, NCLD, letter to George Via, vice president, operations technology, Bellcore, August 17, 1992. At the time the FCC commissioners were Chairman Alfred Sikes, Commissioner James Quello, Commissioner Sherrie Marshall, Commissioner Andrew Barrett, and Commissioner Ervin Duggan.

18. Alfred Gaechter, Jr., NANPA, letter to the author, NCLD, August 31, 1992.

19. Karen Peltz Strauss, NCLD, letter to Alfred Gaechter, Jr., NANPA, May 13, 1993. Fred Cooke, Bell Atlantic's executive director of external relations, was particularly helpful in promoting the use of N11 relay access. Early on, he announced the company's "desire for improved access to telecommunications relay services." NCLD, "Disability Coalition Petitions FCC for National Three Digit Access Numbers," news release, August 3, 1992, 3.

20. Werner K. Hartenberger, Dow, Lohnes & Albertson, letter to the author, NCLD, September 16, 1992.

21. Cindy Skrzycki, "Newspaper Wins Use of '511,'" *Washington Post*, October 28, 1992, G1.

22. Karen Peltz Strauss, NCLD, letter to Thomas Beard, chairman, Florida PSC, December 2, 1992.

23. Comments of NCLD and TDI in Southern Bell N11 Service Tariff, Dkt. 42-32-U (December 23, 1992); NCLD Motion to Intervene (December 28, 1992).

24. GTE, "GTE First to Announce Standard Three-Digit Codes for Access to Its Telecommunications Relay Service (TRS)," news release, May 21, 1993. On certain islands, Molokai and Lanai, customers needed to dial "1" before the three digits.

25. The meetings were held on February 3, 1993, and May 1, 1993.

26. The Florida Telecommunications Access System Act of 1991 had required the establishment of Florida's relay service prior to the ADA's deadline.

27. Thomas Crowe and Michael Jones, "N11 Codes—It's Not Too Late," *Phone +*, (October 1993): 15.

28. "N11" Service in Works for Tennesseans," *Knoxville News-Sentinel*, October 10, 1993.

29. Loewenberg, "Turf Battle Over 3-Digit Codes," F1.

30. James Roots, CAD, letter to Nancy Bloch, executive director of the NAD and Yerker Anderson, president of the World Federation of the Deaf, June 22, 1993.

31. See, for example, Fred Gaechter, Bellcore, letter to members of World Zone 1 and approximately 2,000 others on the NANPA mailing list, April 19, 1983.

32. Karen Peltz Strauss, letter to James Roots, July 14, 1993.

33. Allan J. Darling, Canadian Radio-television Commission, letter to Al Lewis, chairman of CSCN, August 4, 1993, approving the plan to assign 711 for TTY access and a 1-800 number for voice access, and to hold a second N11 number in reserve.

34. Roots, facsimile to the author, February 2, 1994.

35. NANPA had distributed the inquiry on April 19, 1993, and announced its findings on July 30, 1993.

36. MCI was especially concerned that a single N11 access number would route all relay calls within each state to a single provider. They felt this would eliminate any recourse for dissatisfied customers who wanted to switch their providers. Gerry Nelson, MCI, "The Argument for N11 with Competition," e-posting on Telephone for All, November 15, 1993.

37. "Local Competition Outlook," *State Telephone Regulation Report* (August 12, 1993): 2. Colorado, Delaware, New Hampshire, and Washington, D.C. had each decided they would not rule on any N11 applications until the FCC ruled on the numbering issue. Other states to reject commercial applications were Iowa, Indiana, Michigan, Idaho, Maryland, New York, and Wisconsin.

38. *In the Matter of Investigating N11 Access to Information Service Providers*, Report of Division of Communications, Virginia State Corporation Commission, Case No. PUC930019, (August 31, 1993), 16.

39. *Ibid.*, 19.

40. In March 2000, the Virginia State Corporation Commission finally approved 711 dialing for relay services, but this was only after the FCC set aside this code for this purpose. *Investigation to Implement 711 Abbreviated Dialing Access to the Telecommunications Relay Services in Virginia*, Case No. PUC000045, Initiating Order (March 28, 2000); Final Order (June 1, 2000).

41. *Commission Clarifies Pleading Cycle for Comments*, FCC Public Notice, IAD File 93-02 (October 28, 1993), opening “Assignment of N11 Codes to Facilitate Access to Telecommunications Relay Services.”

42. *Investigation of N11 Allocations*, Interim Order, Tennessee Public Service Commission, Dkt. 92-13892 (October 20, 1993). While we had succeeded in temporarily getting Virginia to hold off on allocating 511 and 711 for commercial purposes, Tennessee was actually the first contiguous state to specifically reserve this number for relay use.

43. Jeanne Moran, assistant general counsel, memorandum on Staff Comments and Recommendation to the Tennessee PSC, Dkt. 92-13892 (October 13, 1993), 8. Tennessee had also implemented its relay system three years before the ADA deadline.

44. “BellSouth, Cox Finalize Agreement; Announce Initial Plans,” Bellsouth News Release, October 25, 1993.

45. Peter C. Canfield, Dow, Lohnes & Albertson, letter to Mac Barber, chairman, Georgia PSC, December 20, 1993.

46. Order Regarding N11 Abbreviated Dialing, Florida PSC Order No. PSC-93-1620-FOF-TL (November 4, 1993), 12.

47. See *Telecommunications Reports*, November 29, 1993, noting that although several media companies had fought to guard three digit numbering for commercial applications, nearly all commenters supported the petition’s objective to broaden telephone access by people with hearing and speech disabilities.

48. Reply Comments of NCLD, TDI, AG Bell, ALDA, Chicago Hearing Society, Illinois Alliance for the Hearing Impaired, NAD, National Fraternal Society of the Deaf, and SHHH in IAD File No. 93-02 (December 8, 1993).

49. *Ibid.*, 4.

50. *Assignment of N11 Dialing Codes*, North Carolina Utilities Commission Order Denying N11 Assignment, Dkt. P-100, Sub 119 (February 18, 1994); *Investigation of the Issues Surrounding the Assignment of N11 Codes*, Nevada PSC Order, Dkt. 93-2012 (March 13, 1995).

51. Ameritech, AT&T, Bell Atlantic, BellSouth, GTE, Hamilton Telephone, McCaw Cellular, MCI, NYNEX, Pacific Bell, Southwestern Bell, Sprint, U.S. West, TDI, Cable and Wireless, SBC, Stentor, Time/Warner, USTA, Cox Enterprises, Bellcore, NECA, and the FCC were among the participants. Al Sonnenstrahl and the author represented relay consumers.

52. Surveys were distributed at conventions held by the NAD, AG Bell, SHHH, ALDA, American Society for Deaf Children (ASDC), National Black Deaf Advocates, and the National Association of the Deaf Senior Citizens.

53. The TRS workshop formally recommended these numbers to ICCF on March 3, 1995, and ICCF accepted them on April 7, 1995.

54. For example, a committee called the Service Management System Numbering Administration Committee or SNAC was given the task of assigning the “RESPORG,” the entity that would manage and administer changes in the 800 database and ultimately ensure that calls would be routed in a given geographic area to the certified relay provider of that area. SNAC was only one of six committees under an umbrella group called the Order Billing Forum, through which the numbering solution still had to pass.

55. *Commission Seeks Comment on Requests of Federal Agencies and Others for the Assignment of N11 Codes*, IAD File 94-101, DA 94-644 (June 16, 1994).

56. National Association of State Telecommunications Directors, Ex Parte Presentation to FCC, CC Dkt. 92-105 (September 22, 1993). GSA Petition for Declaratory Ruling to the FCC (March 11, 1994).

57. Other agencies that came forward supporting GSA’s request included the Department of Agriculture (food stamps and emergency preparedness), Department of Veterans Affairs (VA benefits), and the Department of Justice (civil rights).

58. Comments of NCLD, NAD, SHHH, and TDI in Dkt. 92-105 (August 19, 2004).
59. Comments of NENA in Dkt. 92-105 (September 23, 1994).
60. “FCC Receives Diverse Opinions on Suitability of ‘N11’ Numbers for Public-Sector Use,” *Telecommunications Reports*, August 29, 1994, 33. See also “FCC Gets Disparate Views on How N11 Numbers Should be Assigned,” *Communications Daily*, August 25, 1994, 1.
61. *The Use of N11 Codes and Other Abbreviated Dialing Arrangements*, First Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. 92-105, FCC 97-51, 12 FCC Rcd 5572, (February 19, 1997). Concerns that 711 would hamper relay competition were somewhat assuaged by the existence of new competition for interstate relay calls by AT&T, MCI, and Sprint.
62. See separately filed Comments of BellSouth, Southwestern Bell Telephone Company, Ameritech, Bell Atlantic, GTE, MCI, USTA, U.S. West, and Sprint in Dkt. 92-105 (all filed on or around March 31, 1997).
63. Although consumers had also asked the FCC to consider adopting presubscription or a gateway service—so that relay users could pre-subscribe to their chosen relay provider through 711—industry members agreed that providing this type of service would be far more complicated and therefore, take far longer to implement. Separately filed Comments of USTA, GTE, SWBT in Dkt. 92-105 (all filed on or around March 31, 1997).
64. “Bell Atlantic to Make Calling Easier for Customers Who Are Deaf, Hard of Hearing—First Company Committed to Deployment of 711 Service,” Bell Atlantic News Release, July 8, 1998.
65. Gil Becker, letter to Steven Gregory, April 18, 1999.
66. “7-1-1 Takes Off,” *MDAD News* 39 (Spring/Summer 1999): 17, reporting that in March 1999, the Maryland Relay Service handled 232,842 calls, up from call volumes that had hovered around 205,000/month for the prior two years.
67. *A Compilation of ‘Best Practices’ to Implement the Telecommunications Act of 1996* (Columbus, Ohio: National Regulatory Research Institute, April 1999), 48. Available at <http://www.nrri.ohio-state.edu/dspace/bitstream/2068/286/1/99-07.pdf>.
68. *Revised Public Notice on FCC Convenes a Public Forum on 711 Access to Telecommunications Relay Services*, FCC Public Notice, DA 99-1170 (June 16, 1999). Consumer groups represented at the forum included SHHH (Brenda Battat), TDI (Claude Stout), and the NAD (the author). Industry representatives included Bell Atlantic (Rich Ellis), Sprint (Paul Ludwick), MCI (William McClelland), AT&T (Burt Bossi), and Hamilton Relay (Dixie Zigler). Also in attendance were NENA (Toni Dunne) and the Maryland Relay Service (Gil Becker).
69. See Rita Beier, VISTA Information Technologies, letter to the author, CIB, May 31, 2000.
70. See generally, Richard Ellis, Bell Atlantic, *ex parte* letter to FCC, June 5, 2000.
71. Nevada Governor’s Office “Nevada Leads the Way in Telephone Services for the Disabled,” press release, April 14, 2000.
72. AT&T, “What’s New,” <http://www.att.com/relay/whatsnew.html> (accessed May 16, 2000; page now discontinued).
73. Meeting between Maryland State Relay officials and FCC, March 20, 2000.
74. This cleared the way for Thomas Wyatt of CIB to draft the 711 order.
75. *The Use of N11 Codes and Other Abbreviated Dialing Arrangements*, Second Report and Order, CC Dkt. 92-105, FCC 00-257 (August 9, 2000), codified at 47 C.F.R. §§64.601(1); 64.603. Hereinafter cited as 711 Order 2000. The order also reserved, but did not mandate, 511 for traffic and travel information and 211 for local community information and referral services.
76. *October 1 Begins New Era of Telephone Access*, FCC News Release (September 25, 2001).
77. 711 Order 2000, ¶61, codified at 47 C.F.R. 64.604 (c)(3). Among other things, the Commission encouraged carriers, states, and relay providers to publicize 711 in mainstream media, including newspaper, radio, and TV.
78. The Maryland program was orchestrated by Gil Becker, Brenda Kelly-Frey, and Pam Stewart.
79. 711 Order 2000, ¶4.
80. Comments of the People of the State of California and the California PUC, submitted in response to the FCC’s Further Notice of Proposed Rulemaking on Internet and Video Relay Service, CG Dkt. 03-123 (October 18, 2004).
81. In addition to Sal Schifano, who led the rallying cry for 711 throughout Bell Atlantic’s re-

gion, a number of individuals at Bell Atlantic, which later was merged with GTE to form Verizon Communications, were to be credited with making 711 a reality. These included Vice President of External Affairs Colleen McCloskey, who with Schifano first fielded requests for 711 from the New Jersey Relay Advisory Board, Shelly Harms, who helped prepare the company's very first white paper, Margaret Malagon who helped to put together the advanced intelligent network solution that later became a template for the deployment of 711 in other states, Maureen Aeckerle who became a part of the very first team to roll out 711 in Maryland, and Bill Darcy in New York and Marilyn Benoit in Massachusetts, both of whom provided 711 technical assistance in their respective states.

82. *Commissioner Copps Applauds Nationwide 711 for Telecommunications Relay Services*, FCC News Release (October 1, 2001).



In Case of an Emergency

Calling for an emergency service may happen only once or twice in your lifetime—or maybe never, but if it does happen—it must happen right.

—Brenda Battat, associate executive director,
Self Help for Hard of Hearing People

IN JULY 17, 1986, Jay Shufeldt, a deaf resident of San Diego, noticed that his wife was having trouble breathing. Shufeldt tried to summon 911 assistance using his TTY, but the dispatcher hung up, believing the call to be a prank. Two more tries yielded the same results. Help finally arrived approximately two hours later, after Shufeldt's hearing daughter called a voice emergency number. By then, Mrs. Shufeldt had died.¹

The Shufeldt incident both shocked and angered the deaf community. Shufeldt filed a lawsuit against both the state of California and his telephone company, Pacific Bell. Prior to Shufeldt's call, Pacific Bell had sent out notices announcing the city's new TTY access to its 911 emergency services, allegedly—*before* all the necessary modifications had been made to ensure such access. Although Shufeldt's case was ultimately dismissed, the events that caused it prompted sweeping changes of San Diego's 911 system in August 1989.

The Battle for a 911 TTY Mandate

The federal government's interest in promoting access to emergency services through 911 dates back to the late 1960s. But as late as the 1980s, there were few, if any, jurisdictions that responded to TTY calls made directly to 911. Indeed, San Diego was not the only city grappling with a failed 911 system. In 1986, Paul Singleton, working with Gallaudet University's National Academy, conducted a nationwide survey of sixty-one cities, and found that 57 percent of their emergency call centers did not even own a TTY.² The cities that did have these devices typically shoved them into forgotten corners and failed to train their employees on their use.

The District of Columbia was a case in point. Although, in the 1970s, Louis Schwarz, president of Deaf Telecommunicators of Greater Washington, had been successful in getting the D.C. police to install TTYs, well into the 1980s, deaf D.C.

Epigraph. Brenda Battat, quoted in Anne Edwards, "Access to Emergency Communication Services," *GA-SK* 22 (Spring 1991): 12.

residents were forced to use a seven-digit number to access emergency services. On March 24, 1988, D.C. police finally unveiled new equipment that would provide direct TTY access via 911 to the city's public safety answering points (PSAPs)—i.e., the city's operation centers that handled police, fire, and other emergency services.³ Unfortunately, when the D.C. police department held a press conference to demonstrate its new system, it became apparent that the D.C. government had failed to consult anyone in the deaf community prior to its development of that system. As D.C.'s Chief of Police Maurice T. Turner Jr. boasted that the new equipment put the District ahead of other regions in the nation, John Lopez, a deaf consumer advocate attending the program on behalf of TDI, watched each demonstration go awry with repeated and unnecessary errors.⁴

Lopez began testing other 911 systems in D.C.'s suburbs. He discovered that almost none of the systems afforded effective access to TTY users and that there had been little, if any, coordination with the deaf community when those systems were first set up. For example, efforts to reach a 911 dispatcher in Fairfax County, Virginia, took two-and-a-half hours because of a jammed TTY printer. Prior consultation with the deaf community would have indicated the need for a back up TTY support system to prevent this kind of mishap.

Ignited by the San Diego tragedy, the D.C. fiasco, and the overall failure of the nation's 911 systems to be TTY accessible, TDI created the Emergency 911 Access Project, with John Lopez as its chair, in the fall of 1988. Lopez spent that winter soliciting input from both the deaf community and the telecommunications industry on 911 TTY-related incidents.⁵ His comprehensive efforts revealed that deaf consumers across the nation were paying for telephone emergency services that they simply were not receiving.

TDI concluded that federal legislation was needed to rectify this appalling lack of access. Although the organization considered tacking a 911-access mandate onto the newly introduced ADA bill, the prognosis for this legislation remained uncertain, especially given the breadth of its provisions. Instead, Lopez approached Congressman Robert Garcia (D-N.Y.), who was more than willing to help. On April 5, 1989, he and thirty-seven of his colleagues introduced H.R. 1690, the Emergency Phone System Equal Access Act, which would amend the Communications Act to require local public safety emergency service providers to install technologies that were readily accessible by people who were deaf, hard of hearing, and speech disabled.⁶

At around the same time, TDI committed to working on its own emergency access solutions. The organization began by designing a multitiered prototype that used several levels of PSAP managers and technicians to effectively respond to TTY calls. It next hosted an Emergency 911 Access Forum at its national convention, held in Washington, D.C., on July 12, 1989. The standing room only crowd walked away with a new sense of urgency to pressure Congress to support Garcia's new 911 proposal.⁷ When TDI released its emergency access prototype shortly after the conference, it was inundated with requests for seminars, videoconferences, and informational materials by consumers and governmental agencies now seemingly bent on achieving 911 access. Clearly, TDI's efforts to focus national attention on the 911 issue were beginning to work.

Despite this newly kindled interest, H.R. 1690 made little headway in Congress.

Months after its introduction, the bill still was not slated for hearings by the House Telecommunications and Finance Subcommittee to which it had been assigned. Advocates speculated several reasons for this. Some legislators seemed to believe that the federal government had no business meddling in local 911 operations. Others appeared concerned about the bill's implementation costs, and still others erroneously assumed that existing federal laws, such as the Rehabilitation Act, were sufficient to ensure 911 access. This reasoning was flawed. Although the Rehabilitation Act did prohibit discrimination on the basis of disability in municipal programs that received federal financial assistance, proving that individual 911 programs actually received federal aid was quite difficult, and sometimes impossible. Moreover, even 911 systems that were clearly covered by the Rehabilitation Act were apparently disregarding their obligations under that law.

Frustration among deaf leaders mounted. To bolster their case for a federal mandate, Lopez and disability advocate Frank Bowe surveyed 200 of TDI's members about their emergency access needs. Not surprisingly, respondents reported considerable anxiety at not being able to summon police, fire, and other 911 services.⁸ On March 23, 1990, Lopez made a plea to TDI's board of directors to organize grass roots lobbying for the bill.⁹ In response, the board arranged for at least ten registered voters in each congressional district to visit their representatives during the legislative spring recess in April 1990. But even this did little to push the 911 bill along.

When H.R. 1690 continued to sit idle a year after it had been introduced, TDI Executive Director Al Sonnenstrahl and Bowe began to reconsider the deaf community's initial decision not to add its mandates to the ADA. By now, the landmark disability legislation appeared to be only weeks away from passage. With little action on H.R. 1690 predicted in the foreseeable future, deaf leaders trekked up to Capitol Hill to see if the bill's 911 mandates could still be incorporated into Title II of the ADA, which required all state and local governmental programs and services to be accessible to people with disabilities.¹⁰ But the advocates quickly learned that their appeals to amend Title II were coming very late in the ADA's congressional journey. With hearings on the omnibus legislation completed, staff members were already writing legislative reports that solidified compromises made over the past several months. The last thing that they wanted was the introduction of new provisions that could upset the apple cart of these negotiated agreements.

Fortunately, with the assistance of Senate legislative staff, advocates came up with a way to require emergency access in the ADA without changing even a word of its provisions.¹¹ Since Title II prohibited all local governmental programs from discriminating on the basis of disability, and 911 systems were operated by local governmental entities, technically, Title II would already require local emergency systems to provide access to deaf and hard of hearing callers. The only piece that was missing was a mandate for municipalities to fulfill this obligation by providing *direct TTY* access. Congress could achieve this by simply adding language to the legislative report accompanying Title II, and the statute itself could remain untouched.

But even this solution posed some challenges. By the time that advocates figured out what they needed to do, it was already mid-May, and the House Education and Labor Committee was putting the final touches on its report, in preparation for the ADA to go to the full House for a vote. I quickly drafted some language and ran it by

Lopez and other deaf leaders. With virtually no time to spare, the legislators threw our language into the House report verbatim, and on May 22, 1990, overwhelmingly voted to approve the ADA with the new TTY requirement intact.¹² Just under the gun, but after thirteen exhausting months, Lopez and his colleagues had finally succeeded in obtaining a federal mandate requiring direct TTY access to 911 emergency services.

Battles for Effective Implementation

Responsibility for ensuring compliance with the ADA's Title II provisions was handed to DOJ. Tragically, before DOJ could even release its final regulations, there were yet more deaths caused by deficient 911 operations in California. During the fall of 1990, a man from Contra Costa County died after 911 dispatchers took more than one hour to respond to his TTY calls. And in March 1991, the death of a deaf woman whose husband had been unable to summon help from a Northridge facility sent waves of despair through that community.¹³ In the latter case, although an operator answered the TTY call, she hung up before the elderly man could slowly type out his message. When the caller finally finished typing, he waited endlessly for a reply, erroneously believing that paramedics were being dispatched. By the time he realized his call had been disconnected and contacted the fire department via a seven digit number, efforts to save his wife were too late. After this incident, PSAPs in the region were directed to automatically return calls to disconnected TTY numbers, and where unable to re-establish communication, send a patrol car to the caller's address.¹⁴

TDI realized that to prevent additional tragedies, it needed to educate not only DOJ, but the local governmental agencies charged with fulfilling DOJ's future 911 mandates on TTY access.¹⁵ To this end, Sonnenstrahl decided to conduct a series of national forums on emergency access.* The first of these occurred only a few weeks after DOJ released its Title II notice of proposed rulemaking.¹⁶ The event offered the perfect opportunity for disability advocates, government officials, telecommunications companies, state PSAP providers, and emergency service equipment vendors to craft 911 recommendations before the agency finalized its rules.¹⁷ In-depth discussions on TTY policies, emergency access technologies, and appropriate protocols revealed the importance of training dispatchers to slow down their speech, talk directly into the handset, and rephrase questions for people with hearing loss. The stress associated with emergencies compounded the need to have operators open to unique language differences; yet most of these safeguards had been ignored by emergency technicians around the country. After the conference, a newly formed Coalition for Emergency Service Access, comprised of thirteen organizations, called upon DOJ to require proper TTY call handling, equal access to new 911 enhancements (including automatic number and location identification), and extensive outreach capable of alerting a largely uninformed TTY community about the existence and use of 911 services.¹⁸

The ADA had directed DOJ to issue its Title II regulations within one year after the act's passage. But even their imminent release did not prevent yet another TTY death

* These conferences, held on Capitol Hill to elevate their significance, were jointly produced by the Anenberg Washington Program, and facilitated with the assistance of Alan Mauk of USTA.

from occurring. Only weeks before the new rules were released, the *Washington Times* reported that a man living in a D.C. suburb had died of a heart attack after dispatchers ignored his deaf wife's TTY call.¹⁹ After trying to get through on three separate occasions, the wife finally used a relay service to establish 911 contact. By the time the ambulance arrived—nearly forty minutes after her first call—her husband had passed away. The emergency communication center claimed the woman had failed to use the TTY properly because she had not pressed the space bar five times after the operator answered. Center personnel insisted that the high-pitched TTY tones of the space bar were necessary to alert dispatchers that a TTY call was coming in.

On July 26, 1991, DOJ released its Title II rules requiring all public safety agencies—including police, fire, ambulances, and even emergency poison control centers—to make their telephone emergency services directly accessible to TTY and computer modem users.²⁰ This access would have to be provided through 911 where available; where emergency services were only available via a seven-digit number or other dialing arrangement, only those numbers would have to be TTY-accessible.*

Although PSAPs also would be required to handle emergency calls channeled through relay centers, enabling a TTY user to summon emergency assistance directly reduced the risks of misinterpretation and shortened the time needed to exchange information. A few misspelled letters in an address or even the few extra seconds needed to convey a message via relay could mean the difference between life and death. An even greater problem was that many emergency call centers used software that automatically blocked incoming calls originating outside their service areas. Because relay calls were often routed through centers located in other parts of the state, local PSAPs often rejected them.

In August 1991, only a month after the draft rules were released, more incidents occurred that raised serious doubts about the extent to which call centers were ready to comply with the new mandates. On August 24, Sonnenstrahl tried to call 911 after his eighty-one-year-old father fell down his front steps in a suburb of Washington, D.C.²¹ Three attempts to get through with a TTY yielded no response. The 911 program administrators later alleged that Sonnenstrahl had not hit the space bar needed to alert its operators to the presence of a TTY call. Sonnenstrahl denied this charge, discovering only later that the space bar of his TTY did not emit sounds unless another key was pressed first. Only a few weeks later, when Jack Gannon, special assistant to Gallaudet's president, had a diabetic attack in another part of Maryland, his wife's attempts to call 911 via TTY also failed. According to the PSAP, when Gannon's wife made her call, the county's single TTY-dedicated 911 line was busy. Both Sonnenstrahl and Gannon ultimately received the medical care they needed after calling a seven-digit emergency number, but these incidents revealed how woefully unprepared the nation's PSAPs still were to meet their TTY obligations.

* So long as a PSAP made its 911 number directly accessible to TTY users, it could also provide a separate dialing arrangement for the exclusive use of TTY callers. A few years later, New York did exactly this, when it created a direct emergency line for its TTY callers through 311. Eventually the FCC directed the state to relinquish that numbering arrangement, but for the brief period that it existed, New York's deaf citizens had the added comfort of knowing their calls would be handled by professionals experienced in taking such calls.



DOJ attorney Robert Mather explains the government's role in enforcing the ADA requirement for direct TTY access to 911 centers. Mather participated in a number of DOJ proceedings against centers that failed to meet this ADA obligation.

Sonnenstrahl thought that a second national conference, this one devoted to providing emergency call centers with hands-on guidance to meet DOJ's deadline, could provide a wake-up call. The second National Emergency Access Conference, held on November 21, 1991, hosting more than 100 service providers, manufacturers, consumers, and regulators, was kicked off by its honorary chairman, Senator Inouye (D-Hawaii).²²

The conference tackled several tough issues. DOJ's rules had left many of the fine points of handling TTY emergency calls unspecified in an attempt to provide maximum flexibility for public agencies. Unfortunately, this meant that local emergency authorities were still free to adopt practices that could hinder rather than facilitate access. For example, some emergency call centers were considering TTY registration requirements to prevent call-takers from hanging up on TTY users. But because hearing people did not have to register for emergency services, many deaf consumers felt that this approach was discriminatory.* Also, if dispatchers relied exclusively on a registered list, they might fail to respond to TTY calls originating from other locations.

Conference participants also grappled with the all-too-common PSAP policy requiring TTY callers to tap their TTYs in order to get a dispatcher's attention. Though some emergency experts insisted that this was the best way to identify incoming TTY calls, many consumer advocates, including one of the country's leading experts on emergency access, Toni Dunne, maintained that requiring a deaf person to press the space bar was equivalent to requiring a hearing person to say hello five times before receiving an acknowledgment.† The best way to prevent operators from hanging up on silent calls, they insisted, was through extensive and ongoing operator training.

* Since that time, the FCC has mandated registration by individuals wishing to access 911 services through voice over Internet protocol (VOIP) telephone systems. Unlike calls made over the PSTN, Internet-based calls are not yet identifiable by their caller's point of origination. Registration allows VOIP providers to have the location of their subscribers, so that their emergency calls can be directed to appropriate PSAPs. As this book goes to print, the FCC is considering a similar registration requirement for individuals who use Internet-based relay systems.

† At the time, Dunne was both the 911 TDD coordinator for the Advisory Commission on State Emergency Communications in Texas and the new chairperson of TDI's 911 Emergency Access Committee.

DOJ later agreed that there were several problems with a “tapping” requirement. Not only was this practice unfamiliar to most TTY users, but often callers did not have enough time or opportunity to depress keys in an emergency. In addition, not every TTY was equipped to emit noises when its space bar was pressed.

The extent to which PSAPs would have to accept incoming TTY calls using the ASCII format was perhaps the most contentious issue of the conference. Because ASCII had been designed for the transmission of computer data, calls made over ASCII required the receiving modem to return an answer tone to establish a computer “handshake.” If the modem making the call did not receive that handshake within a specified amount of time, the call would automatically disconnect.

Under the FCC’s rules, relay centers were required to accept both ASCII and Baudot calls. These centers were able to answer an ASCII call immediately and send back the necessary handshake in more than enough time for the call to proceed. Likewise, DOJ’s Title II rules contained a requirement for 911 centers to accept both types of TTY calls. The problem was that an ASCII call to 911 emergency services might have to go through several steps before reaching its final destination; any of these steps could take more time than was allotted for the ASCII handshake and result in disconnection of the call. For example, because ASCII tones are silent, the receiving dispatcher might first need time to verify that the incoming call was not a silent voice call. Once determined to be coming from a TTY, the call might have to be relocated to a TTY operator. After that, the call might still need to be transferred to fire, medical or other specialized emergency services. The National Emergency Numbering Association (NENA), an association dedicated to promoting universal 911 access, joined a growing chorus of conference participants who opposed including ASCII coverage in DOJ’s new 911 access mandates. Consumers, however, were initially uncertain about letting any access go, and at the close of the conference, the issue remained unresolved.

NENA, fearing life-threatening consequences if ASCII calls were required, brought its objections to Congress. In a letter to Congressman Steny Hoyer (D-Md.), NENA claimed that DOJ’s rules contained a “flaw” that had “set in motion a situation that could be fatal to a hearing and speech impaired person.”²³ No technology, the association insisted, could “guarantee” that an incoming ASCII call would be connected to an ASCII modem in sufficient time to respond to an emergency situation. Similar letters went to Hoyer’s congressional colleagues, until, on February 3, 1992, at least one representative—Congressman Curt Weldon (R-Penn.)—passed along NENA’s concerns directly to DOJ. The ADA, Weldon said, was intended to “improve conditions for people with disabilities, not to jeopardize their well being.”²⁴ NENA’s efforts were ultimately successful in convincing DOJ—and even consumers—that, for the time being, direct TTY access to emergency call centers needed to be limited to Baudot transmissions. This and other information gathered at TDI’s conference proved helpful to the development of a comprehensive DOJ manual containing detailed procedures for making 911 systems TTY-accessible; the guide eliminated many of the ambiguities left by the agency’s original 911 rules.²⁵ Most importantly, the manual directed each and every call-taking station to have either its own TTY, or TTY compatible equipment, so that TTY and voice response times would be equal to one another. The agency concluded that sharing TTYs among operators or transferring calls from non-TTY equipped stations could result in delay, disconnection, or the loss

of advanced features that identified the caller's telephone number and address. The new guidelines also directed emergency call takers to develop basic familiarity with TTY abbreviations, ASL syntax and structure, and other communication methods used by deaf and hard of hearing callers. Finally, DOJ's manual prohibited policies that required callers to tap their TTY keys; instead, all personnel would also be expected to test for incoming TTY calls as part of their silent call procedures.

DOJ's rules went into effect on January 26, 1992. A *single* day later, Michael A. Chatoff, a deaf attorney, brought a class action suit against New York City's 911 system on behalf its 200,000 deaf and hard of hearing and speech disabled residents.²⁶ Having witnessed New York's blatant disregard of its 911 access obligations during the nineteen years since passage of the Rehabilitation Act, Chatoff anticipated the city's continued noncompliance after the ADA rules became law. Chatoff asked for \$300 million in punitive damages, asserting that New York's failure to allocate either the necessary funding or technological manpower to provide effective emergency access was so extreme that it implied a "criminal indifference to civil obligations."²⁷

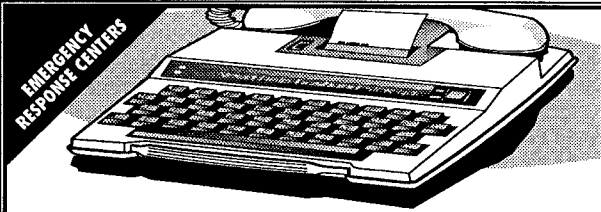
On the day of Chatoff's hearing, Sonnenstrahl appeared as a witness to testify about the dire consequences of not having 911 access. Only a few minutes into Sonnenstrahl's testimony, however, the presiding judge stopped the proceedings, directed all parties into his chambers, and admonished the city that if it did not make its 911 system directly accessible to TTY users within weeks, it would be slapped with billions of dollars in punitive damages.²⁸ Within the year, New York installed TTYs in every one of its seventy-six emergency work stations and conducted extensive training for 911 personnel on deaf culture and language, TTY use, and communication methods.*

Although Chatoff likely trusted that the outcome of his case would deter the need for similar lawsuits in other jurisdictions, the difficulties inherent in eradicating decades of discrimination resulted in many more years of noncompliance and litigation against local 911 authorities. Just a few months after the New York judge handed down his order, a thirty-five-year-old deaf woman in Dallas died when paramedics did not respond to her 911 call for half an hour.²⁹ And only a half year after that, a suit for \$15,000 was brought against the city of Tavares, Florida, the Lake County Sheriff's office, and United Telephone of Florida, when that city's 911 system failed to respond to a TTY call from a deaf man experiencing chest pains.³⁰ Although a hearing neighbor eventually got through on a conventional voice line, the man died while being driven to the hospital by paramedics.

In the mid-1990s, DOJ—in large part through the efforts of one of its deaf attorneys, Robert Mather—stepped up its nationwide efforts to enforce the ADA's 911 mandates. In addition to disseminating its own information through workshops, technical assistance telephone lines, and mass mailings, the agency contracted with TDI to prepare and distribute educational materials to 2000 emergency centers across the country. The Emergency Access Self Evaluation ("EASE") kits that TDI produced contained both manuals for PSAPs to conduct TTY training and self-help guide books for those receiving calls. Sonnenstrahl and Dunne followed up this effort by trying to convince NENA and the Association of Public-Safety Communications

* The New York Society for the Deaf and the New York League for the Hard of Hearing (LHH) were designated to serve as watchdogs over the modified New York City system.

TDI's Emergency Access Self-Evaluation Program was designed to help 911 centers improve their access to TTY users.



EMERGENCY RESPONSE CENTERS

TO DETERMINE YOUR CENTER'S TTY PREPAREDNESS, FILL IN THE BLANKS

Fill in the blanks and you'll receive complete information on **EASE**—the new TTY Preparedness Program developed by Telecommunications for the Deaf, Inc., through a grant from the Department of Justice.

Use **EASE** to evaluate your own compliance with ADA regulations regarding 911 access for TTY communicators, and to develop your own program aimed at achieving compliance and preparedness. Don't wait to respond... the lives of TTY communicators may depend on it.

Name _____
 Agency _____
 Address _____
 City _____ State _____
 Zip _____
 Telephone (_____) _____
 Fax (_____) _____

EASE
**EMERGENCY ACCESS
 SELF-EVALUATION**
 Fax information to:
 (301) 589-3797

Officials (APCO), a group dedicated to training and certifying 911 dispatchers, to incorporate TTY access into their various activities.³¹ In April of 1995, TDI went even further to arrange for the directors of local deaf programs across the nation to conduct assessments of their local emergency systems.

DOJ also began taking a more aggressive stance in cracking down on infractions by entering into settlement agreements that commanded cities to undergo significant overhauls of their 911 programs. One such agreement, with the city of Los Angeles, resolved a complaint brought by a deaf woman who had been unsuccessful in summoning 911 help when her toddler fell off his bed and injured his head. Her first three TTY attempts were rejected, and she had to wait ninety minutes before her son received medical assistance. The agreement, which required the installation and maintenance of TTY equipment, call-taker training, emergency back-up and consumer education, was so extensive that it was highlighted in the *Washington Post* and used by Assistant Attorney General for Civil Rights Deval Patrick to educate the mayors of hundreds of the largest cities about their access obligations.³²

In the fall of 1996, DOJ began using local U.S. attorney offices to help it conduct compliance reviews of 911 centers. The new effort was preceded by a call to the NAD, requesting the association to get in touch with the NAD's state presidents, to prepare them in case they received calls from local press.* Not surprisingly, the investigations revealed even more municipal procedures in defiance of the agency's 911 rules. Cleveland, Ohio, 911 centers had a single TTY for eighty call takers. Hempstead, New York, failed to train its staff on the use of TTYs. Baltimore, Maryland, still required callers to press TTY keys. More DOJ settlement agreements were signed, but now, tiring of the ongoing infringements, DOJ also began intervening in lawsuits brought by others against noncompliant jurisdictions.³³

* Suzy Rosen, a deaf attorney working at the NAD, took on this responsibility.

One such lawsuit was brought in 1996 in Phoenix, Arizona, to protest the city's ongoing TTY-key tapping policy. Although Phoenix was among the cities that had received TDI's EASE materials setting forth DOJ's clear prohibitions against that practice, the lawsuit recounted numerous instances in which Phoenix's 911 emergency dispatchers had failed to respond to silent TTY calls. The court, noting that not all TTYs emitted an audible tone even when the space bar was pressed, agreed with consumers that DOJ's "no space bar" requirement was "consistent with Congress' stated desire to end discrimination against individuals like the plaintiffs" under the ADA.³⁴ Unfortunately, the court denied compensatory damages, claiming that these were not available under ADA's Title II or the Rehabilitation Act absent a showing that the local government had engaged in intentional discrimination. Although the plaintiffs appealed, a higher court found that the city's "bureaucratic inertia," as well as its failure to know or understand the guidelines contained in DOJ's manual were not enough to constitute the level of deliberate indifference or discriminatory intent needed to impose damages.

During the summer of 1996, Elaine Gardner, formerly an attorney with NCLD, learned that despite efforts of the Washington, D.C., police department back in the 1980s, D.C.'s 911 system also remained inaccessible to deaf callers. In one instance, a deaf woman who was attacked and robbed while waiting for a bus, failed to get through to a TTY accessible 911 operator for more than thirty minutes. In another, a person working in a group home for deaf people with mental illness couldn't make contact with 911 dispatchers when one of the home's residents became unconscious. As the circumstances surrounding these events began to unfold, they revealed long-standing problems with the District's emergency centers. Not only had the District's computer-enhanced 911 system (installed in 1994) never been properly designed to accommodate TTYs, it actually caused operators to hang up on TTY callers! After Gallaudet University tested the D.C. system and unearthed additional deficiencies, including a general failure to train 911 operators on TTY use, Gardner brought suit in federal district court. A favorable judgment came swiftly.³⁵ The presiding judge was so exasperated with the state of D.C.'s affairs that he threatened to strip the city entirely of its control over 911 operations and place the program in receivership, unless it made immediate improvements.*

Through the remainder of the 1990s, NENA and APCO continued their efforts to improve TTY access to PSAPs. As chair of the NENA Accessibility Committee and for a time, chair of APCO's ADA Committee, Toni Dunne worked with these organizations, hounding them into compliance where possible, and offering expert advice on standards used to train 911 personnel on interacting with TTYs. Even today, DOJ continues its compliance reviews of local 911 systems as part of a greater endeavor called Project Civic Access, which is designed to evaluate overall compliance with the ADA's Title II mandates.³⁶ These efforts have produced roughly 100 agreements to improve access to emergency services with towns and cities across the nation.

In addition to efforts taken by DOJ to ensure direct TTY access to 911, in March 2000, the FCC revamped its regulations for TTY users wishing to summon emergency

* Among other things, the city was directed to immediately train and test its operators with TDI's EASE materials, and to work with consumer groups on comprehensive outreach efforts on 911 access.

assistance through relay services. The FCC's new mandate required relay providers, upon receiving an emergency call, to immediately and automatically forward that call to an appropriate PSAP.³⁷ This measure, which required the creation of databases to direct incoming calls to 911 centers best suited to handle those calls, was intended to alleviate prior difficulties that occurred when PSAPs rejected relay calls from outside their calling areas. But even this was not enough to guarantee emergency access to relay users when the World Trade Center in New York was attacked on September 11, 2001.

On that day, when the governors of Maryland and New York ordered their state buildings closed, their state relay centers were shut down as well, without any procedures to redirect calls. Deaf and hard of hearing consumers received no warning before losing their telephone lifeline. Dismayed over the ensuing lack of communication, Brenda Kelly-Frey and Pam Stewart of the Maryland Relay Service brought the matter to the attention of the FCC, appealing for a way to prevent its reoccurrence. The FCC responded by alerting relay centers about a voluntary federal program called the Telecommunications Service Priority (TSP) System, which granted certain types of facilities priority to have their telephone lines restored more quickly than others in the event of an emergency.³⁸ In June 2004, the FCC agreed to sponsor any relay facility that applied for TSP priority status, in the hope of keeping disruptions to relay communications to a minimum in future disasters.³⁹ A year later, a new Emergency Communications Subcommittee of the U.S. Department of Homeland Security announced its goal of achieving 100 percent relay provider participation in the TSP program by 2005–06.⁴⁰

Deaf Watch Petition: Televised Emergency Programming

In 1970, large sections of California between Los Angeles and San Francisco were devastated by widespread fires. Local officials succeeded in evacuating most of the residents through announcements over radio, television, and loudspeakers. But tragedy struck as deaf people who could not hear the warnings in time lost their property and in some cases, their lives. Unfortunately, this was not uncommon. Deaf people received little or no information about hundreds of other natural disasters that occurred in the 1970s. Without any legal obligation to make their emergency broadcasts accessible, television stations routinely failed to provide lifesaving information in a visually accessible format for hurricanes, earthquakes, tornadoes, civil disorders and other crises. Older television viewers likely remember that, in an emergency, these stations routinely displayed the words “Emergency Bulletin” in lieu of regularly scheduled programming. Unfortunately, the details about these emergencies were always provided by an off-screen announcer.

On April 23, 1970, Nancy Lipschultz, acting on behalf of the Illinois Association of the Deaf TV Committee, decided to do something about the sorry state of affairs. In a formal petition to the FCC, she requested that television stations be required to transmit emergency weather and news bulletins visually as well as aurally.⁴¹ Her petition also requested visual access to “special programming,” including movies, educational programs, and other forms of television entertainment.

The FCC responded to Lipschultz's petition on December 17, 1970, with a public

notice that acknowledged both the importance of meeting the access needs of the millions of deaf Americans and the benefits that visual emergency alerts would provide for *all* viewers.⁴² But rather than create a new requirement, the notice merely *suggested* to television stations that they provide visual information and position their newscasters' faces into cameras to permit lipreading of emergency information:

The video segment of telecasts are ideally suited to alert, assist and entertain persons with impaired hearing. Therefore, the capability of television to present visual material should be used to its fullest extent. . . . We suggest to TV broadcasters that they make use of visual announcements along with oral announcements when presenting bulletins of an emergency nature, such as approaching tornadoes, windstorms, hazardous driving conditions, escaped convicts, industrial accidents, health hazards and other community dangers.⁴³

Recognition of the need for visually accessible programming was a step forward, but without the authority of an enforceable regulation, the Commission's gentle requests to air accessible broadcasts were not likely to have much impact on the television industry. Each television licensee was left to decide how and even whether to meet the access needs of its viewers. The FCC merely promised to monitor the industry's actions, and to consider adopting access requirements in the event that the broadcasters failed to act on their own.

In 1971, an earthquake hit the San Fernando Valley. Without accessible television broadcasts, deaf and hard of hearing students at California State University at Northridge were reported "wandering around in the streets seeking news."⁴⁴ It became increasingly apparent to advocates that the television industry needed more than "suggestions" to add visual information to its emergency programming. Consumers now turned to the White House and in December 1971, were successful in convincing the director of its Office of Telecommunications Policy, Clay T. Whitehead, to send a letter to FCC Chairman Dean Burch. Whitehead urged Burch to get the broadcast industry interested "in offering telecasts that provide a means whereby warnings and emergency bulletins and other services could be made available to viewers with impaired hearing."⁴⁵

Unfortunately, even the White House communication did little to propel the FCC into action, and yet another year passed with little or no improvement to viewer access. Having failed to secure reform through the federal government, the Council of Organizations Serving the Deaf (COSD) appealed directly to the television industry. On August 3, 1972, COSD wrote to the National Association of Broadcasters (NAB) urging improved emergency notifications, and attaching "Understanding Deafness" packets in the hope of familiarizing NAB's member stations with the needs of the deaf community.⁴⁶

Students from Gallaudet's Model Secondary School for the Deaf also got involved in the emergency access struggle by sending a petition to President Nixon that urged his support for access to television programming, including televised reports of emergencies. The FCC's response, sent on September 22, 1972, was less than satisfactory. Although the Commission noted its "continuing interest" in the problems raised in the petition, the FCC made no mention of any plans to take additional regulatory action. Rather, claiming that its 1970 notice already had prompted the NAB to study the feasibility of providing captioned television programs with special decoders, it shifted

the burden of securing change right back to the students: “To help implement the 1970 Public Notice of the Commission, groups of deaf and hard of hearing persons might wish to consider dealing directly with television stations in their communities concerning their needs for emergency information and their desires to benefit from public affairs, special events, and other programming.”⁴⁷

On January 16, 1973, nearly three years after she had sent in her first petition, Lipschultz again wrote to the FCC to complain of minimal compliance with its 1970 notice.⁴⁸ Again the FCC’s response was disappointing. In reference to the limited provision of *open* captions, the FCC explained that undoubtedly, broadcasters were concerned about “the burden involved in preparing and inserting captions on an extensive basis, and [had] doubts as to the acceptability to the general broadcast audience of captioned program material.”⁴⁹ As for *closed* captioning, the FCC discussed new testing being conducted by the Public Broadcasting System, and made very clear that it did not want to mandate these technologies “until all of the technical and practical aspects of the system have been explored.”

In March 1973, tornadoes and severe weather warnings swept the Atlanta area. None of the Atlanta stations accompanied their alerts with visual information about the storms’ paths.⁵⁰ Around this same time, a manhunt for an escaped and dangerous convict in the Atlanta area cautioned hearing viewers to stay tuned for fast-breaking developments. Often hearing children bore the heavy burden of keeping the deaf members of their families informed as critical details about these and other emergencies unfolded on their television screens.

A letter from Edward Carney, executive director of COSD, to one deaf viewer expressed the overwhelming frustrations of deaf and hard of hearing people at the time. Twenty-five years, he wrote, had been a long time to wait for the television industry to respond to the needs of their community. Lack of emergency access had already been brought to the attention of the U.S. president, the FCC, and the NAB, but each of their responses had shifted the responsibility for achieving access back to consumers, who were unsuccessful in convincing their local television stations to respond to their needs. Commenting on the oddity of having to request “visible bulletins on a communication medium that calls itself *television*,” he nevertheless urged the deaf correspondent not to give up: “We can only hope that one day a letter such as yours will convince these people that your husband and other hearing impaired Americans have a right to teleVISION.”⁵¹

The year 1973 saw enough hurricanes, tornadoes, heavy snows, fires, flash floods, and earthquakes to result in forty-six presidential declarations of natural disasters in thirty-one states.⁵² Notwithstanding hundreds of deaths and over one billion dollars in property loss across America, the FCC did not revisit the issue of visual announcements until the middle of that year. On August 1, 1973, a letter from FCC Chairman Burch to the White House finally offered some hope that the FCC had been giving additional thought to an open captioning mandate for emergencies: “It seems apparent that captions providing such [emergency] information should be available to all persons of impaired hearing—not just to those whose receivers are especially equipped to display encoded captions.”⁵³ But consumers knew that until the agency actually moved to adopt a rule, even this rhetoric would be insufficient to motivate the television industry.

In the fall of 1974, Larry J. Goldberg, L. Irene Bowman, and Thomas Herrmann, the three law students who later founded NCLD, began exploring legal avenues to address television access by deaf and hard of hearing people.* Their research revealed that four years after issuance of the FCC's meager notice on accessible televised emergency warnings, little or nothing had been done to improve what had become an intolerable situation.

Determined to spur the FCC into action, the group first set about ascertaining the method of emergency notification that would be most preferable to viewers with hearing loss. In the 1970s, a few television stations had begun experimenting with the use of sign language interpreters for their news and other local programming. But the students quickly learned that this communication method had several drawbacks. Not only might interpreters not always be available during an emergency, but many senior citizens who had lost their hearing later in life had never even learned to sign. An examination of lipreading revealed problems that were equally, if not more troublesome. Only 25 percent of spoken English could be understood by reading lips. By contrast, a study conducted by the New York University Deafness and Research Training Center suggested that printed messages was most preferred by deaf and hard of hearing television viewers. Additional consultation with consumers and deaf leaders confirmed that an FCC rule requiring this type of visual communication made the most sense.

On January 20, 1975, under the name Deafwatch—Demanding Equal Access to Facts and Warnings Aired on Television for Citizens who are Hearing Impaired—Goldberg, Bowman, and Herrmann filed a petition with the FCC demanding broadcast emergency notifications to be available in visual as well as aural forms.⁵⁴ Joined by Jess M. Smith and Frederick Schreiber of the NAD, Mary Eileen Paul of Deafpride, and Richard H. Israel of the AG Bell, the group spoke of the “shocking failure of television to perform its duty to the hearing impaired”⁵⁵ and the “blatant disregard” of the FCC's 1970 notice.⁵⁶ This, they asserted, had produced “profoundly devastating results” that left people with hearing disabilities “physically and psychologically vulnerable to disasters.”⁵⁷ The petition concluded that the effectiveness of television as a source of communication and the FCC's responsibility to promote the safety of life and property through the use of wire and radio communication compelled mandates for visual emergency warnings.⁵⁸

The petition sought two rule changes, one that would require television broadcasters to transmit emergency information in a visual form whenever they issued these warnings in an aural form, and a second that would require stations to include visual information each time they utilized the Emergency Broadcast System (EBS). EBS was a system reserved for the U.S. president to transmit information, through local television stations, to the American public in the event of a national emergency. Local stations could also use EBS at their discretion, to transmit information about weather disasters and other emergencies creating a threat to life or property.

The Deafwatch petition presented a number of options for communicating emergencies visually. In addition to captioning, which was still in its infancy, the petition

* Chapter 1 describes in detail the successful efforts of these advocates, who got their start on deaf access issues as part of a law school class project, to launch NCLD for the purpose of defending the rights of people with hearing loss nationwide.

proposed scrolls of paper with typed words, typewritten messages on index cards, charts containing data, blackboard, and chalk, white writing on black vinyl backing, and even a felt marker on oak tag. It went on to boast that some of these methods could be had for as little as thirty-nine cents! The advocates also proposed that all emergency notifications include the following aural and visual “tag notice,” to alert people who might not be watching television at the time: “If you have a hearing impaired or blind friend or neighbor, please pass this information on to him or her.”

Despite its foot-dragging for the prior five years, the FCC wasted no time in releasing the Deafwatch petition for public comment, doing so only four days after the petition was filed. This was almost too soon for the GWU students who needed time to secure congressional and other types of support. The students received the legislative backing they were looking for when, in February 1975, Senator Percy (R.-Ill.) sent a letter of support to the FCC and urged his colleagues on the Senate floor to do the same.⁵⁹ Percy refuted claims by broadcasters that people with hearing loss did not watch television by pointing to recent surveys that revealed 71 percent of these individuals to be television viewers; in fact, 65 percent of this group watched television six or more hours during weekends.*

This time, it took less than a year for the FCC to issue proposals for a rule requiring the visual transmission of emergency notifications.⁶⁰ The new notice, released on December 22, 1975, finally acknowledged only limited compliance with the FCC’s 1970 recommendations, and concluded that mandatory requirements for the television broadcast of visual emergency alerts were needed to “serve the public interest, convenience and necessity.”⁶¹ Noting the power of the television medium to disseminate information about emergencies to the deaf community, the proposed rule even recommended concluding each emergency transmission with the suggested tag notice to alert friends and neighbors with disabilities who were not watching TV.

NCLD had just come into existence when the proposed rules were released. The law center’s very first newsletter implored the deaf and hard of hearing communities to come forward with their personal accounts of the need for televised emergency access.⁶² Perhaps it was the letters that came pouring in from around the nation, or the years spent appealing to the FCC to act on this issue, or a combination of both, but on September 15, 1976, the FCC finally released a rule mandating visual notifications of televised emergencies.⁶³ The new requirement, scheduled to take effect on February 1, 1977, would be triggered whenever a station broadcasted emergency programming aurally or utilized the EBS system. Television stations could use any method that would result in “a legible message conveying the essential information,” including, but not limited to captioning, slides, mechanical printing processes, and manual methods, such as hand printing. NCLD followed up with letters to broadcasters and consumers that explained the new mandates and suggested methods for their enforcement.

Although the FCC’s new rules carried the force of law, over the next decade and a half, repeated violations of their provisions disappointed consumers. Floods and tornadoes in the Midwest, blackouts in New York, earthquakes in California, and other major weather disasters routinely produced a barrage of consumer complaints about

* Percy also entered the entire Deafwatch petition into the Congressional Record, the official record of legislative proceedings conducted by Congress.

the lack of visual alerts. Unfortunately, the federal government made little effort to induce compliance. Not until December 1989, did the Federal Emergency Management Authority (FEMA) issue a fact sheet instructing stations to comply with the 1977 law, directing them to Gallaudet, the National Institute for the Deaf, and various captioning agencies for assistance in meeting their obligations. A year later, the FCC released a similar reminder.⁶⁴ On April 25, 1990, FEMA also sponsored a nationally broadcast live teleconference, *Emergency Communication with Hearing or Speech Impaired Persons*, which facilitated discussions by deaf and hard of hearing experts on many emergency access issues, including television notifications.⁶⁵

But without any real threat of penalties for noncompliance, these negligible efforts did little to promote improved broadcaster compliance. And so when Hurricane Andrew devastated much of Florida in 1992, causing the evacuation of nearly 250,000 people, twenty-three deaths, and over \$25 billion in damage, the deaf community was again forgotten. Television coverage of the disaster, then billed as the most destructive hurricane on record, failed to provide the visual information that was sorely needed by this community to respond to the storm's perilous path. Rather than fine any of the stations, however, the FCC issued yet another a public notice reminding broadcasters of their emergency access obligations—even though prior notices always had proven inadequate.⁶⁶ It was somewhat startling, but fifteen years after NCLD had secured a federal mandate requiring televised emergency access, this access had scarcely improved.

Emergency Alert System

In the early 1990s, two major changes prompted the federal government to reevaluate its system of alerting viewers about national emergencies: the growth of cable programming (previously not covered by EBS) and the development of new digital technologies that permitted greater efficiency, precision, and timeliness in the distribution of emergency information. The FCC initiated several new proceedings to bring EBS in line with these evolving technologies, renaming EBS the “Emergency Alert System” (EAS), to reflect the capabilities of cable, broadcast, and other transmission systems to work together to provide seamless emergency communications.⁶⁷ In the meantime, Congress passed the Cable Television Consumer Protection and Competition Act of 1992, to extend the provisions of the nation's alerting system to cable programming.⁶⁸ As had been true for EBS, EAS was primarily intended to allow the U.S. president to reach the general viewing public during national emergencies, but also could be activated voluntarily by local broadcasters and cable stations to disseminate information about hometown emergencies.⁶⁹

In the spring of 1993, the FCC began to hold field trials to assess the extent to which new innovations could effectively convey emergency information to the general public.⁷⁰ When the FCC was ready to test out some of these new technologies on people who were deaf and hard of hearing in the fall, Judy Harkins of Gallaudet University's Technology Assessment Program (TAP) assembled several deaf and hard of hearing leaders to try out the new prototypes. Unfortunately, the September testing, held in Pikesville, Maryland, proved to be a considerable disappointment. Only one vendor in attendance at the trials had a technology that included visual alerts and displays,

and even that technology failed, preventing any real evaluation of its accessibility features.

A month after the field tests were completed, the FCC released both a notice soliciting comments on its formal field tests, and proposed rules seeking input on how best to enhance the new emergency system.⁷¹ When Harvey Goodstein passed along this request to the deaf and hard of hearing community on November 19, 1993 via his Telephone for All e-mail list, testimonies about the inadequacies of the current emergency broadcasting system, coupled with suggestions for its improvement, came streaming in.

Two weeks later, various deaf advocacy groups submitted comments on the new EAS proposals, sharing the community's considerable disappointment with the autumn trials and the television industry's deplorable track record on emergency access.⁷² The comments urged the FCC to develop mandates on the distribution of emergency information that were consistent with the ADA's nondiscrimination goals.

As the FCC went about finalizing its EAS proposals, consumers turned their attention to yet another matter concerning televised emergencies. Even television stations that did provide emergency information in a visual form regularly failed to make sure that this information—typically produced in crawls along the bottom of the television screen—did not overlap with closed captions. Television for All (TVFA), a consumer advocacy group consisting of more than twenty organizations from D.C., Virginia, and Maryland, decided to do something about this. Under the leadership of Toby Silver, the group approached one of the local broadcasters, WRC-TV Channel 4, and with the assistance of Fred Cooke of Bell Atlantic and others on the station's disability advisory board, succeeded in convincing the station to adopt a new method of conveying emergency information that would not interfere with captions. In March of 1994, the station launched the new TOBI system—the Television Online Bi-screen Information System—named after Silver herself. The innovative technology squeezed the television picture into a box to provide room for an emergency crawl at the top of the screen, while simultaneously displaying captions at the bottom.

To the delight of advocates, WRC made its TOBI method available to other stations around the nation free of charge. But concerned that other broadcasters might not follow WRC's forward-thinking example, in May 1994, TVFA also petitioned the FCC to prohibit the overlap of emergency slides and captions in a manner that could impede a viewer's ability to understand either set of text.⁷³

On December 9, 1994, the FCC released its new EAS rules.⁷⁴ At first glance, the Commission's order appeared to respond to the community's requests for full accessibility. Citing to our very own comments, the FCC explained: "It is fully consistent with the Congressional mandate of the Americans with Disabilities Act to make all facets of our society fully accessible to individuals with disabilities . . . any oral emergency messages that are broadcast through broadcast radio, television, or other media should be made available in text form."⁷⁵ The rules promised that the new alert system would protect viewers *regardless* of their language needs or individual disabilities, and, in apparent response to TVFA's petition, even required video messages to appear on the TV screen where they would not interfere with closed captions.⁷⁶

A closer look at the new requirements, however, revealed potential programs. The FCC's order explained that when the EAS system was activated, cable providers could

provide the emergency message in both video and audio formats on all of their channels or they could simply interrupt programming on their channels with an audio alert message and some type of flashing video interruption. If they did the latter, the *audio alert* would direct viewers to a single cable channel that was carrying the full emergency message, and that message would have to be accessible to both blind and deaf viewers.

But the order did not require the “video interrupt” to direct deaf and hard of hearing viewers to the channel supplying the full EAS message; nor did it even specify the frequency or duration of these blinking signals. Instead, cable providers using the video interrupt would be required to provide the emergency information being displayed on the designated EAS channel to deaf and hard of hearing people through an in-home alerting device, such as a set top box that might also be used to activate other alerting mechanisms or lights.

Consumers complained to the FCC that the separate alerting device solution had been conceived in isolation, and had neither been tested, nor even made available for public comment.⁷⁷ Moreover, the reliability and effectiveness of the proposed devices had never been established—no such devices currently existed, and the technology trials designed to demonstrate their features had failed. Nor was it clear who would set standards for their performance or ensure their efficacy. And because the devices were neither portable nor required in every location where televisions were used, they would leave individuals without access to emergency messages in many locations. Several other questions remained unresolved: What would the devices cost and who would pay for them? How would consumer eligibility be determined? Who would distribute and repair them?

Rejecting the set top boxes as a viable solution, consumers urged the FCC to require the transmission of emergency messages in both audio and video formats on every cable channel. Not only would this alternative eliminate uncertainties, it would be consistent with principles of universal design that were beginning to infuse the consumer movement for telecommunications access. These principles dictated that products and services should be designed to benefit the greatest number of individuals possible, regardless of their functional abilities. Requiring separate devices only for people who could not hear flew in the face of this doctrine.

When the FCC failed to respond to the community’s feedback during the spring of 1995, advocates began to grow concerned that their strong opposition to the set top boxes was not being taken seriously. At the time, however, FCC Chairman Reed Hundt was planning other major changes to the Commission’s approach to disabilities issues. By then, the ever-changing landscape of products and services now affecting people with disabilities was making the need for coordination and expertise on disability issues within the FCC indispensable.* The prior year, Sonnenstrahl had proposed the creation of an internal FCC body to respond to these changes and to serve as a liaison to the disability community.⁷⁸ Chairman Hundt, who himself had taken an interest in these issues, liked the idea, and had pursued it throughout the fall of 1994 in a series of letters and meetings with TDI.

* For example, the FCC had already had to address matters concerning hearing aid compatibility, relay services and closed captioning.

On March 17 1995, Hundt announced the creation of the FCC's first ever Disabilities Issues Task Force (DITF).⁷⁹ Consisting of employees from each of the FCC's bureaus and offices, the group's mission was to "serve as a monitor and educator, ensuring that Commission and industry actions are in the best interests of the disability community and that they understand the needs and interests of . . . people with disabilities."⁸⁰ Linda Dubroof, one of the FCC employees who had been chiefly responsible for drafting the FCC's relay mandates, became the group's first chair, and soon turned her attention to addressing the community's concerns with the EAS rules.⁸¹

After several brief encounters with Hundt's staff on the EAS rules during early summer 1995, the matter finally came to a head at a two-hour session between the cable industry and advocacy groups, held at the FCC on August 30, 1995.⁸² It had been rumored that the FCC was considering a requirement for consumers to acquire certification before becoming eligible to receive a set top box. At the August meeting, consumers protested that requiring proof of a hearing loss would exclude senior citizens and other individuals who were unlikely to get hearing tests just to obtain one of these devices. A certification requirement also might limit the number of locations capable of providing EAS messages, as hearing friends and family, vacation properties, and offices might not be considered eligible for one of the boxes.

At the August 1995 meeting, advocates also complained that the EAS order contained few directives for video providers to educate deaf and hard of hearing viewers about the purpose of the proposed "video interrupt." Advocates feared that millions of viewers might think that something had gone wrong with their televisions if they did not have prior information about why their screen was flashing. They said the least the FCC could have done was to have conducted trial testing of the video interrupt to judge viewer response before making this part of its EAS rule.

Put on the defensive, the FCC's immediate reaction to these concerns was harsh. Commission staff seemed to acknowledge that a major factor—if not the main criterion—in determining the EAS access mandates had been costs to cable providers. Staff said they had no intention of conducting further tests, and advised community representatives instead to travel to trade shows to view accessibility features demonstrated by manufacturers. They also urged the deaf community to conduct studies on its own to assess the effectiveness of various solutions. Exasperated consumers left the meeting discouraged by the agency's response.

Disillusionment with the FCC's ongoing failure to revise its approach continued until mid-October, when consumers suddenly learned that the FCC was considering doing away with the "video interrupt" rule and replacing it with a rule that would require nearly all cable channels to carry both audio and visual emergency messages. The new mandate would be phased in gradually, depending on the size of the audience receiving the provider's programming: the larger the subscribership, the sooner the mandates would kick in. Only cable providers with fewer than 5,000 subscribers (serving only 12 percent of the cable viewing audience) would remain exempt indefinitely.

While reluctant to grant any exemptions under the EAS rules, consumers ultimately agreed that the financial hardships that would be imposed on smaller cable owners merited their differential treatment. But we wondered why in only two months, both the cable industry and the FCC unexpectedly reversed their positions and now seemed

so interested in agreeing to our demands. We learned only later that although the cable providers had originally thought video and audio messaging on all channels to be cost prohibitive, they had since determined that it would be even more expensive to provide specialized set top devices to all deaf and hard of hearing customers. Once they decided that all-channel messaging was the more economical approach, all they remained concerned about was obtaining sufficient time to implement the needed changes. When consumers consented to a phase-in of these obligations, industry's resistance to the consumer demands dissipated.

Over the next year and a half, consumer advocates negotiated the remaining fine points of the EAS compromise with the cable industry.⁸³ The result was a joint consumer-industry agreement presented to the FCC on March 13, 1997, and adopted by the Commission in September 1997.⁸⁴ The new rules would eventually require all cable providers serving 5,000 or more subscribers to provide EAS messages in both audio and visual formats on *all* channels.* The FCC's original requirement for an audio EAS message and video interrupt on all channels—and an EAS message on one programmed channel—would apply to cable systems serving fewer than 5,000 customers, unless those systems chose to provide an EAS audio and visual message on all of their channels. Smaller cable providers that did use flashing video alerts had to make sure that these flashed the television screen simultaneously with, and for the same duration as, the full length EAS message. They also had to disseminate information about which channel would contain the full audio and video message through billing statements and other public service announcements.

Cable systems serving under 5,000 households that chose not to air audio and video messages on all their channels were directed to work with consumers to develop “best practice” alternatives that could better meet the needs of these individuals. To this end, Sonnenstrahl, Silver, and Norman Williams, representing CAN, the NAD and Gallaudet, attended a meeting of the EAS Subcommittee of the Society of Cable Television Engineers Conference in June of 1997. Unfortunately, the three came back discouraged upon learning that smaller cable systems still had reservations about the costs associated with producing visual messages. Over the next three years, the National Cable Television Association coordinated annual meetings between consumers and the cable industry to continue the search for alternatives for small cable systems.⁸⁵ However, the groups were never able to agree on an economically feasible alternative to the flashing video alert for these providers.⁸⁶

Although the FCC's transition from EBS to EAS had intended to modernize the nation's alerting system, in a few more years, this system's continued reliance on analog television and radio platforms again caused it to become outdated. In November 2005, the FCC released yet another EAS order, extending these obligations to digital television and radio, satellite television and radio, and digital cable programmers.⁸⁷ The revised mandates were accompanied by a call for public comment on ways to make a digitally-based warning system fully accessible to people with disabilities, so that they could have “equal access to public warnings and [be] considered in

* The visual EAS message must include what is called “EAS header code” information. This is defined as the originator, event, time period and location of the EAS message, but does not necessarily include all of the content provided in the aural version of the EAS message.

emergency preparedness planning.”⁸⁸ Among other things, the FCC asked how wireless systems, telephone relay services, and other platforms could be used to deliver emergency alerts. This proceeding remains pending as this book goes to print.

The Emergency Televised Programming Rule

By 1997, several FCC rules required some visual access to televised emergency programming. But a careful look at these rules revealed glaring gaps. The rule secured by the Deafwatch activists back in 1976 required all *broadcasters* to make emergency information accessible, but did not cover cable, satellite, or other television programming distributors. The EAS rules did cover *cable* stations, but these rules were discretionary for local emergencies, and often were not utilized for severe weather warnings and other local disasters. Finally, new captioning mandates were put into place by the Telecommunications Act of 1996, but video programming providers had eight years to phase these in, and during this period, they could decide for themselves the kinds of programs they wanted captioned.* Not only were such providers not explicitly required to caption emergencies, but even if they did caption news shows that contained emergency information, they were permitted to use “electronic newsroom captioning technique,” a method that created captions from text inserted into their teleprompter computers. Because this text was customarily prepared *prior to* the airing of news programs, it did not cover late breaking and unscripted news typically characteristic of emergency situations. Beyond this, certain smaller television programming providers were exempt entirely from the Commission’s closed captioning mandates.

During the 1990s, a rising number of complaints about the failure of local stations to make their emergency programming visually accessible revealed the inadequacies of the FCC’s existing rules. Discussions with deaf and hard of hearing leaders confirmed that the FCC’s piecemeal approach needed to be replaced with a comprehensive rule requiring real-time captioning coverage of *all* televised emergencies, without exception.

During the summer of 1997, the NAD arranged meetings with FCC commissioners to discuss the emergency access issue. The FCC had already released an initial set of general captioning rules, and was in the process of revising those rules in response to a petition for reconsideration submitted by the NAD. Our goal was to convince the commissioners to add a specific mandate for real-time closed captioning of all televised emergencies. Unfortunately, because the FCC had neither raised nor gathered public comment on this type of mandate in its original captioning proposals, it said it was now powerless to grant our request. Instead, Commissioner Susan Ness promised that the agency would open a separate proceeding devoted to making televised emergencies accessible after the FCC’s captioning order on reconsideration came out. True to her word, Ness was instrumental in getting the FCC to open a new televised emergency access proceeding on January 14, 1998.⁸⁹

In an attempt to again build a strong record for the new proposals, NAD’s Executive Director Nancy Bloch issued an electronic action alert urging her association’s

* See chapters 9–11 for the evolution and scope of these captioning mandates.

members to come forward with their personal emergency access stories.⁹⁰ As might have been expected, the anecdotes poured in. One woman wrote of her fears living less than twenty miles from a nuclear power plant, not knowing when a disaster might strike and not being able to receive critical information to respond.⁹¹ Another told the heart-wrenching tale of having to shove her three young children into her basement every time a tornado icon appeared on her TV screen. Because newscasters failed to visually report the direction of the tornadoes, her children panicked each time they were sent downstairs. A Massachusetts man told the story of a drunk driver who hit a trailer truck carrying fuel and uranium while headed for a nuclear electric power facility. The truck caught on fire, but could not be doused with water because firefighters feared contaminating the adjoining river. Officials ultimately decided to let the fire burn itself out for twenty-four hours, having determined that the levels of radiation could be contained. The writer (a deaf man) worked only four blocks away from the scene, but had remained the entire time without knowledge about the situation's gravity. Local news had only shown a burning truck without any text to explain what was happening.⁹²

By the time that the FCC's record on its emergency proceeding closed, it was replete with testimonies that pointed to the urgent need for a rule mandating full and equal access to emergency programming.⁹³ Individuals had come forward to report the repeated failure of stations to provide accessible emergency information about blizzards, chlorine spills, water contaminations, train derailments, fires, earthquakes, shipments of nuclear hazards, and even the bombing of the federal building in Oklahoma City. Two decades after a requirement had been put into place requiring broadcasters to make their emergency programming accessible, the number of compliant stations remained intolerably low, and generally even these were located only in large metropolitan areas. All too often, small town broadcasters on tight budgets simply ignored the FCC's rules. For example, the NorCal Center on Deafness reported that television coverage of a tornado alarm in the San Joaquin Valley and a bomb scare in the Roseville area was actually preceded by the statement that "this portion of the news will not be closed-captioned!"⁹⁴ Similarly, in southwestern Pennsylvania, a plane crash that attracted every emergency vehicle located in the region and five helicopters to provide live coverage for three local channels, failed to be reported with captions on even one those stations.⁹⁵

Despite their abysmal track record, the nation's broadcasters and cable companies staunchly opposed replacing the *twenty-year-old* emergency notification rules with what they perceived as a rigid and burdensome real-time captioning mandate.⁹⁶ These companies liked the fact that the FCC's rules still allowed them to choose from a selection of visual methods, including crawls, diagrams and graphics to achieve accessibility, even though, in reality, few had bothered to use any these methods to ever convey emergency information visually. Particularly disturbing were comments submitted by the Radio-Television News Directors Association, which alleged that the costs associated with a real-time captioning mandate would "significantly divert resources from the provision of local news programming for all viewers," and in fact "cripple" a station's ability to convey news about emergencies to the rest of the public in a timely fashion.⁹⁷ Although the association agreed on the importance of providing

emergency information to the largest number of viewers, it claimed that a captioning mandate would have a “debilitating impact” on news operations!*

The television industry also charged that a shortage of real-time captioning personnel would make compliance with a real-time captioning requirement impossible. But this was not the first time that an industry had attempted to skirt a disability mandate by claiming a scarcity of personnel. The same argument had been attempted to avoid mandates for relay services and closed captioning of general programming. However, once the mandates for these services were put in place, the supply of personnel needed to fill the new demands for these services grew dramatically. This claim also ignored the existence of new technologies, including personal computers, wireless phones, pagers and call forwarding that made real-time captioning from remote locations highly effective. Just months before, television stations located in Los Angeles, San Francisco, and Sacramento had used live remote captioning to simultaneously cover heavy rains over an extensive geographic region. The ability to tap the resources of captioners from all over the country for emergencies in centralized regions negated industry’s concerns. Indeed, the captioning agency that had provided the California services—Caption Colorado—reported that it had a waiting list of qualified real-time captioners, ready and willing to provide captioning from remote sites.⁹⁸

By November 1999, nearly two years after the FCC had released its emergency access proposals, concerns about the national supply of real-time captioners and the costs that this form of captioning could impose on smaller stations were still keeping the FCC from adopting a real-time captioning mandate for emergency programming. I had just accepted a job with the FCC, and having witnessed decades of neglect on this issue, decided to make emergency access one of my top priorities.⁹⁹ With Pam Gregory, chief of the new Disability Rights Office (DRO), I met with FCC Chairman William Kennard to explain how gaps in the FCC’s various rules had been keeping deaf and hard of hearing people from receiving complete access to televised emergency information. Surprised to learn that neither the captioning rules nor the new EAS rules had succeeded in closing these gaps, Kennard agreed that immediate action was warranted. New mandates would be in keeping with one of the chairman’s top priorities to ensure that new technologies benefited Americans with disabilities. After Kennard gave this swift approval, DRO Attorney Meryl Iove and others at the FCC took on the task of weaving together a series of emergency access requirements that were all-inclusive with respect to the type of programming covered, but flexible enough to continue allowing industry to choose visual methods that were both feasible and affordable.

The new rules would define emergency information broadly, to include, but not be limited to, alerts about tornadoes, hurricanes, floods, earthquakes, heavy snows, and fires, and civil disorders such as toxic gas leaks, power failures, industrial explosions, and school closings, as well as any information intended to further the protection of life, health, safety, or property. In addition to details about the emergencies

* Over seven years later, in response to a consumer petition to improve FCC enforcement of the captioning rules, the same association threatened that the “Draconian application” of the FCC’s visual emergency access requirements would force stations to show *Three Stooges* reruns instead of pursuing timely news coverage, simply to escape FCC penalties. Comments of the Radio-Television Directors Association in CG Dkt. 05-231 (November 10, 2005), 13.

themselves, the new regulations would require access to critical details for responding to those events, including information about evacuations, emergency routes, road closures, shelters, and ways to secure personal property and obtain food, medical and other relief assistance. All video programming distributors, including broadcasters, cable operators, and satellite television services, would have to comply without exception, but they would be able to retain some leeway in how they provided access: in addition to open or closed captions, they could use crawls, scrolls or other visual methods. Finally, the new rules would apply to all types of emergency information, whether exhibited during a regularly scheduled newscast, continuing coverage of an incident, or an unscheduled programming break. As was true of the agency's EAS rules, the new mandates would explicitly prohibit emergency information and closed captions from blocking one other.

At the April 2000 Commission meeting that was to decide the fate of the FCC's emergency access regulations, Kennard shared with his colleagues the compelling story of a deaf woman who had been watching television the night that Hurricane Floyd came thundering toward her hometown of Greenville, North Carolina. Because Greenville's local news stations failed to caption its live broadcasts, she had gone to bed unaware of the storm's impending arrival. Awakened when her house began to flood, the woman sought safety by climbing on top of her stove. When the water kept rising, she swam to a nearby trailer and climbed onto its roof, where she remained, cold and wet for hours, praying for rescue. Trees blocking her from view prevented helicopters from finding her until a day later.¹⁰⁰ After listening patiently, all five FCC commissioners unanimously voted to approve the new regulations mandating television emergency access.¹⁰¹ Shortly thereafter, the FCC began receiving letters of heartfelt appreciation from individuals throughout the deaf and hard of hearing communities.*

By the time the FCC issued its new emergency access rules, approximately three decades had passed since Nancy Lipschultz and the Deafwatch team had first brought the emergency programming issue to the Commission's attention. Everyone wanted to believe that these rules would finally end decades of neglect by the nation's television programmers. But within a year and a half of their issuance, complaints about the failure of local programmers to make their emergency telecasts visually accessible had made their way to the Commission from deaf and hard of hearing viewers in as many as fourteen states.[†] It was apparent that efforts to convince broadcasters and cable stations to fulfill their obligations were still meeting with obstinance and indifference.

Ongoing delinquencies finally prompted the FCC to release, on August 13, 2001, a new public notice clarifying its visual alert obligations.¹⁰² On September 11, 2001, less than a month later, the FCC was somewhat relieved to learn that captioners were

* Pam Holmes of Wisconsin wrote of a kind neighbor who, for years, had been running across the street dressed in robe, curlers and pink fur slippers to warn her and her family of impending tornadoes. She knew that not everyone had such caring neighbors and appreciated the FCC's new mandates. Andrew Lange of South Dakota wrote that he would sleep better with the knowledge that his elderly deaf parents in Florida would be informed of impending hurricanes in St. Augustine, Florida.

[†] Individuals from California, Colorado, Florida, Indiana, Louisiana, Maryland, Michigan, Minnesota, Missouri, New York, North Carolina, Ohio, Oklahoma, and Texas reported noncompliance.

pulled from all corners of America to provide round-the-clock coverage of the shocking events that aired on nationally televised programs.* Unfortunately, local television stations, not realizing that the FCC's emergency access rules applied to national emergencies that had local impact along with events occurring in their own jurisdictions, were not as compliant.

Over the next few years, compliance with the FCC's emergency access mandates improved somewhat, but as a whole, lax enforcement still resulted in far too many violations by recalcitrant television programming providers. In 2003 alone, the FCC received over 200 complaints against television programmers who had failed to provide visual access during disasters.¹⁰³ A new series of FCC notices reminding stations of these mandates did little to inspire compliance.¹⁰⁴

Some of the complaints were the result of events occurring in the fall of 2002, when the Washington, D.C., area became prey to a series of sniper attacks that paralyzed the city. At the time, residents remained glued to their television sets, watching for breaking developments that could provide information about road blocks and the snipers' potential whereabouts. When a few Washington, D.C., area television stations failed to provide some of the sniper news alerts in a visual format, consumers became angry. With the assistance of Cheryl Heppner of the Northern Virginia Resource Center for Deaf and Hard of Hearing Persons, they brought these programming deficiencies to the FCC's attention, sure that this time the agency would take the appropriate disciplinary action. But the complainants were in for an unpleasant surprise.

Nearly a year and a half passed before the FCC responded to the complaints, in February 2004. But rather than find the stations in violation, the FCC dismissed the charges without any investigation into their veracity. Most surprising was the FCC's conclusion that the sniper attacks were not the type of "emergency" contemplated by the FCC's emergency access rules.[†] Ironically, right around this time, the FCC also conducted a public summit to identify communication access barriers to and develop strategies for assisting people with disabilities in responding to national emergencies and terrorist attacks.¹⁰⁵ Advocates took advantage of this public forum to ask the FCC how, on the one hand it could hold an event like this, and on the other conclude that deaf and hard of hearing people had no right to visual information about the sniper attacks. The failure to hold these stations accountable, they insisted, not only violated the FCC's own rules; it flew in the face of logic.

During the weeks that followed, disgruntled advocates protested the FCC's interpretation of the law, as well as the agency's ongoing failure to enforce its own television emergency access obligations. This time the agency listened. The Commission

* Captioning agencies worked cooperatively with one another to provide continued network coverage of the terrorist attacks for up to 100 hours. Realizing their potential to coordinate on other captioning matters, twenty captioning agencies later formed the Accessible Media Industry Coalition (with Jeff Hutchins as its chair), to promote accessible communication media by people with disabilities. See www.amicoalition.org.

[†] Specifically, on February 17, 2004, the FCC's Enforcement Bureau sent letters to Washington area stations WJLA, WRC, WUSA and WTTG, stating, "the sniper attacks do not appear to be the type of weather-related or other emergency events contemplated by section 79.2. . . . Consequently, it appears that the obligation to close caption or provide other visual information under section 79.2 was not triggered."

Cheryl Heppner's advocacy was instrumental in finally getting the FCC to fine television stations that failed to provide emergency notifications in a visual format (shown here with her service dog Dana in 1995).



not only reversed its sniper attack decision—concluding that the attacks and other terrorism-related incidents were in fact covered by its emergency alert mandates*—but also promised to step up efforts to secure programmer compliance.† Holding true to its word, the FCC proceeded to investigate a number of other emergency access complaints that had been filed, and on February 23, 2005, for the first time in its history, the Commission notified three stations in California that they would be assessed forfeitures, two for \$20,000 and one for \$25,000 for “willfully or repeatedly” failing to make emergency information about wildfires in the San Diego area accessible to persons with hearing disabilities.¹⁰⁶ Three months later, the FCC issued similar fines—this time against three stations in the Washington, D.C., area—for failing to provide visual access to programming on a thunderstorm and tornado watch in May 2004.¹⁰⁷

The Future

Increased threats of terrorism, along with the rash of natural disasters that have occurred around the world, underscore the need to ensure that all emergency services are fully accessible to all Americans, including those who cannot hear. In 2004, an extensive analysis of our nation's emergency notification systems, completed by Heppner's northern Virginia group and DHHCAN, revealed significant gaps and a general lack of coordination in our nation's ability to respond adequately to the needs of people with hearing loss in emergency situations.¹⁰⁸ Just as one example, no federal law requires small TVs that operate on batteries to decode and display captions; nor are there any federal mandates requiring captioning of information displayed over the Internet.

* A pivotal meeting that led to this result was held between consumers (Cheryl Heppner, Claude Stout, Kelby Brick, and the author) and the FCC on April 13, 2004. Only nine days later, the FCC's Enforcement Bureau sent out letters to area TV stations reversing its original position. However, because too much time had passed between the time that the complaints had been filed and the time that the FCC decided that the sniper attacks did constitute an emergency, the agency was no longer permitted by law to continue its investigation or pursue any monetary fines for these violations.

† Among other things, on July 14, 2004, the Enforcement Bureau hosted a meeting with deaf and hard of hearing advocates to discuss ways for the Enforcement Bureau to improve enforcement against non-compliant television stations.

Heightened awareness of the need to improve emergency response programs for people with disabilities has resulted in enhanced federal efforts. These began in earnest in July 2004, with the creation of the Interagency Coordinating Council on Emergency Preparedness and Individuals with Disabilities (ICC) at the U.S. Department of Homeland Security.¹⁰⁹ The new group, consisting of representatives from the FCC, DOJ, the Department of Education, and twenty other federal agencies, is dedicated to analyzing how best to ensure the security and safety of people with disabilities in emergencies and natural disasters. Among other things, the ICC has triggered new federally funded research efforts, the development of a web-based Disability Resource Center, the preparation of workplace emergency preparedness guidelines and the dissemination of letters to state governors, all geared to promoting greater understanding and awareness of, as well as solutions for, improved emergency planning for people with disabilities.¹¹⁰ The ICC's Subcommittee on Emergency Communications, chaired by the FCC, has paid particular attention to federal policies designed to improve communications before, during and after an emergency. Among other things, the group has encouraged more stringent enforcement of FCC rules governing access to televised emergency information.

On September 29, 2004, DHS also announced a \$1.5 million grant to a consortium of organizations serving people who are deaf, hard of hearing and deaf-blind. Administered by TDI, these funds have been used to develop the Community Emergency Preparedness Information Network (CEPIN), a network that has produced and disseminated comprehensive materials on emergency access, including resources on how best to respond to weather emergencies, and ways to retrieve text emergency alerts via pagers, cell phones, e-mail, and fax machines.

Global changes in our world's communications infrastructure are providing new ways to alert people who are deaf and hard of hearing about disasters.¹¹¹ For example, early warning systems now enable municipalities to pinpoint trouble spots and send alerts to smaller geographical areas than previously possible. Information can be sent digitally, converted into text, and distributed to designated receivers, including small electronic devices. Weather radios operated by NOAA—the U.S. Department of Commerce's National Oceanic and Atmospheric Administration—already are available with text display screens, strobe lights, and vibrating attachments that can receive real-time alerts from the National Weather Service.¹¹² Even captioned radio, now available in Japan, may one day provide a viable means of using text to alert deaf and hard of hearing people about emergencies while in their cars.

But more can and needs to be done to improve emergency access for deaf and hard of hearing communities in the immediate future. Many deaf people have begun abandoning their TTYs, in favor of pagers and Internet-based devices, neither of which can be used for calling 911 services at the present time.* As reliance on new technologies continue to alter our methods of communication, coordinated efforts must be taken to ensure the development and implementation of emergency access solutions that are fully responsive to people who cannot hear.

* One exception is the Sacramento Police Department in California, which in 2003, became the first in the nation to set up a two-way pager system that now allows deaf people to use their pagers to link directly to police. See Tara Schupner, "Savings Lives with Pager 911," *NADmag* 4 (August/September 2004): 20–21.

Notes

1. "9-1-1: Equal Access Now," *Deaf Life*, April 1990: 8–16.
2. Mary Johnstone, "The Line Is Busy," *Gallaudet Today* (Summer 1989): 30–32. The survey results were instrumental in producing training materials to educate operators and TTY users on 911 issues.
3. Ed Bruske and John Burgess, "Deaf, Hearing-Impaired Gaining New Access to D.C.'s 9-1-1 Line," *Washington Post* March 25, 1988, C3.
4. "911: Equal Access Now! Part 2," *Deaf Life*, (May 1990): 24–29.
5. See, for example, John Lopez, "Emergency 911 Access Committee," *GA-SK 20* (Winter 1989): 6.
6. H. R. 1690, 101st Cong., 1st Sess. (April 5, 1989).
7. For a summary of this forum, see John Lopez, "Summary of Emergency 9-1-1 Access Forum," *GA-SK 20* (Summer 1989): 8.
8. John Lopez, "Update on 9-1-1 Legislation," *GA SK 21* (Winter 1990): 8.
9. John Lopez, memorandum to TDI Board of Directors on "The Emergency Phone System Equal Access Act Lobbying Campaign," March 23, 1990.
10. At the request of the deaf community, I also contacted various legislative aides in the House and the Senate. See, for example, Karen Peltz Strauss, facsimile to Melissa Shulman, legislative assistant to Congressman Hoyer, April 26, 1990.
11. Bobby Silverstein and Katy Beh were particularly helpful to this effort.
12. H. Rep. No. 485, Part 2, 101st Cong., 2d Sess. 84–85 (May 15, 1990). The new language stated: "As part of its prohibition against discrimination in local and state programs and services, Title II will require local governments to ensure that these telephone emergency number systems are equipped with technology that will give hearing impaired and speech impaired individuals a direct line to these emergency services. While initially this will mean installation of a TDD or compatible ASCII or Baudot computer modems by programs operating these services, future technological advances—such a speech to text services—may offer other means of affording direct and equally effective access for these individuals. Similar language was later incorporated in the report prepared by the ADA Conference Committee. Conf. Rep. No. 596, 101st Cong., 2d Sess. 67–68 (July 12, 1990).
13. Pauline Annarino, "Deaf Man's Wife Dies After 9-1-1 Incident," *GLAD News* (Spring 1991): 12.
14. Philipp Gollner and Michael Connelly, "Deaf Man's Wife Dies After 911 Incident," *Los Angeles Times*, April 3, 1991, reprinted in *Silent News*, May 1991; "New L.A. Policy on Deaf Who Report Emergencies," *Los Angeles Daily News*, April 4, 1991.
15. See generally, John Lopez, "9-1-1 Access Incorporated into ADA," *GA-SK 21* (Summer 1990): 7.
16. This NPRM was published at 56 *Fed. Reg.* 8538 (February 28, 1991).
17. Access to Emergency Services Forum, Senate Russell Office Building, Washington, D.C. (March 22, 1991). GTE and NYNEX joined USTA in co-sponsoring this event. Central to the forum's success was the work of its planning committee. In addition to Mauk and Sonnenstrahl, Pam Ransom, formerly of the Chicago Mayor's Office for People with Disabilities, Mary Boyd of the Texas Advisory Commission in State Emergency Services, Theodore Weintraub of police communications in Rockville, Maryland, and Ramon Rodriguez, the new coordinator of TDI's Emergency Access Project, brought panels of experts together to tackle a plethora of issues concerning 911 access. Representatives from the federal government, including Mark Buse of Senator McCain's (R-Ariz.) office and Bob Mather, who was largely responsible for the drafting and implementation of the 911 rules at DOJ, assisted attendees in designing regulatory proposals for the new mandate. In addition, Norman Williams, Hubert Anderson, Charles Estes, Ken Glickman, Louis Schwarz, Brenda Battat, Cheryl Heppner, Kevin Colwell, David Baquis, and Anne Edwards were among the many advocates that offered invaluable insight into policy solutions and technologies to meet the needs of the deaf community. Representatives from the FCC, the Access Board, and NENA also made valuable contributions.
18. This feedback was provided in comments to DOJ (submitted on April 29, 1991) prepared by Pam Ransom and the author on behalf of NCLD, TDI, AG Bell, ASHA, ALDA, NAD, SHHH,

the Chicago Hearing Society, Chicago Mayor's Office of Persons with Disabilities, Jewish Family and Community Service of Chicago, Gallaudet, National Fraternal Society of the Deaf, and the Northern California Center for Law and the Deaf.

19. Patrick Boyle, "Deaf Blame 911 for Man's Deaf," *Washington Times*, July 10, 1991, reprinted in *Silent News*, August 1991.

20. 56 *Fed. Reg.* 35694, 35712-13, (July 26, 1991), codified at 28 C.F.R. §35.162.

21. "County Responds to 911 TDD Failure," *On the Green*, September 23, 1991.

22. General information about the forum can be found in: Anne Edwards, "Access to Emergency Communication Services—An Ongoing Dialogue," *GA-SK 23* (Winter 1992): 3. Tom Sanew, Rob Yaeger, Louis Schwarz, Linda DuBroof, Paul Taylor, Brenda Battat, John Lopez, Pam Ransom, Bruce Sofinski, David Rosenthal, David Freet, Jack Gannon, Jennifer Kirk, Susan Karchmer, Joel Ziev, Nancy Abbott, Kevin Colwell, Ed Bosson, Toni Dunne, and Dan Bart were among the many in attendance.

23. William R. Johnson, Sr., president of the Maryland Emergency Number Association, letter to Congressman Steny Hoyer, January 3, 1992.

24. Congressman Curt Weldon, letter to the Honorable William P. Barr, attorney general, February 3, 1992.

25. DOJ, "The Americans with Disabilities Act: Title II Technical Assistance Manual," *ADA Home Page*, November 1993, <http://www.usdoj.gov/crt/ada/taman2.htm>; DOJ, "The Americans with Disabilities Act: Title II Technical Assistance Manual 1994 Supplement," *ADA Home Page*, <http://www.usdoj.gov/crt/ada/taman2up.html>.

26. *Chatoff et al. v. City of New York*, Verified Complaint, 92 Civ. 0604 (S. Dist. N.Y., January 26, 1992).

27. *Ibid.*, 8. See also Michael Chatoff, "You CAN Fight (NYC) City Hall!" *GA-SK 23* (Spring 1992): 3.

28. *Chatoff et al. v. City of New York*, Stipulation of Settlement, 92 Civ. 0604 (S. Dist. N.Y., March 4, 1993); Michael Chatoff, "Emergency Services in New York City," *GA-SK 24* (Spring 1993): 13; See also Denise Hummel, "Emergency 9-1-1 Access in New York City," *GA-SK 23* (Summer 1992): 1, 3.

29. "Advocates Angered by Death Will Help Dallas Improve Services," *Dallas Morning News*, reprinted in *GA-SK 23* (Fall/Winter 1992): 16.

30. Jill Jordan Spitz, "Family Sues over 9-1-1 Related Death," *Orlando Sentinel*, April 17, 1993, reprinted in *Silent News*, June 1993, 1.

31. David Rosenthal and Toni Dunne, "TDI Emergency Access Committee Represented at the National Emergency Number Association Conference," *GA-SK 24* (Fall 1993): 20, 22.

32. Pierre Thomas, "Los Angeles Gives Deaf 911 Access," *Washington Post*, July 13, 1994, A12. DOJ, "Enforcing the ADA: A Status Report Update from the Department of Justice (July-September 1994), 4-5," *ADA Home Page*, <http://www.usdoj.gov/crt/ada/pubs/septup.txt>. The woman who had summoned assistance was Sheri Farinha, one the nation's leading deaf advocates for the civil rights of people with hearing loss.

33. Bob Mather was one of several DOJ attorneys who helped to prepare *amicus curiae* or "friend of the court" briefs in these cases.

34. *Ferguson v. City of Phoenix*, 931 F. Supp. 688 (1996); 157 F. 3d 668 (9th Cir. 1998).

35. *Miller and Sean Owens v. District of Columbia*, 983 F. Supp 205 (D.D.C. 1997). See also, Bill Miller, "D.C. Told to Improve 911 System, Complaints from Deaf Spur Takeover Threat," *Washington Post*, July 18, 1997, C1.

36. DOJ, "Project Civic Access," *ADA Home Page*, <http://www.usdoj.gov/crt/ada/civicac.htm>.

37. *Telecommunications Services and Speech-to-Speech Services for Individuals with Disabilities, Report and Order and Further Notice of Proposed Rulemaking*, CC Dkt. 98-67, FCC 00-56, 15 FCC Rcd 5140 (March 6, 2000), ¶100. The rule was further clarified in June of 2003. *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Order, CC Dkt. 98-67, DA 03-2111, 18 FCC Rcd 12823 (June 30, 2003), ¶¶37-46. An appropriate PSAP is one "that the caller would have reached if he had dialed 911 directly, or a PSAP that is capable of enabling the dispatch of emergency services to the caller in an expeditious manner." 47 C.F.R. §64.604(a)(4).

38. ¶47 C.F.R. §64, Appendix A, 6.b.(2). Telecommunications Service Priority (TSP) System for National Security Emergency Preparedness. Requests for priority TSP status go to the Office of Priority Telecommunications of the Department of Homeland Security's National Communications System.

39. *Telecommunications Relay Services and Speech to Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, CC Dkts. 90-571, 98-67; CG Dkt. 03-123, FCC 04-137, 19 FCC Rcd 12475 (June 30, 2004), ¶47. In November 2004, the FCC issued an additional public notice strongly encouraging TRS centers to enroll in the TSP program and promising to help educate TRS facilities about the program. *New FCC Initiative Encourages TRS Facilities' Participation in the Telecommunications Service Priority Program*, FCC News Release, November 1, 2004.

40. U.S. Department of Homeland Security, *Individuals with Disabilities in Emergency Preparedness* (Washington, D.C.: July 2005), 17. The report can be found at <http://www.dhs.gov/disability-preparednessicc>.

41. Nancy Lipschultz, Petition for Rulemaking, RM-1600 (April 23, 1970).

42. *The Use of Telecasts to Inform and Alert Viewers with Impaired Hearing*, FCC Public Notice, FCC 70-1328, 26 FCC 2d 917 (December 17, 1970). Hereinafter cited as *Use of Telecasts*.

43. *Ibid.*, 917-18.

44. Comments of Thomas Mayes in MM Dkt. 95-176 (February 19, 1998).

45. Clay T. Whitehead, letter to FCC Chairman Dean Burch, December 2, 1971.

46. Mary Jane Rhodes, COSD, letter to Charles Stone, coordinator of station services, NAB, August 2, 1972.

47. FCC Chairman Dean Burch, letter to students of the Model Secondary School for the Deaf, September 14, 1972.

48. Nancy Lipschultz, letter to John H. Torbet, FCC executive director, January 16, 1973.

49. John H. Torbet, letter to Nancy Lipschultz, February 7, 1973.

50. Gail Meacham, letter to COSD, April 5, 1973.

51. Edward C. Carney, letter to Gail Meacham, April 27, 1973 (emphasis in original).

52. "Adoption of Standards for the Presentation of Visual Emergency Notifications on Television," Petition for Rulemaking (January 20, 1975), 9, citing NAB, "A Broadcaster's Guide to Planning for a Natural Disaster" (1974): 1. Hereinafter cited as *NCLD Petition 1975*.

53. FCC Chairman Dean Burch, letter to Clay T. Whitehead, August 1, 1973.

54. *NCLD Petition 1975*.

55. *Ibid.*, 31.

56. *Ibid.*, 29.

57. *Ibid.*, 31.

58. The petition was referring to the FCC's universal service obligation at 47 U.S.C. §151.

59. Charles Percy, "Help in Emergencies for the Hearing Impaired," 121 *Cong. Rec.* 2310 (February 20, 1975).

60. *Amendment of Part 73 of the Commission's Rules to Establish Requirements for Captioning of Emergency Messages on Television*, Notice of Proposed Rulemaking, Dkt. 20659, RM-2502, FCC 75-1377 (December 22, 1975). The rules sought to amend 47 C.F.R. §§73.675 and 73.933. The FCC made clear that to the extent that its proceeding responded to the need for the visual transmission of emergency information, it also was to be a response to the original 1970 petition filed by Lipschultz.

61. *Ibid.*, ¶10.

62. "Captioned Emergency Messages on TV Can Become a Reality with Your Help!" *NCLD Newsletter* 1 (January 1976): 5.

63. *Amendment of Part 73 of the Rules to Establish Requirements for Captioning of Emergency Messages on Television*, Report and Order, Dkt. 20659, RM-2502, FCC 76-852, 61 FCC 2d 18 (September 15, 1976), reconsideration granted in part, 62 FCC 2d 565 (January 28, 1977), 43 *Fed. Reg.* 45847 (October 14, 1978). The FCC made clear that sign language could be used to supplement, but not take the place of other visual methods that would be understood by a greater number of people with hearing loss. The order created a new rule at 47 C.F.R. §73.675(b), later moved to 47 C.F.R. §73.1250(h).

64. *Commission Reminds Licensees about Obligations Contained in Section 73.1250(h) of the Commission's Rules Regarding the Broadcasting of Emergency Information*, FCC Public Notice, FCC 90-302, 5 FCC Rcd 6260 (1990).

65. Gallaudet's I. King Jordan, SHHH's Rocky Stone, and TDI's Al Sonnenstrahl were among the presenters at this event. The event also explored issues concerning visual smoke detectors, fire alarms, and TTYs.

66. *Television Stations are Reminded of Their Obligations Regarding the Broadcasting of Emergency Information in a Manner Accessible to the Hearing Impaired*, FCC Public Notice (September 4, 1992).

67. See, for example, *Amendment of Part 73, Subpart G, of the Commission's Rules Regarding the Emergency Broadcast System*, Notice of Inquiry, FO Dkt. 91-171, 6 FCC Rcd 4264 (June 13, 1991); Notice of Inquiry/Notice of Proposed Rulemaking (NPRM), FO Dkt. 91-301, 6 FCC Rcd 6739 (1991).

68. Cable Television Consumer Protection and Competition Act of 1992, P.L. 102-385§16(b), 106 Stat. 1460, 1490 (1992), adding subsection (g) to Section 624 of the Communications Act of 1934, 47 U.S.C. §544(g).

69. 47 C.F.R. §11.55(a). EAS is jointly administered by the FCC, FEMA, and the National Oceanic and Atmospheric Administration's National Weather Service.

70. The first of these trials took place in Denver from June 27 to June 30, 1993.

71. *Comments Solicited Regarding Emergency Alerting Systems Test Results in FO Dkts. 91-301/91-171*, FCC Public Notice, DA 93-1211 (October 6, 1993); *Amendment of Part 73, Subpart G, of the Commission's Rules Regarding the Emergency Broadcast System*, Notice of Proposed Rulemaking/ Further Notice of Proposed Rulemaking, FO Dkts. 91-301/91-171, 7 Rcd 6903 (October 8, 1992).

72. Joint Comments of Maryland Association of the Deaf, NAD, NCLD, TDI, and Television for All (November 26, 1993).

73. TVFA, "In the Matter of the Relocation of Emergency Slides (Crawls) for Caption Viewers," Petition for Rulemaking (May 1, 1994). The petition was prepared by a young deaf lawyer named Alan Amann.

74. *Amendment of Part 73, Subpart G of the Commission's Rules Regarding the Emergency Broadcast System*, Report and Order and Further Notice of Proposed Rulemaking, FO Dkt. 91-171/91-301, FCC 94-288, 10 FCC Rcd 1786 (December 9, 1994), reconsideration granted in part, denied in part, 10 FCC Rcd 11,494 (1995).

75. *Ibid.*, ¶61, citing NCLD Comments, 3-5.

76. *Ibid.*, ¶¶173, 60, codified at 47 C.F.R. §11.51(d) (requires placement of EAS message at the top of the screen).

77. Joint Comments of NAD, TVFA, TDI, and NCLD (February 20, 1995); Comments of SHHH (February 21, 1995).

78. Al Sonnenstrahl, "FCC Accessibility Program," (October 28, 1994). In addition, on June 10, 1994, on behalf of CAN, Sonnenstrahl delivered congressional testimony (on S. 1822) that called for the establishment of an FCC unit that would regularly review regulations concerning people with disabilities and work with businesses in promoting across-the-board universal design principles.

79. *FCC Announces Establishment of Disabilities Issues Task Force*, FCC News Release (March 17, 1995).

80. *Ibid.*

81. Karen Peltz Strauss, e-mail to Linda Dubroof, August 1, 1995.

82. Toby Silver, Al Sonnenstrahl, Judy Harkins, Andy Firth, Norman Williams, and the author represented consumers at this meeting. The National Cable Television Association (NCTA) and Time/Warner Cable represented the cable industry. Prior contacts with Hundt's staff had included a July 19, 1995, letter from Judy Harkins to John Nakahata, urging an opportunity for consumers to be heard on the EAS issue, and an August 10, 1995, meeting among Harkins, Goodstein, Nakahata, and the author.

83. Deliberations culminated at a meeting held among representatives of NCTA, the NAD, the

Cable Telecommunications Association (CATA), and Gallaudet University's Technology Assessment Program on February 7, 1997.

84. Decker Angstrom, NCTA president and CEO, Toby Silver and Al Sonnenstrahl, NAD, and Steve Effros, CATA president, letter to Chairman Reed E. Hundt, March 13, 1997. The agreement contained in this letter was incorporated in *Amendment of Part 73, Subpart G, of the Commission's Rules Regarding the Emergency Broadcast System*, Second Report and Order, FO Dkt. 91-301, FO Dkt. 91-171, FCC 97-338, 12 FCC Rcd 15503 (September 29, 1997), ¶5, n. 13; ¶¶7-22. The new rules were codified at 47 C.F.R. §11.51(g), (h).

85. Sonnenstrahl, Harkins, Silver, Williams, and Claude Stout, TDI's new executive director, were the consumer representatives of this group. The cable industry was represented by Lisa Schoenthaler.

86. The group did reach a minor agreement that allowed cable systems with audiences under 5,000 viewers to install a certified EAS decoder in place of both a decoder and encoder. This simply meant that although these systems would have to continue to pass through messages, they could obtain those messages from other cable operators, rather than originate them on their own. *Amendment of Part 11 of the Commission's Rules Regarding the Emergency Alert System*, EB Dkt. 01-66, 17 FCC Rcd 4055, 4082 (February 26, 2002).

87. *Review of the Emergency Alert System*, First Report and Order and Further Notice of Proposed Rulemaking, EB Dkt. 04-296, FCC 05-191 (November 10, 2005). The FCC made clear that emergency messages would have to be carried on all program streams transmitted by these various platforms.

88. *Ibid.*, ¶¶74-80. This would be the second time that the Commission gathered public comment on modernizing EAS for people with disabilities. See *Review of the Emergency Alert System*, Notice of Proposed Rulemaking, EB Dkt. 04-296, FCC 04-189, 19 FCC Rcd 15775 (August 12, 2004). At that time, consumers wrote in of the need to make EAS a more interactive system that utilized the Internet and provided information in text, video, and voice. See Comments of the Rehabilitation Engineering and Research Center on Telecommunications Access (RERC-TA) (October 29, 2004); Joint Comments of TDI, ALDA, NAD, DHHCAN, and SHHH (October 29, 2004).

89. *Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996, Video Programming Accessibility*, Further Notice of Proposed Rulemaking, MM Dkt. 95-176, FCC 97-279, 13 FCC Rcd 5627 (January 14, 1998). Hereinafter cited as EPRM 1998.

90. Nancy J. Bloch, "Action Alert! Emergency Captioning Access," February 15, 1998.

91. Comments of Arva Priola in MM Dkt. 95-176 (February 23, 1998).

92. Comments of Lee Nettles in MM Dkt. 95-176 (February 25, 1998).

93. In addition to the many individuals who wrote in, the NAD, SHHH, TDI, NorCal, and the American Academy of Audiology were among the many consumer organizations that requested a real-time captioning mandate for all emergency programming.

94. Emergency Access FNPRM 1998, ¶6.

95. Comments of SHHH in MM Dkt. 95-176 (February 23, 1998), 3-4.

96. See Comments of NAB, CBS, and NCTA in MM Dkt. 95-176 (all filed on February 25, 1998).

97. Comments of Radio-Television News Directors Association in MM Dkt. 95-176 (February 25, 1998), 6.

98. Comments of Caption Colorado in MM Dkt. 95-176 (February 25, 1998), 2-3.

99. By then, 81 percent of the respondents in a survey of deaf and hard of hearing people conducted in Oklahoma and Minneapolis reported fear of being unprepared in the event of severe weather in their area. Jim House, "Disasters: Are You Prepared?" *GA-SK* 32 (Fall 2001): 6-8. The survey was conducted by Vincent Wood, a deaf research meteorologist at the National Severe Storms Laboratory in Norman, Oklahoma, and Robert Weisman, father of a deaf girl. In response to his findings, Wood developed Oklahoma's Hazardous Weather Pager Program to alert deaf people about tornadoes and other severe weather warnings.

100. "Closed Captions a Safety Concern," *Wilson Daily Times* (Wilson, N.C.), March 20, 2000, distributed to recipients of USA-L News mailing list, April 11, 2000.

101. *Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996, Accessibility of Emergency Programming*, Second Report and Order, MM Dkt. 95-176, FCC 00-136, 15 FCC Rcd 6615 (April 14, 2000), codified at 47 C.F.R. §79.2. Release of the new rules received considerable press coverage. See, for example, “Emergency Broadcasts to Get Captions for Deaf,” *New York Times*, April 19, 2000, A16.

102. *Reminder to Video Programming Distributors of Obligation to Make Emergency Information Accessible to People with Hearing Disabilities*, FCC Public Notice, DA 01-1930 (August 13, 2001).

103. Peter J. Brown, “Closed Captioning During Emergencies,” *TV Technology* (May 14, 2003), http://www.tvtechnology.com/features/news/n_closed_caption_during.shtml (accessed July 8, 2004).

104. *Reminder to Video Programming Distributors of Obligation to Make Emergency Information Accessible to Persons with Hearing or Vision Disabilities*, FCC Public Notices, DA 02-1852 (July 31, 2002); DA 03-2361 (July 18, 2003); DA 04-1595 (May 28, 2004); DA 05-688 (March 2005); DA 05-2438 (September 9, 2005). The last of these notices was specifically to remind stations to provide accessible information on Hurricane Katrina evacuation and relief efforts.

105. *Emergency Communications and Homeland Security: Working with the Disability Community Summit*, (March 25, 2004).

106. Notices of Apparent Liability were brought on February 23, 2005 against channel 51 of San Diego, Inc, No. EB-04-TC-067, DA 05-456, 2005 WL 425310; KGTV of McGraw-Hill Broadcasting Company, EB-04-TC-068, DA 05-457, 2005 WL 425311; and KFMB-TV of Midwest Television, EB-04-TC-061, DA 05-455, 2005 WL 425312.

107. Notices of Apparent Liability were brought on May 25, 2005 against Fox Television Stations, Licensee of WTTG-TV, No. EB-04-TC-104, DA 05-1513, 2005 WL 1249054; ACC Licensee Inc., Licensee of WJLA-TV, EB-04-TC-100, DA 05-1511, 2005 WL 1249052, and NBC Telemundo, Licensee of WRC-TV, EB-04-TC-101, DA 05-1512, 2005 WL 1249053. This time, two of the forfeitures were for \$16,000, and one was for \$8,000. Additional notices of apparent liability have since been sent to other stations.

108. Cheryl Heppner, Claude Stout, and Kelby Brick, *Emergency Preparedness and Emergency Communications Access: Lessons Learned Since 9/11 and Recommendations* (2004). Unpublished report.

109. Executive Order 11347, *Individuals with Disabilities in Emergency Preparedness* (July 22, 2004). Claudia Gordon, a deaf attorney who was previously with the NAD, works with Donald Sutherland of the Department of Homeland Security on this council.

110. Department of Homeland Security, “Individuals with Disabilities in Emergency Preparedness,” *Annual Report*, July 2005; see Department of Homeland Security, “Emergencies and Disasters,” *Homeland Security*, <http://www.dhs.gov/disabilitypreparedness>. See also National Council on Disability, “Saving Lives: Including People with Disabilities in Emergency Planning,” *National Council on Disability* (May 2005), http://www.ncd.gov/newsroom/publications/2005/saving_lives.htm.

111. Various technologies designed to alert people with disabilities about emergencies were showcased and explored at the Accessible Emergency Notification and Communication: State of the Science Conference, hosted by the RERC-TA on the campus of Gallaudet University on November 2–3, 2005.

112. See National Severe Storms Laboratory, “Special Needs NOAA Weather Radio for Deaf and Hard-of-Hearing Individuals,” *NOAA*, <http://www.nssl.noaa.gov/NWR/>.

9

Captioning Is Launched

There's the notion that TV is a visual medium. Try watching TV sometime with the sound off. . . . I promise you, you will soon learn that it's not very visual. It's really a sound-based medium with pretty pictures to make it more effective. Without the pictures it can succeed. Without the sound it can't.

—I. King Jordan

DEAF AND hard of hearing people enjoyed going to the movies in the early 1900s, when silent films were shown on the big screen. But in 1927, the arrival of “talkies,” ended this common pastime. Twenty years passed before Emerson Romero, the deaf brother of actor Caesar Romero, attempted to restore the access that had been lost, by splicing subtitles between the frames of new films.¹ Soon after this (in 1949), a Belgium company developed a captioning technique that succeeded in etching captions right onto the film’s finished print.

Back in America, Edmund Burke Boatner, the superintendent of the American School for the Deaf, and Dr. Clarence D. O’Connor, the superintendent of the New York Lexington School for the Deaf, used the Belgium technique to launch Captioned Films for the Deaf, a small nonprofit enterprise supported with start-up funds from the Junior League of Hartford, Connecticut.* From 1949 to 1958, their venture captioned and distributed numerous Hollywood films to schools for the deaf around the country. But while Boatner and O’Connor were able to enlist Hollywood personalities such as Katherine Hepburn and Mrs. Spencer Tracy on their board, limited funding and difficulties in acquiring movies from an industry concerned about film piracy severely restricted their operations, eventually prompting the two pioneers to ask the federal government to take over their operations.² The men approached Senator William Purtell (R-Conn.), who agreed to introduce legislation that would require the Library of Congress to procure, caption, and distribute films to deaf viewers. The legislation successfully passed in 1958, but reassigned responsibility for running the new program to the Office of Education, Bureau of Education for the Handicapped

“Opening Remarks,” *Written Proceedings of the National Conference for Closed Captioning of Local News*, sponsored by the US Department of Education, Alexandria, Va. (November 21–23, 1991), 15.

* Titra Film Laboratories in New York, which had the American franchise for the Belgium captioning process, ultimately did the captioning for this project, having been persuaded to do so by a deaf businessman and teacher named J. Pierre Rakow.

Often known as the “father of captioning,” Dr. Malcolm J. Norwood spearheaded the expansion of open and closed captioning programs at the Office of Education, U.S. Department of Health, Education and Welfare in the 1970s and 1980s.



of the U.S. Department of Health, Education and Welfare (HEW) after the Library of Congress’s new director turned it down.³

The Captioned Films for the Deaf program officially began operations under the leadership of Dr. John Gough in October of 1959, with \$78,000 in appropriations. In the years to come, successive laws would expand the scope of the legislation, and through the vision and guidance of Dr. Malcolm J. Norwood—affectionately referred to as the “father of captioning”—the program would come to authorize the production, acquisition, and distribution of captioned theatrical, documentary, and educational films and media equipment to schools, clubs, and deaf organizations across America.⁴

As captioned films began taking off in the late 1950s, a far more ground-breaking technology—television—began finding its way into an increasing number of homes across mainstream America. But while TV newscasts, dramas, and even comedies began to radically alter the way that hearing Americans acquired their information, the absence of television captions kept deaf and hard of hearing individuals from having access to this extraordinary innovation. At the time, all captions were “open,” meaning that they could not be turned on and off by individual viewers. Television network executives and producers vigorously opposed adding such captions to their shows, both because they feared losing viewers who would not want captions, and because they were extremely cautious about tampering with the artistic content of their shows.

As a result of the strong industry resistance to open captions, deaf and hard of hearing people remained without visual access to the audio portion of television programming for nearly two decades. It was not until December 1971 that HEW finally sponsored the first National Conference on Television for the Hearing Impaired in Nashville, Tennessee, enabling television networks, engineers, educators, producers, advertisers, consumers, and federal agencies to explore strategies for making television visually accessible.⁵ “Closed” captioning—a new technology that enabled only viewers who *wanted* to see captions on their television screens to be able to do so—quickly became the focal point of the symposium.

Analog television pictures are comprised of 525 lines; 21 make up the “vertical blanking interval,” or the VBI. Line 21 is the last line of the VBI before the television

picture begins. Testing conducted by the National Bureau of Standards revealed that captions—in the form of an electronic code—could be inserted into line 21, and be made viewable through a captioning decoder.⁶ The National Association of Broadcasters (NAB) found the new technique attractive, believing it capable of expanding viewing audiences who needed captions without losing viewers who did not.

Open Captioning Takes Center Stage

However, not everyone believed that open captions would be objectionable to hearing audiences. In fact, in a 1970 study commissioned by HEW, only 10 percent of the members of a hearing audience watching open captioned Disney films reported an unfavorable reaction.⁷ Norwood was among the many who were unwilling to give up on this form of access, and in the fall of 1971, he arranged for HEW's Office of Education to contract with Boston's public television station, WGBH-TV, to produce an open captioned television program. WGBH used the governmental assistance to begin airing open captioned reruns of its most popular program, *The French Chef* with Julia Child, on August 6, 1972. Shortly thereafter the station created a new division, The Caption Center, to oversee additional captioned productions that would be funded by HEW.⁸

As President Richard Nixon's second inauguration neared, The Caption Center made his inaugural address one of its next open captioned priorities. The center realized that to achieve this, it would have to prepare and insert captions during the six hours between the time that the address was first aired at noon, and the time that it was rebroadcast at six o'clock p.m. However, WGBH had a dilemma: the Public Broadcasting System (PBS), the center's national network distributor, had chosen not to buy into the video "pool" that would have given the Boston station the right to air the event.* Without this right, WGBH could not rebroadcast the show, with or without open captions.

To overcome this obstacle, the NBC producer in charge of the pool offered to give WGBH the video portion of the inaugural event at no charge. He reasoned that although pool rules did not allow him to give WGBH (or PBS) free access to something that PBS had not purchased, because PBS had never been offered the opportunity to buy the *video feed* only, he could provide that feed to WGBH for free, as long as the station agreed not to broadcast the audio portion. Unfortunately, this too, presented a problem: under former FCC rules, in order to show the video feed on TV, WGBH still had to fill the audio portion of the president's event with something that was related to its visual component.⁹ The station could play music to accompany the video, but this might not be sufficiently related to the speech to be in compliance with the guidelines. The event could be narrated, but viewers might wonder why someone was speaking for the president. Instead, Phil Collyer, The Caption Center's first director, settled on an unlikely alternative: he arranged for the captioned version to be accompanied by an oral translation in Spanish, prepared by the Berlitz School of Languages! As

* As a nationally broadcast event, the inauguration was to air via a single video feed to multiple networks. This video pool, from which PBS had excluded itself, eliminated the need for each network to have its own camera and crew at the event.

a result, on January 20, 1973, deaf and hard of hearing viewers were able to watch and understand a televised presidential inauguration for the first time in the nation's history.*

Having demonstrated that an event could be televised and later rebroadcast with captions, Collyer approached ABC about doing the same for its national evening news program.¹⁰ The network already allowed the Rochester, New York, public station to broadcast its newscast with a sign language interpreter, so it seemed a likely candidate to allow rebroadcasts with captions. After ABC gave its consent, it took six additional months and a team of captioners working under Collyer to figure out the logistics of converting the rapid and specialized vocabulary of the ABC newscasts into captions that could be readily understood by the deaf community.

On December 3, 1973, *The Captioned ABC Evening News* appeared for the first time with open captions in three cities: Boston and Springfield, Massachusetts, and Orono, Maine.[†] A week later, permission was extended to air the program on all ten public stations of the Eastern Educational Network. By August 1974, pressure from deaf consumers prompted PBS to distribute the program to local affiliates around the nation, and over the next eight years, more than 190 public stations broadcasted the accessible newscast.¹¹ During the next several years, PBS also expanded other open captioned programming to approximately five hours per week. In addition to rebroadcasts of presidential campaign debates, open captions were added to various PBS series, including *Zoom*, *Masterpiece Theater*, *Nova*, and *Great Performances*.

Line 21 Takes Hold

While some local public television stations carried broadcasts with open captioning in the early 1970s, other broadcasters and networks, led by PBS, continued to explore closed caption alternatives. In 1972, HEW took over the NAB's initial endeavors, and awarded a contract to PBS to develop the line 21 technology and prototype decoders. A team of PBS engineers, working under John E. D. Ball, began line 21 testing during the fall of 1972, and two years later, the FCC granted temporary authority to try the new system over the airwaves. PBS responded with a fourteen-week test during which Gallaudet researchers recorded the reactions of deaf and hard of hearing audiences watching captioned programs at twelve public television stations around the nation.¹²

Viewer response to the new system was overwhelming: 95 percent reported an interest in purchasing home decoders, and deaf associations quickly pledged their support to mobilizing decoder sales. In 1975, after additional market surveys sponsored by PBS and conducted by the Deafness Research and Training Center of New York

* In fact, the captions for the twenty-two minute speech were ready a full hour before the Spanish feed was completed.

[†] The broadcasts were originally scheduled to begin a few months earlier, but were delayed as a result of scheduling changes made by PBS to rebroadcast the Watergate hearings during the late evening hours. Sharon Earley, one of the show's first producers, described the challenges that WGBH had confronted in preparing these programs during its earliest months in "Captioning at WGBH-TV," *American Annals of the Deaf* (October 1978): 655–62. Collyer and his staff, she wrote, "enrolled themselves in a self-directed crash course in the science of reading and in deafness" in order to make sure that the news programs would be understood by their caption audiences.

University confirmed the effectiveness of and interest in the new technology, PBS petitioned the FCC to permanently reserve line 21 for closed captions.¹³

While the major commercial television networks had initially expressed interest in a closed form of captioning, these networks now dealt a considerable blow to line 21's progress. Insisting that the closed captioning system was not yet technically possible, they opposed PBS's petition, effectively delaying an FCC response for nearly a year. To spur the FCC into action, consumers sought help on Capitol Hill. On October 1, 1976, they were successful in getting Senator Randolph (D.-W. Va.) and ten of his colleagues to sponsor a resolution strongly urging use of the new captioning system.* Randolph explained that it would be "tragic and highly discriminatory to continue to exclude deaf and hearing impaired Americans from full enjoyment of television," especially given how modest the costs of captioning were.¹⁴ Pressure on the FCC intensified when only three weeks later, President Gerald Ford also released a statement in support of the new PBS system.¹⁵

On December 8, 1976, the FCC finally amended its rules to authorize broadcasters to voluntarily use line 21 technology for closed captions.¹⁶ But the Commission was still a long way from mandates that would *require* captions. Indeed, the FCC had addressed this issue just three months before, when it amended its rules to require visual access to all televised emergency announcements.¹⁷ Then, as now, the Commission concluded that because the best technical and financial procedures for making television accessible remained uncertain, it was best to allow broadcasters to decide for themselves whether and how to caption their programs.¹⁸

Of all of the networks, CBS remained the most resistant to using the line 21 technology. The network was more interested in promoting "Teletext," an alternative system that, like captioning, transmitted words and graphics simultaneously with the television picture, but also allowed text to appear in different colors, speeds, and sizes, and could be used to convey other kinds of information, including news, sports, and airline schedules.¹⁹ CBS believed that the many uses of Teletext, already available in France and England and under development in Australia and Japan, made this system more appealing to the general population than line 21, which seemed to focus more on only providing access for the deaf community.

CBS's stance on line 21 was especially disappointing given the network's concession to the deaf community two years earlier. In 1975, consumers had requested CBS to open caption an airing of the sitcom *Good Times* after learning that it featured a deaf character. Once the network made the decision to go ahead with a captioned version, it publicized the show's broadcast, along with the fact that it was being aired with captions, to approximately 200 television stations and 1,800 major newspapers, and agreed to help deaf leaders make appearances on talk shows for this purpose.²⁰ Now, however, CBS's ongoing refusal to use the dominant captioning system was calling into question the sincerity of its prior actions. In a letter to CBS, PBS President Lawrence Grossman expressed his considerable frustration with the network. Grossman charged CBS with overreporting captioning costs: the network's estimate of seventy-six man hours to caption a program, he said, was about 400 percent too

* The other senators joining Senate Resolution 573 were: Percy, Javits, Leahy, Beall, Dole, Durkin, Kennedy, Pell, Schweiker, and Taft.

high and its per broadcaster investment of \$250,000 was “off-the-wall!” He implored CBS, as well as the other public and commercial broadcasters to be more cooperative in efforts to bring television to the deaf community.²¹

Fortunately, CBS’s (and, to a lesser extent the other commercial networks’) initial reluctance to use line 21 did not stop PBS from moving ahead with its plans for the development of home captioning decoders. In 1977, PBS awarded a contract to Texas Instruments for the development and manufacture of a marketable decoder, and to EEG Enterprises and others for the development of broadcast encoding and decoding equipment. Ultimately, Sanyo Electric Corporation agreed to manufacture the decoders in their Arkansas factories, and Sears, Roebuck, and Company agreed to market, sell, and service the equipment. With FCC authority for line 21 firmly secured and the Department of Education poised to grant funding for closed captioning, the only issue that remained was who would handle the expected increase in demands for closed captioning.

PBS seemed the logical choice to handle the new responsibility, given its invention of the captioning prototype and The Caption Center’s status as the nation’s leader in open captioning for the past six years. But while The Caption Center was very eager to take on this task, some questioned whether PBS had either the facilities or the staff to handle the anticipated programming load. Moreover, commercial networks such as ABC were beginning to express reluctance about having PBS or WGBH, a PBS station that was ABC’s broadcast competitor, handle their captioning needs; they preferred to have a separate, nonprofit company take on this responsibility. To resolve these issues, PBS hired Arnold and Porter, a Washington, D.C., law firm, to develop a blueprint for captioning’s future.

In June 1978, Arnold and Porter delivered two recommendations.²² First, in order to minimize resistance to captioning by commercial networks, a new, nonprofit captioning operation would be established to handle captioning for both commercial and public television programs. Second, to reduce costs, captioning would be carried out in two locations—one in the east for programming produced by public television stations, and one in the west for Hollywood programming. Although The Caption Center feared that the new proposals would essentially write it out of the captioning picture, an overriding interest in ending divisiveness among the networks and reducing captioning expenses prompted Congress to accept the recommendations.

In 1979, Congress authorized HEW to create the National Captioning Institute (NCI), a nonprofit corporation, with six million dollars in start-up funds. All patents and rights to the captioning technology were transferred exclusively to NCI, which was to build two centers, one in the Washington, D.C., metropolitan area and one in Los Angeles. The plan was for NCI to jumpstart the provision of television captioning with federal funding for the first few years, which would be supplemented by financial contributions from major networks, private foundations, television program sponsors, and proceeds from decoder sales.²³ Over time, the federal funding would be phased out, to allow captioning to become a self-sustaining operation.*

* A November 13, 1979, NCI press release stated, “After 1982, it is expected that NCI will require no further federal monies. The three participating networks will pay NCI a fee, currently set at \$2,000 per program hour, for its captioning services.”

Closed Captioning Gets Underway

On April 5, 1979, the FCC held a public meeting to review the impact of its 1976 decision to authorize the use of line 21.²⁴ Shortly after this event, NCI, ABC, NBC, and PBS reached an agreement for the three networks to provide sixteen to twenty hours of closed captioned programming each week, later broken down into five hours each for ABC and NBC, and twelve and a half hours for PBS. The agreement also called for Sears to oversee the production and sale of decoders. Still adamant that its Teletext system was preferable, CBS refused to be a part of the deal, concluding that it would be unfair to the deaf community to promote the purchase of soon-to-be obsolete decoder equipment.

On March 15, 1980, the Sears catalog began selling two types of “Telecaption” decoders: an “adapter unit” for \$249 that connected to a regular television set, and an “integrated TV receiver,” built into a nineteen-inch color set and sold as a single unit for approximately \$500. Nonprofit groups engaged in impressive efforts to publicize the new devices: NCI distributed hundreds of thousands of brochures announcing the devices’ availability to national organizations, schools, clubs, and churches. The National Retired Teachers Association/American Association of Retired People (AARP) reached millions of members through its newsletters. The National PTA, acknowledging the benefits of captioning as a tool for teaching children with learning disabilities, sent out 28,000 mailings to local chapters. And the Lions Club distributed NCI’s brochures with community activity guides that offered recommendations on how to encourage decoder sales and captioning use to 16,000 of its local affiliates.²⁵

During the week of March 16, 1980, television witnessed its first closed captioned broadcasts with ABC’s *Sunday Night Movie* and *Barney Miller*; NBC’s Monday and Friday night movies and *The Wonderful World of Disney*; and PBS’s *Mystery!* and *3-2-1 Contact*. Initially, decoder sales were brisk. During the first month on the market, enthusiastic consumers purchased 5,000 devices, a figure that jumped to 11,000 over the next two months.²⁶ The thirst for access to television programming was so overwhelming that by June 1980, Sears reported weekly sales of 1,800 decoders.

Commercial sponsors were quick to see a business opportunity in the new viewer market. *Business Week* reported that Procter & Gamble, IBM, AT&T, and Bristol-Myers were among the many companies “jumping in to use a new technology that lets them heighten the effectiveness of their TV commercials.”²⁷ Analysts said that these businesses were in the “forefront” of a captioning movement that would spread to all major advertisers. According to the Seiko Time Corporation, captioned advertisements commanded the same type of heightened attention received by the first colorized commercials. Some companies also zeroed in on the ability of line 21 technology to capture niche audiences. For example, J. Walter Thompson began adding captions to ads for laxatives, antacids, and pain relievers commonly used by senior citizens. The cost of making thirty-second advertisements accessible with captions—around \$165.00—was nominal compared to the tens of thousands of dollars associated with their creation and broadcast.

Notwithstanding the apparent success of line 21 captioning, CBS remained a pocket of resistance, and in July of 1980, the network petitioned the FCC for a national Teletext broadcasting standard. A few months later, the Los Angeles CBS

affiliate also announced plans to test Teletext over the air in April 1981.²⁸ CBS was so opposed to line 21 that even when advertisers captioned their commercials *at no charge to CBS*, the network allegedly promised to strip the captions off before airing the ads!²⁹

Ascertainment and the Gottfried Cases: Other Avenues to Access

Three years before the networks entered into their major contract to provide television captioning, deaf community activists in California, growing increasingly disgruntled with the slow pace of the industry's voluntary progress, began pursuing television access on a separate and parallel track. At the time, PBS was still the only network providing open captioning on any of its programs. Although work was being done behind the scenes to develop line 21 closed captioning, deaf viewers remained without any access to commercial television.

Rather than wait for the federal closed captioning program to evolve, the California mavericks took their claims for accessible television programming to the FCC, and ultimately, the federal courts. The string of federal challenges that they brought began in October 1977, when Sue Gottfried, the Greater Los Angeles Council on Deafness, Inc. (GLAD), and the California Association of the Deaf, joined various other organizations and several hundred individual petitioners in asking the FCC not to renew the licenses of eight Los Angeles television stations—seven commercial and one public—on the grounds that the stations had not provided captioning access to their programs.*

Under the Communications Act, television broadcasters are obligated to provide programming “in the public interest” in exchange for their free use of the airwaves.³⁰ In the mid-1970s, the FCC ruled that this public interest obligation required commercial television broadcasters to ascertain and respond to the problems, needs, and interests of the communities they were licensed to serve.³¹ This became known as the “ascertainment” obligation, and in order to meet it, stations had to consult with community leaders from a designated list of “19 typical institutions and elements normally present in a community.” While the list included groups such as labor, minorities, and women, it did not include people with disabilities.³² Although there was an “other” category, so long as a licensee consulted with community leaders from the principal nineteen categories, it was deemed to have fully met its obligations. To make matters worse, both of the most common methods used by broadcasters to assess community needs—random telephone surveys and call-in television shows—remained inaccessible to the deaf community.

Gottfried's complaint alleged that by not providing captioning, the stations had violated their obligations to ascertain and provide programming in response to the needs of deaf and hard of hearing viewers, had ignored the FCC's 1970 public notice encouraging broadcasters to make their programming visually accessible, and had violated Section 504 of the Rehabilitation Act, the federal law prohibiting programs and activities that receive federal financial assistance from discriminating against people

* In addition, it alleged that KCET, the public station in Los Angeles, had for a period of time, failed to show the captioned version of the ABC evening news.

with disabilities. Although the seven commercial stations named in the complaint did not receive the type of direct federal assistance that typically triggered Section 504's obligations, Gottfried argued that their receipt of *free* broadcast licenses was the equivalent of federal aid. Without the licenses, the stations would not have been able to operate, and therefore could not generate the millions of dollars they received through commercial advertisements. The eighth station—KCET—did receive direct federal funding from HEW.

A month after Gottfried filed her challenges, the Denver Commission on the Disabled challenged the exclusion of people with disabilities from the FCC's ascertainment community checklist.³³ A few months later, the National Gay Task Force and 142 gay rights organizations formally petitioned the FCC to add issues concerning the portrayal of homosexuals on television to the formal list. In response to these and other community concerns, in August 1978, the FCC proposed to revise its ascertainment mandates to require broadcast stations to ascertain the needs of *any significant elements* in their communities—which, the Commission said, possibly included “the handicapped”—even if those groups were not within the FCC's original nineteen community categories.³⁴ Deaf community advocates readily supported the new proposal, as this provided yet another means by which they could alert broadcasters of their desire for more captioned television programs.*

Notwithstanding the release of this new ascertainment proposal, in the same month, the FCC rejected all of Gottfried's license challenges.³⁵ The Commission gave as its reason Gottfried's failure to allege any specific FCC violation, because the FCC did not have any rules requiring stations to gather information from people with hearing loss, nor any guidelines requiring captioning or otherwise mandating television programs to be visually accessible. The FCC also rejected Gottfried's claim that Section 504 applied to commercial broadcasters, because they received no direct federal money. Although the Commission found that public station KCET was, in fact, covered by Section 504, it said that only HEW—which provided funding to that station—and not the FCC, was responsible for ensuring access to KCET's programming. Because HEW had not yet adopted rules on the Section 504 obligations of public broadcasting stations, the Commission concluded it would be unfair to deny KCET's license for noncompliance. When, on reconsideration, the FCC upheld this decision, Gottfried appealed her case to the D.C. Circuit Court of Appeals.³⁶

While the D.C. Circuit was deliberating the merits of Gottfried's case, the FCC released its final rules on ascertainment (in April 1980). In yet another blow to consumers, the FCC rejected its own suggestion to add gay and disability elements to the ascertainment checklist, yielding to broadcaster claims that it would be too difficult to consult with every significant community group. The Commission explained that the list already contained the socioeconomic elements common to most communities, and reached the startling conclusion that the record lacked evidence that “gay and handicapped persons are significant in all or most communities.”³⁷ Rather than

* In addition to using ascertainment to educate stations about the need for more captioning, NCLD saw it as a way to increase coverage of disability issues on news and public affairs programs. NCLD, Comments on Revision of Programming and Commercialization Policies, Ascertainment Requirements, and Program Log Requirements for Commercial Television Stations in MM Dkt. 83-670 (October 13, 1983).

require broadcasters to reach out to these and other community groups, the FCC shifted the burden to the excluded groups to approach their local broadcasters. Only *after* being contacted by one of these groups would a station have an obligation to take their needs into account.

The FCC's 1980 ruling effectively eliminated use of the ascertainment obligation as a legal strategy for expanding captioning mandates. Contacting television stations was difficult, if not impossible, for most deaf and hard of hearing consumers, who were still largely without TTYs and entirely without relay services. But this had only short-term significance; a few years later, in yet another turn of events, the FCC would do away with its ascertainment mandates altogether, and rely instead on the competitive marketplace to encourage broadcasters to respond to the needs of their communities.³⁸ Consumers were sorely disappointed when they failed in their last-ditch efforts to convince the FCC that a marketplace theory had never worked in meeting the television needs of people with disabilities.³⁹

In 1981, Gottfried finally secured her first partial victory in the D.C. Circuit.⁴⁰ Although the court agreed with the FCC that a license was not sufficient federal assistance to bring the commercial stations under Section 504, the court did reverse the FCC's renewal of KCET's license, concluding that the public station had a duty to comply with the Rehabilitation Act, even in the absence of specific HEW guidelines defining that compliance. Judge J. Skelly Wright, delivering the opinion for the court, complained that in the quarter of a century since television had first been made available, "millions of Americans have lived and died . . . without being able to enjoy radio and television simply because their hearing was impaired. It is time for the Commission to act realistically to require, in the public interest, that the benefits of television be made available to the hard of hearing now."⁴¹ He then sent the case back to the FCC, with a directive for the agency to examine the extent to which KCET had made reasonable efforts not to discriminate against deaf and hard of hearing people.

Unfortunately, even this minor victory was overturned by the U.S. Supreme Court two years later, in February 1983.⁴² Although the Court acknowledged an interest in having both commercial and public stations respond to the needs of the disability community, it held that the FCC had no obligation to evaluate the compliance of public stations under Section 504; rather, only federal agencies that provided federal assistance, like HEW, could impose nondiscrimination obligations on these stations. In a strong dissent, Justices Marshall and Brennan charged that the Court's majority had been wrong to ignore the underlying obligations of the Rehabilitation Act. Even though the FCC's responsibilities were dictated by the Communications Act, they asserted that the agency was not free to administer those duties to the complete exclusion of other relevant statutes in matters of the public interest.

While the first Gottfried case had been making its way through the federal court system, Gottfried teamed with Marcella Meyer, GLAD, and thousands of deaf and hard of hearing residents of various California counties in a second lawsuit to push for open captioning on television.* This time, Gottfried brought a class action in a

* Deaf and hard of hearing people in the Los Angeles, Orange, Ventura, and Santa Barbara counties were included in the class action. GLAD was eventually dismissed as a plaintiff because the court found that it did not have standing to bring the lawsuit.

California federal district court against three types of defendants: (1) KCET, for its failure as a federally funded station to provide open captioning; (2) federal agencies, including HEW, the FCC, and later on, the Department of Health and Human Services (HHS) and DOJ, for disbursing federal funds to public stations that were not accessible; and (3) the Corporation for Public Broadcasting (CPB) and PBS, for distributing those funds. The lawsuit was an attempt to halt the distribution of funds to public stations that did not fulfill their open captioning obligations and to force the defendant agencies to finally issue captioning rules under Section 504.

By the time the second Gottfried case went to trial in February 1980, HEW had concluded that Section 504 applied to public broadcasters receiving federal financial assistance, but had not yet finalized its regulations delineating how stations needed to meet their Section 504 obligations.⁴³ Unfortunately, over the next few months, the responsibility for producing these rules bounced back and forth to and from federal agencies in a game of regulatory ping-pong. This began when, in May of 1980, HEW was divided into two agencies, HHS and the Department of Education, and the latter was given responsibility for continuing the captioning program and completing the Section 504 guidelines.⁴⁴ A few months later, in November 1980, the president also shifted the responsibility of coordinating federal implementation of Section 504 for *all* federal agencies from HEW to DOJ.⁴⁵ In January 1981, the Department of Education finally released a notice of intent to issue Section 504 public broadcast regulations.⁴⁶ However, a half a year later, the department decided to drop this rulemaking and instead require television access through individual cases and contractual provisions. In apparent disagreement with this approach, during the summer of 1981, DOJ announced to the district court trying the second Gottfried case, its intentions to again proceed with a Section 504 rulemaking to cover public broadcasters, and to have final rules issued by June 1982. By this time, however, the court had little interest in waiting for the federal agencies to get their affairs in order any longer.

On November 17, 1981, the court issued its opinion, dismissing Gottfried's case against KCET, CPB, and PBS because there were no Section 504 rules obliging these stations to provide access to television programming.⁴⁷ However, the court found that the federal agencies' continual delays, their ongoing shifts in rulemaking authority, and their ultimate failure to promulgate any Section 504 rules for public broadcasters—despite the distribution of significant federal funding to these stations—“deliberately fostered and promoted discrimination against deaf and hearing impaired persons.”⁴⁸ It was “simply irrational,” said the court, not to have issued rules, given the specific mandate of all federal agencies “to enable qualified handicapped persons to achieve their full capability, foster their self-sufficiency and independence, and integrate them into the community.”⁴⁹ Going even further, the court ruled that the agencies' foot-dragging violated both the first and fifth amendments to the Constitution because the absence of access denied deaf and hard of hearing people the information they needed to participate meaningfully as informed citizens in our democracy.

The California district court went on to hold that the FCC's mandate for broadcasters to act in the public interest encompassed Section 504's national policy of nondiscrimination, and was applicable to both commercial stations and public stations that directly received federal grants. It then rejected closed captioning as a “reasonable

alternative” because of the “prohibitive” cost of decoders, noting as evidence that only 40,000 decoders had been sold to date.⁵⁰ The court concluded by directing both DOJ and the FCC to adopt Section 504 regulations for public broadcasters and prohibiting all federal agencies from disbursing additional funds to broadcasters until these rules were released, unless those funds were to be used for open captioning.⁵¹

Unfortunately, the district court’s favorable rulings again failed to survive an appeal. The Ninth Circuit U.S. Court of Appeals reversed the lower court’s decision to allow federal funds to be withheld from television stations that failed to provide captions because no regulations linked federal funding to specific access requirements.⁵² Even worse, the appellate court held that *neither* DOJ nor the FCC even had an obligation to issue television access rules because neither distributed federal funds to television stations. Additionally, the court said that the Department of Education, which *did* provide some funding, was within its authority to require television access through contractual provisions, rather than regulations. The court also overturned other rulings made by the lower court that would have required federally funded programs to have open instead of closed captions, and that interpreted the Constitution to impose the duty to make television accessible.

On July 9, 1981, Gottfried, Meyer, and GLAD filed yet a third Section 504 complaint with the U.S. Department of Commerce, alleging the department’s failure to condition federal grants to KCET on the provision of captioning to be a violation of that statute.⁵³ After the complaint languished before the department for several years, the matter once again ended up in the Ninth Circuit Court of Appeals, where, in 1987, the court directed a lower court to send the complaint back to the Department of Commerce for resolution.⁵⁴ Although KCET was eventually found to be in compliance with Section 504, the case made the department aware of the need to consider television access by people with disabilities in future contracts with federal grantees.⁵⁵

Although it was somewhat frustrating that the chain of Gottfried cases did not secure greater court victories, the cases undoubtedly contributed significantly to television access, both by bringing these issues into the spotlight, and by helping to shape the captioning debate. For example, several years later (in October 1989), CPB would require all public television producers receiving funding from its corporation to include closed captioning as a mandatory budget line item.⁵⁶ Having come at a critical juncture in the development of captioning, the cases set the stage for captioning successes in the years to come.

The 1980s: Closed Captioning Takes Firmer Ground

By the end of 1980, 30,000 homes had acquired decoders. While substantial, this number remained far below original projections. Part of the problem may have been that the government had given Sears and other retailers a very small mark-up on their decoder sales, leaving these companies with neither the funds nor the incentive to conduct extensive consumer outreach.⁵⁷ Although NCI and other nonprofit organizations made substantial efforts to inform the public about decoder options, they could not reach sizeable segments of television viewing audiences. In addition,

decoder prices were high, especially for the deaf community, which had a greater unemployment rate than the general public. But beyond this, many felt that the main reason that consumers were reluctant to purchase decoders was simply that there just were not very many closed captioned programs on TV that made those purchases worthwhile.

The Department of Education grew concerned. Although it had hoped that ongoing appropriations for captioning would not be needed once its captioning program was well off the ground, it now realized that the fate of its initial investment in the line 21 technology might depend on its increasing the number and variety of federally subsidized captioned programs. Responding to the state of affairs, over the next several years, the department significantly expanded captioning access to newscasts, sports, children's shows, movies, television specials, series, and syndicated shows.

By 1981, captions were available on thirty-five ABC, NBC, and PBS programs. But although this progress prompted the American Association of Advertising Agencies to continue advising its members to caption their commercials, slow decoder sales began to cause broadcasters to question whether their one-million-dollar-a-year captioning investment would ever turn a profit. A catch-22 followed: the networks became increasingly reluctant to invest money into captioning new television shows until they witnessed a growth in decoder sales, while consumers grew progressively more hesitant to spend hundreds of dollars on decoder equipment until broadcasters added more captioned programs.⁵⁸

In an attempt to break this logjam, NCI embarked on a campaign to both expand decoder purchases and attract new captioning grants from major foundations and corporations.* But even more significant were efforts by NCI to expand its audiences through the creation of simultaneous, or "real-time" captioning. A recent NCI survey had revealed that 75 percent of these individuals were more interested in having access to the evening news than any other programming.⁵⁹ However, up until now, the technology to caption a program simultaneously with its on-the-air broadcast had not yet been developed. Deaf viewers were still relegated to watching captioned ABC newscasts several hours after these were first broadcast to the rest of the United States.

As far back as 1978, HEW had begun to fund research into a method of providing viewers with instantaneous access to live news, sports and other programs. However, initial efforts were slow and so, in 1980, NCI hired Jeff Hutchins to achieve a viable real-time captioning solution. Hutchins in turn contracted with a firm called Translation Systems, Inc., which employed individuals who had successfully developed a means of converting shorthand into printed text during their previous work with the CIA. Unfortunately, the method they designed relied on a cumbersome mainframe computer and used prepared transcripts, rather than real-time material. In order to effectively add captions to live events as they were being televised, NCI needed a way to directly connect a stenotype machine to a small computer. When, in 1981, computer innovations made this possible, Hutchins hired Martin Block, a court reporter

* Among other things, NCI asked its newsletter subscribers to share names of individuals who might be interested in purchasing decoders.

in the Philadelphia courts, and the two finalized the technical specifications and operational practices that finally allowed live transcription of television dialogue for caption viewers.⁶⁰

In April 1982, the Academy Awards on ABC became the first live special ever to have real-time captioning. Block himself provided the captioning, working with a team of assistants who fed him the correct spellings of the award nominees. On October 11, 1982, *ABC World News Tonight* began live broadcasts with the new technology.⁶¹ In the same year, the Sugar Bowl became the nation's first real-time captioned live sporting event.⁶²

Deaf advocates also did their part to spur the growth of television captioning. In 1981, William Castle of the National Technical Institute of the Deaf, E. C. Merrill Jr. and Merv Garretson of Gallaudet, Al Pimentel of the NAD, and Frank Sullivan of the National Fraternal Society of the Deaf formed a new Ad Hoc Group to Promote Closed Captioned Television. On April 15, 1981, the group extended official thanks to ABC, NBC, PBS, and others in the television industry for their efforts to promote line 21 captioning, and tried to push CBS into joining its competitors.* By now, CBS was not only absent from the captioning lineup; it was releasing statements about the future obsolescence of the line 21 system. Consumers feared that CBS's actions would damage decoder sales, and jeopardize the system's future by causing other networks to weaken their own captioning commitments.⁶³

The following year, when NBC's captioning commitment continued to waver, the Lexington School for the Deaf sent several busloads of its students to picket at NBC headquarters in New York City. Phil Bravin, chair of a newly formed NAD TV Access Committee, was also dispatched to represent the deaf community in executive level meetings with NBC. While the dual effort successfully put NBC's captioning efforts back on track, similar overtures to CBS were not as successful. After one particularly frustrating three-hour meeting with the CBS President of Affiliate Relations Tony Malara, Bravin left, promising to "see you on the streets of America."⁶⁴ Six weeks later, the NAD orchestrated protests of hundreds of deaf captioning activists at more than one hundred CBS affiliates across the country. CBS's resistance finally gave way: in 1984, the network began dual encoding its programs with *both* Teletext *and* line 21 captions.⁶⁵

As the 1980s progressed, the marvelous leadership and enthusiasm of Malcolm Norwood and later Jo Ann McCann at the Department of Education succeeded in significantly expanding program options for caption viewers; by the early- to mid-1980s, a burgeoning market of captioning providers were competing for millions of dollars worth of federal captioning grants. By the spring of 1984, over 80,000 decoders had been purchased, more than 335,000 viewers were using closed captioning, and new caption viewers were being added at an estimated rate of 4,000 each month.⁶⁶ In October 1984, ABC-TV's *World News This Morning* became the first daytime television program to be broadcast with captions; a little more than a month later, it was joined by ABC's *Good Morning America*.⁶⁷ In order to accommodate the new viewers,

* Consumers especially appreciated the efforts of ABC Executive Julius Barnathan, who was widely known to champion the benefits of captioning among his network colleagues. Vera Wells also became known for the support she lent to captioning efforts within NBC.



As chair of the NAD's TV Access Committee, Phil Bravin challenged national television networks to provide captioning access to their programming in the early 1980s. For a period of time in the 1990s, he also served as president of the National Captioning Institute.

that same fall, Hyatt Hotels become the first national hotel chain to make its in-room televisions captioning accessible.⁶⁸

The 1984–85 television season brought approximately seventy hours of weekly captioned television programming. This would increase to ninety-four hours the following year, encompassing nearly two-thirds of prime-time broadcast programming. NCI was able to increase captioning of news and public affairs programming alone to twenty hours per week.⁶⁹ For the first time, the availability of real-time captioning was also providing the deaf and hard of hearing community with live access to presidential political debates and conventions, election night coverage, and major sporting events, including the Summer Olympics.⁷⁰ Advertisers, aware that more than one-third of all caption viewers switched to brands featured in captioned commercials, requested NCI to caption more than 5,000 commercials during the first four years of its operations.

Notwithstanding the spectacular growth in captioned programs, sales of decoders continued to creep along far below the initial projections of 100,000 per year. In order to expand the number of captioned programs—which would in turn increase decoder purchases—NCI had created a “Caption Club,” through which individual and organizational members could donate money to support captioning. By 1985, the club boasted more than 3,500 members and total contributions exceeded \$100,000.⁷¹

Lagging decoder sales also prompted efforts to ease the financial burden associated with purchasing decoding equipment, including new tax credits and leasing options, the latter made available through cable companies.⁷² In January of 1986, the TeleCaption II was released, a second generation caption decoder that was smaller, more cable-ready, and equipped with remote controls and other state-of-the-art features. A \$1.5 million subsidy from the Department of Education enabled the first 50,000 of these new devices to be sold for only \$199.99.⁷³ By now, Sears was no longer the sole player in the decoder business; competition by JC Penny, hearing aid dispensers, and consumer organizations was also helping to bring down retail prices. In the spring of 1986, TDI put the new devices on sale for only \$160.⁷⁴

By 1987, nearly 180 weekly hours of broadcast and premium cable programming were captioned, together with more than 7,000 commercials, produced by over 400 major advertisers.⁷⁵ In 1988, this figure rose to 200 hours per week, a third generation of new and improved caption decoders—the TeleCaption 3000—was introduced, and

closed captions were added to more than 1,000 videotapes. In addition, new competition among captioning providers was now bringing down the costs of these services. Still, the haltingly slow growth in decoder sales raised eyebrows among network executives who, having liberally invested in captioning to widen their audiences, realized that only a limited number of deaf and hard of hearing viewers were receiving access to their programs. Fewer than 200,000 decoders had been purchased during the entire eight-year period that these devices had been on the market.*

Many began to grow concerned that the future of captioning was in serious jeopardy. By 1988, the Department of Education had invested more than \$45 million into its captioning project and was spending over \$6 million each year—or approximately 40 percent of all captioning costs—to support television captioning.⁷⁶ But with so small a viewing audience, the economic incentives for networks, producers, and advertisers to continue supplementing these funds simply did not exist. By the late 1980s, these investors were feeling that they were putting far more into captioning than they were getting back.

Commission on Education for the Deaf

The Commission on Education of the Deaf (COED), was created by the Education of the Deaf Act of 1986 to assess the quality of and propose solutions for deaf education in the United States. Under the chairmanship of Dr. Frank Bowe, the commission met for well over a year, and on March 18, 1988, released its final report, *Toward Equality: Education of the Deaf*.⁷⁷ The document had a number of things to say about closed captioning.

COED identified television as “the most persuasive and influential means of sharing information in America,” and *captioned* television as the “most significant technological development for persons who are deaf.” But the commission took issue with the way that captioning was funded. Specifically, COED concluded that reliance on the federal government was keeping captioning rates artificially inflated, stifling competition, and preventing this service from becoming privately funded and self-sustaining. Even use of the Department of Education’s money to finance a third generation decoder was perceived to have possibly hurt the long-term viability of captioning.

Toward Equality contained two proposals aimed at securing the future of captioning. First, the report included a recommendation for legislation that would mandate all new TV sets to be capable of decoding and displaying closed captions.⁷⁸ The theory behind this proposal was that if all television viewers were able to access captions, the larger audiences would make it easier for networks to sell advertising time. The additional revenues that were collected would then help to cover the costs of the networks’ captioning investments. COED based this conclusion in part on NCI’s assertions that the future of closed captioning was “inextricably tied” to the number of households that received those captions; the captioning agency predicted that captions needed to reach 500,000 to 1,000,000 homes by 1990 to truly become self-sustaining.⁷⁹

* Changes to the tax code had done little to entice low income and unemployed deaf consumers who were unable to benefit from the credits.



As chairman of the Commission for Education of the Deaf, Dr. Frank Bowe of Hofstra University helped to identify proposals to secure the future of closed captioning. Pictured here (right) with Senator Tom Harkin (middle) and former NAD executive director Charles Estes.

Second, the commission recommended the enactment of federal legislation that would require television programmers to caption their shows.⁸⁰ Despite the considerable growth in captioned programming since 1980, as of 1988, less than one-third of all programming shown on the three major broadcast networks contained captions. Few daytime and late evening programs were captioned, and although more than 38,000,000 American homes subscribed to cable television, captions scarcely appeared on any basic cable programming.* Many deaf and hard of hearing consumers shared COED's concerns. The voluntary efforts by the television industry had been fine for the 1980s. But it was very clear that advocates were ready to see captions taken to the next level as the decade drew to a close.

Notes

1. Missy Whatmough McManus, "Quality in Captioning: The Key to Equal Access," *NADmag* (June/July 2002): 18–19.

2. Edmund Burke Boatner, "Captioned Films for the Deaf," *American Annals of the Deaf* (August 1981): 520–525; Malcolm J. Norwood, "Captioning for the Deaf: An Historical Overview," in Judy Harkins and Bobby Virvan (Eds.) *Speech to Text: Today and Tomorrow Proceedings of a Conference at Gallaudet University*, GRI Monograph series (Washington, D.C.: Gallaudet University, 1989), 133–38.

3. P. L. 85-905 was signed into law by President Dwight D. Eisenhower on September 2, 1958. The Library of Congress had originally been chosen to run the program because it was the agency responsible for making reading materials accessible to blind individuals.

4. Initially, the laws that expanded the scope of the captioned law were P.L. 87-715 (September 28, 1962), P.L. 89-258 (October 19, 1965), P.L. 90-247 (January 2, 1968), and P.L. 91-61 (August 20, 1969). The program was later renamed Media and Captioned Films.

5. National Conference on Television for the Hearing Impaired, sponsored by the Southern Regional Media Center for the Deaf at the University of Tennessee at Nashville, December 14–16, 1971.

* Premium cable channels, such as HBO and Showtime, were significantly better, captioning many of their movies.

6. Other captioning applications were tested by Hazeltine Research, Inc., and HRB-Singer Co., the latter of which used a portion of the video signal that was typically received off the edge of the picture. Variations in reception and fears that this technology might hurt the life of the television picture tube ultimately eliminated this as a possible solution. Malcolm J. Norwood, "The Development and Growth of Closed Captioned Television," *Written Proceedings of the National Conference on Deaf and Hard of Hearing People, El Paso, Texas*. (September 14, 1988), 94-98.

7. R. T. Root (ed.), *An Analytical and Experimental Investigation of Means of Enhancing the Value of Television as a Medium of Communication for the Hearing Impaired*, Study done by HRB Singer, Inc. under contract to U.S. Office of Education, 1970.

8. Mardi Loeterman, "The Caption Center at Nineteen," *Deaf American* 39 no. 2 (Spring 1989): 9-15.

9. Several years later, the FCC would do away with this rule. In the 1970s, stations often went off the air during the early morning hours, known as the dark hours. During the winter of 1980, the FCC proposed to allow use of this dead air time for news, financial information, sports, and other informational programming without audio or with background music. On March 5, 1980, NCLD sent in comments supporting the revision as one that could increase access to television by deaf and hard of hearing people. See *Operation of Visual and Aural Transmitters of TV Stations*, BC Dkt. 80-10, FCC 80-22, 45 *Fed. Reg.* 6419 (January 28, 1980). The rule now permits aural and visual transmitters to be operated independently of each other or, if operated together, to be used with different and unrelated program material. 47 C.F.R. §73.653.

10. Loeterman, "The Caption Center," 9-15.

11. Interviews with Phil Collyer and Larry R. Goldberg, July 28, 2003.

12. Public Broadcasting Service, "Closed Captioning Service for the Hearing Impaired," *PBS Fact Sheet* (September 1977): 2.

13. The petition, RM-2616, was filed on November 6, 1975, and requested amendment of subpart E of Part 73 of the FCC's rules.

14. Senate Resolution 573, 122 *Cong. Rec.* 34716 (October 1, 1976); reprinted in *NCLD Newsletter* 1 (Fall 1976): 7.

15. "Ford Delivers Statement Supporting Captioning," *NCLD Newsletter* 1 (Fall 1976): 6.

16. *Amendment of Subpart E, Part 73 of the Commission's Rules and Regulations to Reserve Line 21 of the Vertical Blanking Interval of the Television Broadcast Signal for Captioning for the Deaf*, Report and Order, Dkt. 20693, FCC 76-1134, 63 FCC 2d 378 (December 20, 1976). Hereinafter cited as Line 21 Order.

17. *Amendment of Part 73 of the Rules to Establish Requirements for Captioning of Emergency Messages on Television*, Dkt. 20659, 61 FCC 2d 18 (September 15, 1976), recon. denied, 62 FCC 2d 565 (1977).

18. Line 21 Order, 63 FCC 2d, 389, 445 (1976).

19. "Teletext Background Information," CBS/Broadcast Group (undated).

20. "Good Times Ahead!" *NCLD Newsletter* 1 (January 1976): 7. CBS even sent copies of the broadcast to NCLD.

21. Larry Grossman, PBS President, letter to CBS President John Backe, March 22, 1977.

22. Arnold & Porter and Touche Ross & Co., "A Suggested Management and Organization Plan for Captioning Public and Commercial Television Programs" (June 1978). Michael Curzan of Arnold & Porter was instrumental in the development of this plan.

23. NCI News (November 13, 1979).

24. "Commission to Receive Briefing on Status of Captioning for the Deaf in April 5 Meeting," FCC Public Notice, March 29, 1979.

25. "Closed Captioning Participating Groups," *NCI News* (undated), 5; John E.D. Ball, "The Visual Voice," *Lion Magazine* (1980).

26. "Sponsors Rush to Caption TV Commercials," *Business Week* (June 2, 1980): 104E.

27. *Ibid.*

28. CBS Broadcast Group, "CBS/Broadcast Group and Public Broadcasting Stations Announce Plans for a Program/Audience Test of Teletext in Los Angeles" (November 13, 1980).

29. "Sponsors Rush to Caption," 104E.

30. The specific statutory obligation is for television broadcasters to serve “the public interest, convenience and necessity.” 47 U.S.C. §§307(c); 309.

31. *Ascertainment of Community Problems by Broadcast Applicants*, Dkt. 19715, FCC 75-540, 53 FCC 2d 3 (May 15, 1975), based on *Primer on Ascertainment of Community Problems by Broadcast Applicants*, Dkt. 18774, FCC 71-176, 27 FCC 2d 650 (February 23, 1971). See also *Renewal Primer, Ascertainment of Community Problems by Broadcast Applicants*, First Report and Order, Dkt. 19715, FCC 75-1361, 57 FCC 2d 418 (January 7, 1976). Although early ascertainment requirements originally pertained only to commercial stations, this was later expanded to noncommercial broadcasters. *Ascertainment of Community Problems by Noncommercial Educational Broadcasters*, 58 FCC 2d 526 (1976).

32. A list of these community groups, also called “socio-economic elements,” can be found at *Renewal Primer Appendix D*, 57 FCC 2d 418, 447 (1976).

33. Denver Commission on the Disabled, letter to FCC, November 22, 1977.

34. *Amendment of the Primers on Ascertainment of Community Problems by Broadcast Renewal Applicants*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, BC Dkt. 78-237, FCC 78-583, 43 *Fed. Reg.* 35357 (August 9, 1978) (commercial stations); Further Notice of Proposed Rulemaking, 43 *Fed. Reg.* 41241 (September 15, 1978) (noncommercial stations).

35. *License Renewal Applications of Certain Television Stations Licensed For and Serving Los Angeles, California*, Memorandum Opinion and Order, FCC 78-599, 69 FCC 2d 451 (September 8, 1978), recon. denied, 72 FCC 2d 273 (June 15, 1979).

36. *Petition for Reconsideration of Community Action*, Memorandum Opinion and Order, FCC 79-320, 72 FCC 2d 273 (June 15, 1979).

37. *Amendment of the Primers on Ascertainment of Community Problems by Commercial Broadcast Renewal Applicants and Non-commercial Educational Broadcast Applicants, Permittees, and Licensees*, Report and Order, BC Dkt. 78-237, FCC 80-134, 76 FCC 2d 401, 411 (April 4, 1980), ¶23.

38. *The Revision of Programming and Commercialization Policies, Ascertainment Requirements, and Program Log Requirements for Commercial Television Stations*, Report and Order, MM Dkt. 83-70, 98 FCC 2d 1076 (1984); recon. denied, 104 FCC 2d 358 (1986).

39. Comments of NCLD and NAD in MM Dkt. 83-70 (October 17, 1983). To a very limited extent, the FCC would revive the community ascertainment concept under a new name nearly two decades later. Specifically, in 2004, the Commission would set up a series of “localism” hearings in cities around the country, offering an opportunity for consumers to share their concerns about local television programming with the FCC. Deaf consumers would use these forums to testify on the ongoing need for real-time captioning of emergency information.

40. *Gottfried v. FCC*, 655 F. 2d 297 (D.C. Cir. 1981).

41. *Gottfried v. FCC*, 655 F. 2d at 301. The court of appeals also rejected an argument, made by ABC, NBC, Metromedia, and others who had intervened on behalf of the California stations, that an FCC captioning mandate would regulate content in violation of the first amendment. An attack on captioning based on first amendment considerations would resurface many years later when Congress would consider enactment of comprehensive captioning mandates in the 1990s.

42. *Community Television of Southern California v. Gottfried*, 459 U.S. 498 (1983).

43. HEW issued its first regulations implementing Section 504 on May 4, 1977. Pursuant to Executive Order 11914, 41 *Fed. Reg.* 17871 (April 29, 1976), the following year, HEW also issued regulations to coordinate implementation of Section 504 for all federal agencies, See 43 *Fed. Reg.* 2132 (January 13, 1978), originally codified at 45 C.F.R Part 84.

44. The U.S. Department of Education redesignated the guidelines at 28 C.F.R. Part 41.

45. Executive Order 12250, 45 *Fed. Reg.* 72995 (November 4, 1980), codified at 42 U.S.C. §2000d-1; 28 C.F.R. Part 36.

46. *Amendment of Regulation Under Section 504 of the Rehabilitation Act of 1973, to Define Rights of Hearing Impaired Persons to Access to Television Programs*, 46 *Fed. Reg.* 4954 (January 19, 1981). NCLD submitted comments on behalf of the deaf community, urging the agency to require open captions. Comments of NCLD (March 5, 1981).

47. District Court Slip Opinion, No. CV 78-4715 (November 17, 1981).

48. *Ibid.*, Conclusions of Law ¶4; See also ¶9.

49. *Ibid.*, ¶10.
50. *Ibid.*, ¶13; Findings of Fact ¶44.
51. *Ibid.*, Conclusions of Law, ¶12.
52. *Greater Los Angeles Council on Deafness, Inc. v. Community Television of Southern California*, 719 F.2d 1017,1028 (9th Cir. 1983), cert denied, *Gottfried v. United States*, 467 U.S. 1252 (1984); reh'g denied, 468 U.S. 1224 (1964).
53. KCET-TV was a grant recipient under the Public Telecommunications Facilities Program, a program operated by the Commerce Department's National Telecommunications and Information Administration (NTIA), which awarded money to public television stations to acquire and install public telecommunications facilities. 47 U.S.C. §§390–393; 15 C.F.R. §2301, et. seq.
54. *Greater Los Angeles Council on Deafness, Inc. v. Baldrige*, 827 F.2d 1353 (9th Cir. 1987).
55. See 15 C.F.R. §8b (prohibiting discrimination against people with disabilities by NTIA grant recipients pursuant to the Rehabilitation Act of 1973; <http://www.ntia.doc.gov/ptfp>).
56. Donald E. Ledwig, president and CEO, CPB, letter to Senator Tom Harkin, January 11, 1990.
57. "Introduction, *Local News Captioning Conference*, 3.
58. Edward C. Carney, "Captioning: Growth and Responsibility," *Caption* (Fall 1981): 4.
59. "Live Captioned News Becomes a Reality," *Caption* (Fall 1981): 3.
60. This real-time transcription was able to occur at a rate of 250 words per minute. Karen Peltz Strauss, e-mail exchanges with Jeff Hutchins, November 17–18, 2005; Norwood, "Development and Growth of Closed Captioned Television," 97. See generally, Linda D. Miller, "What is Real-Time Captioning and How Can I Use It?" *SHHH* (January/February 1989): 7–10.
61. Some saw ABC's involvement in early captioning efforts as its way to gain a competitive advantage in the race for television viewers. Lawrence K. Grossman, "My Strange Involvement with Closed-Captioning," *Local News Captioning Conference*, 115.
62. "Programming Milestones, NCI's Proud History of Captioning Facts," *NCI fyi* (March 12, 1993). In a case concerning the educational rights of deaf children, Joe Karlovits became the first court reporter to successfully try out the new real-time technology before the U.S. Supreme Court.
63. Albert T. Pimentel, "CBS and Deaf People," *Deaf American* (April 1981): 3.
64. Phil Bravin, e-mail to the author (January 31, 2005).
65. CBS had received FCC authorization to provide Teletext service in 1983. *Amendment of Part 73 to Authorize the Transmission of Teletext by T.V. Stations*, BC Dkt. 81-741, RM-3747, RM 3876. The network continued to provide dual encoding on its Teletext service and line 21 for several more years. Ironically, in the 1990s, under CBS's Director of Captioning Mark Turits, the network would become a leader in the provision of closed captioning, achieving 100% compliance with FCC captioning rules well before the agency's deadlines.
66. "Captioned TV Audience More Than 335,000," *GA-SK* 15 (Spring 1984): 14.
67. "A Dramatic Increase in Closed-Captioned Television News," *NCI News* (October 24, 1984).
68. "Hyatt Hotels Offer Guests Captioned TV," *Caption* (Fall 1984): 4.
69. Karen Peltz Strauss, "Television, Telephones, and TDDs . . . Access is the Issue!" *Gallaudet Today* (Spring 1985): 17–21.
70. *Ibid.*
71. "NCI Wants 4000 Members in its 1986 NCI Caption Club," *Caption* (Fall 1985): 5; see also "NCI Caption Club—Outstanding Success Story," *Caption* (Fall 1984): 5. By fall 1993, the club's members would number over 14,000. "NCI Caption Club Celebrates Its Tenth Anniversary," *GA-SK* 24 (Fall 1983): 18.
72. See, for example, IRS Ruling 80-340, the product of legislation introduced by Senator Patrick Leahy (D-Vt.) and Representative David Bonior (D-Mich.) in the fall of 1984. See "Facts to Keep in Mind About," *nci for your information* (January 4, 1985): 2.
73. Lottie Gatewood, "Television-Caption II: A More Affordable Decoder is Here," *Caption* (fall 1985): 1, 4.
74. "TeleCaption II Decoders," *GA-SK* 17 (Spring 1986): 5, 16
75. "General Information About the Closed-Captioning Services," *nci for your information* (July 1987): 3. Showtime/TMovieC, HBO/Cinemax, and the Disney Channel were the primary cable stations participating in the captioning program at this time.

76. Robert Davila, Office of Special Education and Rehabilitative Services, letter to Sy DuBow, NCLD, March 23, 1990.

77. COED, Frank Bowe, ed., *Toward Equality: Education of the Deaf*, (Washington D.C.: GPO, 1988), 112.

78. *Ibid.*, 120, Recommendation 42.

79. *Ibid.*, 119.

80. *Ibid.*, 116–17, Recommendation 40.

10

The Stage Is Set: Captioning Goes through a Transition

Since my husband's death . . . there is nothing that has improved the quality of my life as [much as] closed captioning has. No longer is there someone to nudge and ask "What did he say?" . . . It fascinates me to know that dogs are barking, music playing . . . and lines spoken.

—Anonymous letter to Phil Bravin

IN 1987, Amanda Montgomery, a deaf six-and-a-half-year-old, wrote a letter to Fred Rogers, asking him to caption his children's series, *Mister Rogers' Neighborhood*. According to Amanda's mother, since acquiring a TeleCaption decoder, a "whole new world" had opened up for her daughter. The network initially rejected Amanda's request because of insufficient funding. But sixteen months later, the Department of Education added the program to the list of shows slated to receive its captioning grants.¹

If the 1970s and 1980s were the decades of captioning exploration, the 1990s became the decade of captioning mandates. By 1989, virtually all prime-time programs on the major networks were produced with captions and the total number of hours captioned on all stations hovered around 390 per week.² But despite the ten-fold increase since 1980, program options during the day and on basic cable TV remained severely limited. In addition, it was estimated that of America's 1,400 local broadcast stations, only 90 captioned their local newscasts.³ With the exception of ABC's *Nightline*, late-night programming also rarely contained captions. The deaf community, having tasted the wonders of television, grew increasingly frustrated by their lack of choices. At the Deaf Way conference held at Gallaudet University in July of 1989, Stuart Gopen, the father of a deaf child, initiated a nationwide petition for full television accessibility, to channel the deaf community's growing dissatisfaction into action. Less than eight months later, the petition had attracted the support of nearly 17,000 Americans.⁴

Epigraph. Anonymous, letter to Phil Bravin of NCI, quoted by FCC Chairman Reed Hundt ("Access to the New Frontier," keynote speech, Captioning the New Frontier Conference sponsored by CPB/WGBH National Center for Accessible Media, New York, December 4, 1995, 1, available at <http://www.fcc.gov/Speeches/Hundt/spreh546.txt>).



At Gallaudet's Deaf Way conference, Stuart Gopin, the father of a deaf child, initiated a nationwide petition for closed captioning that collected 16,885 signatures.

Closed Captioning at a Crossroads

During the spring of 1989, the considerable discrepancy between the available market for decoders—estimated to be approximately one hundred million people—and their sluggish sales, prompted the Department of Education to assess the benefits of its continued investments into captioning technology and services.* A survey conducted by the agency confirmed what was already well-known—that deaf viewers and parents of deaf children strongly supported captioning as a critical means of acquiring information that was essential to full participation in American society.⁵ But it revealed as well the many reasons that Americans were reluctant to purchase decoders. Although a decade had passed since the first decoders had gone on sale, many deaf and hard of hearing consumers still knew little about these devices, including how and where to buy them. Even consumers who were so informed did not want to purchase an expensive device that provided them with only limited programming choices. Moreover, hard of hearing television viewers had little interest in buying decoders when they could use audio loops, infrared systems, and FM devices to help them hear the audio track. This latter group, not part of the culturally deaf community, sometimes distanced themselves from “people with disabilities” who needed an accommodation like captioning.

Added to the stigma of purchasing decoders were the difficulties of hooking up these devices. According to Howard “Rocky” Stone, executive director of SHHH, the cost and difficulty of installing a separate decoder to a television set, VCR, and

* According to NCI, the 100 million Americans who could benefit from captions included twenty-four million deaf and hard of hearing people, twenty-seven million illiterate adults, thirty million people for whom English was a second language, twelve million children learning how to read and approximately four million remedial readers.

cable box was quite daunting for SHHH's members, a large percentage of whom were senior citizens. Stone told the story of one seventy-year-old who paid \$98 to two separate servicemen, neither of whom were able to figure out the complicated wiring arrangement needed to connect these various devices.⁶

Something had to change in order for closed captioning to become a permanent and self-sustaining television service. Lowering the cost of decoders had once been tried through the Department of Education's subsidy program, but that program had since expired. In any event, many questioned whether the renewal of those subsidies would merely foster continued dependence on the federal government.

Another option was to incorporate mandates for captioning into the ADA, then in its initial stages of development. But when deaf leaders gathered at Gallaudet University in March of 1989 to discuss their agenda for the civil rights bill, they learned that powerful television and movie lobbyists already had begun waging war against such mandates.[†] Indeed, congressional aides warned that including captioning mandates in the ADA could kill the entire legislation. Given all else that was at stake in the ADA—including long-awaited mandates for nationwide relay services, sign language interpreters and assistive listening systems—deaf advocates agreed to drop captioning from their ADA wish list.

There was one alternative left: to push for separate legislation that would implement COED's recommendation to require internal captioning circuitry in new television sets. Approximately 20,000,000 television sets were sold in America every year. If all of these sets could display closed captions, in five years the number of homes with access to captioning could reach the targeted goal of 100 million. The explosion in audience size would help justify the costs associated with captioning (estimated to be anywhere from \$1,000 to \$2,000 per program hour) to the television industry, and might even provide enough of a market incentive to eliminate forever the need for federal captioning mandates.⁷

Unfortunately, the FCC, which would be charged with implementing a mandate for decoder-equipped TVs, had already questioned the value of a decoder-circuitry requirement. Soon after the COED report was released, FCC Chairman Dennis Patrick had informed Senator Tom Harkin (D-Iowa) that he believed "traditional marketplace efforts," rather than federal mandates, were sufficient to encourage additional captioning.⁸ In support of this hands-off approach, the chairman cited the successes achieved by the FCC's 1970 public notice encouraging voluntary visual access to television programming and its approval of line 21 technology: not only had there been a 400 percent increase in captioning over a five-year period, but private entities were financing 60 percent of the captioning services now transmitted to decoders in hundreds of thousands of homes.⁹

Patrick also expressed concerns about the effect that built-in decoders might have on the retail prices of television sets. He opposed a mandate forcing all consumers to bear the costs of a feature that he said benefited relatively few. Insisting that there was no evidence of incompatibility among decoders to date, the chairman similarly

[†] For example, ABC and CBS had informed both COED and federal legislators that they would wage a vigorous fight against captioning requirements.

opposed decoder performance standards because of the negative effect they might have on the industry's ability to develop advanced technologies. Patrick was against captioning mandates as well, insisting it would be "very difficult for the Commission to determine what level of closed captioned programming would best serve the overall public interest."

This was hardly the first time that deaf consumers would not have the support of the FCC in their quest to expand telecommunications access. Fortunately, this time, the FCC's absence as a partner was offset by backing from a number of other important sources. Television programmers, eager for larger audiences, believed that a decoder bill would force television manufacturers to participate in the captioning effort. It was perhaps for this reason that several affiliates of NBC, CBS, and ABC joined the National Association of Public Television Stations and the Corporation for Public Broadcasting in enthusiastic support of the proposed legislation.¹⁰

In 1989, Japanese and Korean manufacturers produced 90 percent of all television sets sold in the United States; in fact, Zenith was the only wholly American-owned TV manufacturer. As the chief proponent of the new decoder legislation, Senator Harkin understood the need to secure the support of these East Asian manufacturers. After announcing his intention to introduce the decoder legislation during a May 5, 1989, appropriations hearing, Harkin approached Frank Bowe, COED's chairman, about meeting with the foreign companies. Bowe in turn secured a grant from the World Rehabilitation Fund and, with the support of the Department of Education and the two American companies that had begun working on a decoder chip (EEG Enterprises and the ITT Corporation), set out for East Asia in September 1989.

Bowe's visits with top officials from Matsushita, Sony, Hitachi, Sanyo, Samsung, and NEC were resoundingly successful.¹¹ For the most part, the manufacturers agreed that installing captioning chips in TVs was both technically and economically feasible, and some even expressed an interest in capturing new television audiences of Korean and Japanese viewers who could learn English by watching captions. But the companies uniformly agreed that their production schedules demanded at least two years to install the chip. A few were also hesitant to integrate the chip into all television sets. Because smaller television sets were priced barely above cost, they preferred to limit a chip mandate to higher-end sets or sets with screens that measured over a certain size.

While Bowe was visiting East Asia, advocates and captioning agencies back in the states began drafting the decoder circuitry legislation.* Early on, it was agreed that rather than apply the decoder mandate only to "televisions," the new law would cover any "apparatus designed to receive television pictures broadcast simultaneously with sound."¹² This broader approach would take into account television receivers attached to computer monitors and closed circuit surveillance equipment, and could accommodate other forms of receivers not yet conceived. The bill also specified how the captions should be displayed in order to guarantee their intelligibility across

* Sy DuBow, NCLD's legal director, took the lead in this effort, with Bob Richardson of Georgetown University's IPR, Larry R. Goldberg of The Caption Center, Jeff Hutchins of CaptionAmerica, John Ball of the National Captioning Institute (NCI), and the author.

television brands and to prevent the scrambling of and interference with captioning transmissions from anti-duplication technologies.¹³

Probably the most difficult issue to be decided was the size of the television sets to which the new mandate would apply. Initial discussions with the networks produced recommendations to exempt only the smallest television sets—those that measured five inches or less diagonally. Consumers supported this approach, believing it would give them access to the greatest number of television sets. This size was too small for the East Asian manufacturers, however, who seemed more amenable to a thirteen-inch cut off. In contrast, NCI recommended applying the mandate only to projection TVs and televisions that were at least twenty inches diagonally, and to phase in this requirement, so that manufacturers could gradually modify their production lines.¹⁴ NCI felt that the incremental retail cost to consumers of building in the decoder chip—around \$10–15 per TV—would be negligible on larger sets, but substantial on smaller TVs.¹⁵

While deaf and hard of hearing advocates resisted too broad an exemption from the decoder mandate, lest they be denied access to innovative television technologies, the need for a compromise was compelling: without a resolution of this issue, there would be no mandate, and it was very unlikely that market forces would be enough to spur manufacturers into voluntarily incorporating the circuitry into new TV sets. After several weeks of debating the issue, consumers agreed to push for a statute that required decoder circuitry in all television sets with screens measuring thirteen inches and over. If enacted, the new law would reach 96 percent of all new TVs.

Introduction of the Decoder Circuitry Bill

On November 21, 1989, Senator Harkin, accompanied by lead co-sponsors Senators John McCain (R-Ariz.), Daniel Inouye (D-Hawaii), and Paul Simon (D-Ill.), announced the introduction of S. 1974, nicknamed “the decoder chip bill.”¹⁶ After signing a few of his opening remarks, Senator Harkin spoke of television as a pervasive means of sharing information in our society, and therefore a vital link to our world. A few weeks prior to the bill’s introduction, Sy DuBow of NCLD had provided Harkin with several literacy studies that revealed the benefits of captioning as an educational and motivational tool for people learning to read.¹⁷ Harkin now referenced these as well, noting the ability of captioning to increase reading comprehension, language retention, and word recognition.

In fact, by 1989, the ancillary benefits of captioning were well established. In a 1987 study sponsored by CBS and Boston University, Milton Goldman, a Los Angeles high school teacher, had found that the reading comprehension and vocabulary skills of his hearing students improved considerably when they were forced to read captions rather than hear a program’s audio track.¹⁸ Other captioning studies commissioned by NCI revealed similar improvements in reading comprehension and retention by students with learning disabilities, remedial readers, and illiterate adults.¹⁹ A study conducted by Harvard University also found captioning to be helpful for students learning English as a second language. Perhaps for this reason purchases by Asian and Latino Americans accounted for nearly 40 percent of all decoder sales in the late 1980s.²⁰

Garnering Support

The Decoder Circuitry Act was introduced amid a splash of federal legislation to further disability access. In addition to the ADA, legislative proposals to expand hearing aid compatibility, federal relay services, deaf education, and assistive technology had either just been passed or were working their way through Congress.²¹ The Deaf President Now movement of 1988 was scarcely a year and a half old, and the vigor and enthusiasm of the deaf students who had used the movement to assert their independence had not yet faded from the minds of federal legislators or the American public. When ABC's *Nightline* covered the Deaf President Now story with open captions, people all over America got their first opportunity to experience captioned programming.

DuBow took advantage of this environment to garner support for the decoder chip bill through a blitz of letters, calls, faxes, and e-mails to national organizations. His advocacy succeeded in attracting the support of thirty-seven national disability and civil rights organizations and twelve educational and literacy organizations, the latter of which saw the bill as an opportunity to enlist the television industry in the national fight against illiteracy.²² Various local schools and state commissions for the deaf also promised to back the new bill.²³ And the Consortium of Citizens with Disabilities, the national group that had coalesced to achieve passage of the ADA, contributed its full support, identifying the new legislation as going "hand in hand" with the ADA's goals to "break down barriers and provide full accessibility to American society for all our citizens."²⁴

Armed with these significant endorsements, DuBow and others next engaged in extensive grassroots networking of deaf advocates around the country to help secure support for the decoder bill from members of the Senate Committee on Commerce, Science, and Transportation, now assigned review of the bill.²⁵ If advocates won the committee's endorsement, the bill would stand a far better chance of successfully moving through the Senate. Fortunately, Senator Ernest Hollings (D-S.C.), chairman of that committee, had been a sponsor from the start.

As part of his excursion to East Asia, Bowe had successfully secured a tacit commitment from foreign television manufacturers *not to oppose* the circuitry legislation. But a few months after his trip, Sanyo Fisher—the manufacturer of decoders for NCI and decoder-equipped television sets for Sears—surprised everyone when Ronald N. May, one of its national product managers, wrote a letter to Senator Harkin in *full support* of the proposed legislation.²⁶ Bowe forwarded the letter, which described the bill's many advantages for deaf children, children learning to read, and Americans learning English, to his other Japanese and Korean contacts to convince them to similarly pledge their affirmative support for the bill. While he did this, Larry R. Goldberg of The Caption Center pursued the backing of American television manufacturers through their trade group, the Electronics Industries Association (EIA).²⁷

In March 1990, EEG Enterprises released new and even more encouraging cost data on the decoder chip. While production of the chip in moderate quantities was likely to range around \$5 per set, EEG predicted this cost would drop to \$3 when production quantities approached ten to twenty million.²⁸ The company predicted that the price tag might drop even lower if manufacturers used smaller chip

dimensions. And if all manufacturers began incorporating the chips, increased production efficiencies and reduced labor costs might eliminate altogether the need to pass on any costs to consumers. Just as consumers had never had to bear the costs of other individual television design features, such as stereo sound and remote controls, so too, it was unlikely that consumers would ever see the cost of the internal captioning chip.

Arrival of this news came at the perfect time. On March 1, 1990, Congressman Major Owens (D-N.Y.) announced his intent to introduce the House version of the decoder legislation, joined by Representatives David Bonior (D-Mich.), Edward Markey (D-Mass.), and former Gallaudet Board of Trustees member Steve Gunderson (R-Wisc.).²⁹ A “Dear Colleague” letter, sent by Congressman Gunderson a few weeks before, succeeded in attracting nearly twenty additional cosponsors by the end of the month.³⁰

While off to a strong start, the movement to secure passage of the decoder bill was not without its detractors. EIA decided that it unequivocally opposed the legislation as a “regressive excise” tax on the American public. Like the FCC, EIA claimed that it was inherently unfair to force everyone to pay for decoder chips when these devices would benefit only a small minority. In response to claims that the proposed legislation would help children learn to read or adults to learn English as a second language, EIA responded that schools, not the electronics industry, should shoulder this responsibility.³¹

The Celebrity Hearings

Although the Senate had been the first to introduce the decoder bill, the House Energy and Commerce Committee’s Telecommunications and Finance Subcommittee was the first to hold hearings, on May 2, 1990. Prior to the hearings, Congressman Markey, chair of the subcommittee, asked DuBow to secure the testimony of Sanyo Fisher, still the only television manufacturer to actively come out in support of the proposed mandates. To the delight of the bill’s advocates, Ronald May readily agreed to testify.³² Having even one television manufacturer affirm the feasibility and affordability of the decoder chip would be enormously helpful in fighting what was shaping up to be EIA’s strong objections.

Unfortunately, after learning of May’s plans, EIA’s management contacted Sanyo’s president in Japan. Only weeks after making his commitment, May wrote a second letter to DuBow expressing his “deepest regrets” that he would be unable to testify: “This is due to my position at Sanyo Fisher (USA) Corporation and our relationship within the Electronics Industry Association.”³³ EIA’s hold over the television manufacturing industry was stronger than consumers had realized.

Hearings on Capitol Hill can attract considerable media attention when television or Hollywood movie stars are scheduled to testify and so, after Sanyo’s disappointing retraction, DuBow arranged for a star-studded line up of House witnesses. On the morning of the decoder hearings, Linda Bove, the deaf librarian on PBS’s *Sesame Street*, Richard Dysart, a hard of hearing actor who played Leland McKenzie on NBC’s *L.A. Law*, and Geoffrey Owens, real-life son of Congressman Owens and TV son of Bill Cosby on NBC’s *The Cosby Show*, paraded into the room to a crowd of

enthusiastic and star-struck observers.³⁴ They were joined by John Ball and Larry R. Goldberg, there to emphasize the need for federal mandates in a competitive television market, and I. King Jordan, the recently elected deaf president of Gallaudet University.

Bove contributed to the day's testimony by emphasizing the ways that captioning helped deaf children. She noted that her own career had been enhanced by the ability to watch television and interact with young deaf admirers of *Sesame Street*.^{*} Dysart spoke of the high costs and stigma of decoders, which deterred senior citizens from buying these devices. Owens lent his support by informing legislators that *The Cosby Show* had received a flood of enthusiastic letters after it began airing with captions.³⁵

EIA's Thomas Friel was the sole witness to oppose the proposed decoder bill.³⁶ Forcing all televisions to have captioning chips, Friel claimed, would unduly interfere with an individual's right to choose a television set that fit his or her needs. Rather than "significantly raise" the price of television sets, which would make television sets less affordable for those with limited incomes, Friel asked Congress to increase captioning and improve decoder technology as a way of augmenting decoder sales. If Congress absolutely insisted on mandating internal decoder circuitry, EIA argued that all TVs with screens smaller than twenty inches be exempt and that the mandate apply to only one television model for each screen size twenty-one inches and above.

Consumers and captioning providers vehemently opposed EIA's proposal as one that would not only be difficult to enforce, but would limit access to only 40 percent of all televisions, all at the higher end of the price scale. A Lou Harris survey had found that two-thirds of Americans with disabilities between the ages of sixteen and sixty-four were unemployed and many others were underpaid. In addition, the majority of senior citizens had annual incomes under \$25,000.³⁷ If adopted, EIA's proposal would never succeed in extending the benefits of captioning to these Americans.

Moreover, by restricting the reach of the decoder mandate, EIA's proposed solution would ensure that the bill's purposes would not be achieved. The product efficiencies necessary to keep circuitry production costs down would be unattainable if the universe of covered television sets was severely limited. And if only high-end TVs were covered, captioned shows would not reach enough Americans to provide networks, advertisers, and producers with the incentives they needed to increase their captioning investments.³⁸ Finally, requiring decoder installations in only a limited number of sets would restrict the ability of viewers to have television access outside their homes.

The Senate hearings, held before the Commerce Committee's Subcommittee on Communications, came only a few weeks later. In opening statements, Senators McCain and Harkin readily voiced their support for the decoder proposal, rejecting claims that the circuitry would impose an unacceptable expense on industry.³⁹ Senator McCain made a special point of informing his colleagues that with 150 million television sets in use, more Americans had TVs than telephones or indoor bathroom facilities!

Marlee Matlin, the first deaf actress to have ever won an Oscar, and actress Emma Samms of TV's long-running series *Dynasty*, were next on the first panel of witnesses.

^{*} The day before, Bove had presented testimony to the House Appropriations Subcommittee on Labor, Health and Human Services, Education and Related Services, urging continued federal support for televised captioning and subsidies for the distribution of decoders to low-income families.



An all-star line up turned heads at hearings before the House Subcommittee on Telecommunications and Finance on the decoder circuitry bill. Pictured from left to right are Geoffrey Owens of the *Cosby Show*, I. King Jordan of Gallaudet University, Linda Bove of *Sesame Street*, and Richard Dysart of *L.A. Law*. All testified on the importance of making captioning universally available.

Matlin began by sharing the frustrations she had as a child, having to rely on hearing relatives to interpret television shows. At ten years of age, Matlin had written to President Ford, expressing her desire to understand television on her own.⁴⁰ Captions, she said, had since changed her world, connecting words to the dreams that she once had. Samms's testimony was just as poignant. Comparing the refusal to caption a program with the decision of a library to turn away people in wheelchairs, she implored the senators to wave their magic wands and make the decoder legislation a reality.⁴¹

What happened next was unprecedented. In the usual order of congressional affairs, federal legislators wait until all witnesses at a hearing finish giving their testimony, and then in the weeks, and sometimes months ahead, deliberate the merits of the pending legislation. Only after this process is complete do they typically vote to approve or reject the bill under their consideration. However, after these first witnesses completed their testimony, McCain moved that the subcommittee go ahead and “wave its wand” to immediately approve the decoder circuitry legislation—despite the fact that there were an additional seven witnesses waiting to testify.

Senator Inouye, chair of the subcommittee, having already described the morning's testimony as “inspiring,” enthusiastically complied. After pointing out that “never before in the history of this Committee has a measure been reported out after hearing only three witnesses,” Inouye waited for any objection from his colleagues, and after hearing none, reported the decoder bill out of his subcommittee for consideration by the full Senate committee.⁴²

Nearly all of the remaining witnesses—Sy DuBow (NCLD), Rocky Stone (SHHH), Mark Richer (PBS), John Ball (NCI), Annette Posell (The Caption Center), and Bruce A. Huber (Zenith Corporation)—heartedly endorsed the passage of the decoder bill. Richer underscored the need for public broadcasters to comply with the

Public Broadcasting Act of 1967, which had as one of its purposes the development of programming for unserved and underserved audiences.⁴³ Posell, who spoke from the perspective of a deaf parent with hearing children, explained that captions now allowed her to determine appropriate shows for her children. She also testified about her experiences with young students who, first written off as inattentive or hyperactive underachievers, became excellent readers after being exposed to captions.

Zenith topped off the day's successes by breaking ranks with the rest of the electronics industry and becoming the sole American television manufacturer to testify in support of the bill's objectives. At the time, Zenith had begun investing several millions of dollars into decoder technology to get a competitive jump on the market for decoder-equipped televisions.⁴⁴ After Sanyo's departure, the company's endorsement was most welcome.

Once again, the only witness to oppose the bill was EIA. But this time, Thomas Friel's attempts to reject the decoder chip in all but the largest of TV sets was met with angry resistance by Senator Inouye. When Friel suggested that a drop in the price of stand-alone decoders (which still cost nearly \$200) had made these devices affordable, Inouye challenged: "You know very well that very few can afford that. Why don't you come out and say that the important thing to you is the bottom line, the profit to your manufacturers?"⁴⁵ When Friel attempted to argue that competitive forces would lead his industry to sufficiently respond to consumer markets, Inouye questioned how the industry could ever respond to a market whose members could not afford to purchase separate decoders. When Friel complained about unfairly taxing all consumers to help only a small deaf minority, Inouye's patience wore thin. The senator countered that the public was constantly having to pay for television features they did not need; he himself had just been forced to purchase a TV set with all types of gadgets that he did not want.*

On June 27, 1990, the consumers' streak of good luck continued when the full Senate Committee on Commerce, Science and Transportation marked up and reported out the decoder circuitry bill. A few weeks later, even EIA relented, finally agreeing to withdraw all opposition to the bill in exchange for a longer amount of time for compliance and report language giving manufacturers flexibility in choosing technology for line 21 captions.⁴⁶ With the final obstacles removed, on July 27, 1990, the Senate committee released its report on the legislation, and sent the decoder circuitry bill to the Senate floor for a vote.⁴⁷ When Congress passed the ADA a day later, advocates were certain that the decoder bill was soon to follow. The legislation offered the perfect companion to the ADA's attempts to sweep discrimination from the lives of people with disabilities.

On August 2, 1990, consumers were proven correct when the Decoder Circuitry Act passed the Senate by unanimous consent.⁴⁸ What followed was a bipartisan parade of senators, including Hollings, Harkin, Kennedy, Simon, McCain, and Kasten, each of whom took turns singing the bill's praises. All spoke of the power of television both as an educator and entertainer, and of the enormous role that captioning played in making this medium available to people who could not hear.

* Similarly, during the House hearings, Linda Bove had observed that for years, although deaf, she had been paying for a mute button that she did not need.

But the excitement of the events occurring in the Senate was tempered by events that were not occurring in the House. Although the House Subcommittee on Telecommunications and Finance had favorably voted on the legislation on July 12, 1990, the bill still needed to be approved by the full House Committee on Energy and Commerce before it could go to the House floor for a vote. With the adjournment of both houses of Congress looming in the fall, and the House committee intending to meet only once more before it ended its session, advocates feared that time was running out. If the decoder bill did not succeed in getting the attention of the committee's members over numerous other proposals vying for their attention, advocates would have to start the bill's legislative journey all over again in January—with new drafts, new sponsors, and new hearings.

The bill's supporters saw a need for fast action. TDI immediately sent out an alert urging its members to put pressure on Congressman John Dingell (D-Mich.), chair of the House committee, to push the bill to the House floor.⁴⁹ Other advocates and captioning agencies hiked to Capitol Hill to personally plead with the legislators not to let the bill die before the legislative recess. But days turned into weeks, and it increasingly began to appear like advocates would have to start afresh after the winter break.

Worry turned to extraordinary relief when Chairman Dingell finally brought the bill to a successful vote in his committee on September 25, 1990. Six days later, the House unanimously passed the legislation, clearing its way for the president's signature. But before the bill could be signed, a scathing attack against its provisions surfaced unexpectedly, posing a new threat. On October 8, 1990, the *Washington Times* ran an editorial that condemned Congress for requiring consumers to “burn” \$20 of their money every time they bought a TV.⁵⁰ Describing the decoder chip as “government-mandated waste on a truly sickening scale,” the editorial denounced the pending legislation as “a strong contender for the title of worst legislation in the history of democracy,” and urged a presidential veto. Fortunately, the last-minute assault was ignored, and on October 15, 1990, the Decoder Circuitry Act of 1990 was signed into law, requiring all televisions manufactured or imported into America with screens thirteen inches or larger to be capable of displaying closed captions as of July 1, 1993.⁵¹ The new mandate promised to forever change the landscape of television captioning.

Decoder Circuitry Goes Into Effect

The first chore given to the FCC following passage of the Decoder Circuitry Act was the development of performance and display standards to define the color, placement, size, font, and intelligibility of line 21 captions that would be received and displayed by the new decoder chips. A task force of captioning agencies, television set manufacturers, and decoder circuitry manufacturers, working under the auspices of EIA, spent the next two months debating these features. Despite considerable bickering, the committee succeeded in delivering the group's recommendations to the FCC on December 7, 1990.⁵²

A number of issues had caused conflict within the task force. Consumer organizations, CaptionAmerica (now one of the three largest captioning agencies in the

United States), and The Caption Center had wanted to require specific captioning features—such as lowercase letters for whispered speech and sound effects, and a choice of colors and captioning placement to distinguish speakers—that they believed would be critical to understanding a program’s content. Television manufacturers and NCI, however, had been reluctant to mandate too many enhanced features at the outset because they claimed that the quality of these features in low- and mid-priced TVs would be unsatisfactory, and the cost high.⁵³ Similarly, although consumers had wanted decoder-equipped televisions to be capable of displaying italics to emphasize titles, voice-overs, and foreign language phrases, set manufacturers had been concerned that they would not be able to generate legible italicized characters. Even the captioning background had come under dispute. Consumers had wanted the easy-to-read black background that had been part of the original PBS/NCI specifications, but television manufacturers wanted the flexibility to utilize other methods, such as spacing or highlighting, to make captions stand out.

After considering the input of the task force along with more than a hundred other comments, on April 15, 1991, the FCC released the final specifications, striking a balance between the costs of mandating new captioning features and providing viewers with captions in “a predictable, consistent and acceptable manner.”⁵⁴ By November of 1991, scarcely a year after the Decoder Act had passed, and well before its deadline, Zenith used the new standards to make good on its promise to release five decoder-equipped TV models with screens ranging from thirteen to twenty-seven inches.⁵⁵

The official deadline for implementation of the Decoder Act was celebrated two years later, on July 1, 1993, with a spectacular press conference at Gallaudet’s Chapel Hall. The event was attended by Senators Harkin and McCain, and Representative Gunderson, who introduced his deaf cousin, Kelly, as his motivation for working on deaf issues.⁵⁶ Televisions of all sizes blared music videos of Michael Jackson and Paula Abdul, accompanied by captions that beat to the timing of their music. Former and present Gallaudet board members Philip Bravin, Richard Dysart, John Yeh, and Dr. Frank Sullivan were on hand to witness the historic occasion, described by Gallaudet’s President I. King Jordan, as a “milestone” for the deaf community. Even Justin Dart, father of the ADA, joined the festivities to initiate the new technology.

The day’s events proved the benefits of closed captioning for far more than the communities it was originally intended to serve. Although EIA had vehemently opposed the Decoder Circuitry Act in Congress, since its passage, the association’s members had begun to discover the benefits of tapping huge new markets of television viewers who wanted to be able to “read” television. By the time the act’s deadline rolled around, EIA had mounted an aggressive, nationwide campaign dubbed “CaptionVision,” to publicize its decoder-equipped devices at electronics trade shows, in stores, and in mainstream newspapers and trade publications. In fact, the association’s eye-catching billboards at the July 1 inaugural event seemed to advertise all of the virtues of built-in captioning circuitry *except* the ability to expand access for the very audience for whom the bill had been created: people who were unable to hear. In one poster, a magician pointing to “magic words,” announced “Your Kid’s New Reading Tutor Just Arrived!” Another targeted people who wanted to learn English quickly and in the “privacy and comfort of their homes.” Yet another informed arm-chair athletes that they would be able to catch every play-by-play description, even

Chart 10.1**FCC Captioning Display Specifications (for Analog TV)
47 C.F.R. §15.119**

- Upper and lower case letters (lower case not required until January 1996 for less expensive TV sets)
 - Up to 4 lines of captions anywhere on the screen, to enable better speaker identification and prevent captions from covering critical portions of the picture (previous PBS/NCI specifications had captions appearing on the first top 4 and bottom 4 lines of the screen)
 - Italicized characters or slanted standard characters
 - Viewers given ability to choose black background; manufacturers encouraged to develop methods to offer more appealing options
 - Smooth scrolling of captions
 - Two captioning channels, to permit captioning in different languages and reading levels
 - Prominent labeling of optional captioning features included with each television receiver
 - Optional color capability; manufacturers strongly encouraged to develop cost-effective ways to include this feature in future set designs
-

when noisy relatives, “including loud Uncle Leo, show up for dinner during the big game.”* Nor was EIA alone in touting the benefits of captions for hearing audiences. Just weeks before, The Caption Center had released a public notice, “Introducing the Revolutionary Television Volume Control for Those Who Aren’t Listening,” alerting families of new ways to “read” television together, and of the public’s new ability to watch television in airports, bars, and other noisy public places.⁵⁷

After Gallaudet’s festivities were over, Senator Harkin returned to the Senate chamber, continuing to revel in the day’s successes. Harkin announced to his colleagues how, in an example of true bipartisanship, the new law was providing as many rewards to industry as it was to consumers.⁵⁸ The decoder mandate, he boasted, will allow people who are deaf and hard of hearing to “listen to Dan Rather, laugh with Jay Leno, learn from Ted Koppel, cook with Julia Child, and nod off to the Senate on C-SPAN, just like the rest of America.” Before concluding, Harkin stopped and tenderly directed the remainder of his remarks to his deaf brother: “Frank, I always

* In addition to the ads displayed at the inaugural event, another that appeared in electronic magazines titled, “Even Things That Go Bump into the Night Won’t Wake the One Sleeping,” focused on the benefits of using captions while others are asleep in the same room.

CaptionVision

A Guide To Increasing TV Sales

Nationwide Campaign Launched to Market "CaptionVision

The Electronic Industries Association (EIA) has launched a nationwide advertising and publicity campaign to promote the benefits of "CaptionVision(CC)" to consumers. In anticipation of July 1, 1995, when all televisions 13" and larger manufactured for sale in the U.S. will require built-in captioning decoder circuitry, the EIA is assisting retailers in marketing this new television feature through the following activities:

- Endorsements of "CaptionVision(CC)" from various consumer and special interest groups will appear in their member publications and the general media.
- The EIA will host a press briefing and booth at the International Summer Consumer Electronics Show to publicize "CaptionVision(CC)". Informational materials will be distributed at other industry trade shows.
- Television manufacturers will conduct "CaptionVision(CC)" marketing briefings for sales representatives and retailers.

- Finally, in addition to this newsletter about "CaptionVision(CC)", eye-catching point-of-purchase displays will be available free to retailers throughout the country.



YOUR KID'S NEW READING TUTOR JUST ARRIVED

AND NOW, THE MAGIC WORDS.

Inside every new television set with a 13 inch or larger screen is an amazing new electronic viewing device sure to increase your credit sales.

It's called CaptionVision  and it lets new television buyers across America enjoy the benefits of closed caption programming on built-in circuitry that works like an external adapter box.

CaptionVision  can improve a child's reading skills through word association while he or she watches a favorite program.

© This message is brought to you by Electronic Industries Association.

It can speed up the process of learning English for non-English speaking individuals in the privacy and comfort of their homes.

It can help structural athletes catch every play by play description to view the action surroundings. (Like when all the relatives, including Aunt Freda, show up for dinner during the big game.)

It can entertain and keep a night owl company without disturbing others.

Quite frankly, this unique technical capability built into new televisions is wide open to scores of useful and fun purposes. It will literally change the way people look at and use their television sets in the years ahead.

So remember to tell your customers about CaptionVision . You'll open unlimited viewing possibilities for them. And possibly close a sale at the same time.

CaptionVision 

The New Way To Watch TV

"CaptionVision " Is for Everyone!

It may not seem obvious, but just about everybody can benefit from watching captioned programs on a television with "CaptionVision(CC)". Here are some examples:

Children Learning to Read – A number of studies conducted using captioned television in the classroom have indicated significant improvement in students' reading skills. Not only do they learn better spelling, comprehension and punctuation – but their TV watching time becomes a learning time as well.

Imagine the educational potential of children who spend as much time learning as they do watching TV!

Low-Literate Adults – Captioned television offers adults the same learning mechanism and benefits as children. Additionally, "CaptionVision(CC)" allows them to learn to read in a convenient and private environment from TV programs adults enjoy, instead of children's programs.

Sports Fans – Now the scores and commentary accompanying sporting events can be enjoyed in very noisy environments (like airport bars) with "CaptionVision(CC)".

English-as-a-Second-Language Students – Immigrants from all over the world can enjoy American TV programming and improve their English language skills by watching "CaptionVision(CC)".

Night Owls – Late night television viewers will never need to worry about keeping the whole house awake with "CaptionVision(CC)".

"CaptionVision(CC)" is designed as "CaptionVision(CC)" in the text of this newsletter only. The name adopted by the Electronic Industries Association and TV manufacturers for all caption decoder circuitry in televisions is "CaptionVision .

Although EIA opposed the Decoder Circuitry Act while it was making its way through Congress, once the statute became effective in 1993, the association launched a nationwide advertising campaign called "CaptionVision (CC)" to publicize the many benefits of having a decoder-equipped television set.

promised you that someday, it would be just as easy for you to watch television as it is for me. And today, that day has finally arrived. So we will have to get you one of these new television sets sometime soon. And then, just maybe, we can get to work figuring out how to program that VCR."

Television Decoder Circuitry Revisited: PCTVs

Shortly after passage of the Decoder Circuitry Act, electronics manufacturers began producing a new technology that allowed individuals to use their personal computers to receive and display television signals. This was achieved in one of two ways—through built-in TV receivers that were integrated into personal computers (PCs) or through external plug-in TV circuit cards that attached to PCs. In January of 1995, Covington & Burling, a high-powered D.C. law firm, alerted deaf advocates that although its client, Cirrus Technologies, was producing these "PCTV" tuners with built-in captioning decoders, many other manufacturers were not.⁵⁹ Cirrus wanted the help of consumers to convince the FCC to force its competitors to come into compliance.

When Congress passed the Decoder Act, it was well aware that in addition to digitization, the convergence of television capabilities, telephone services, and computer applications foretold a very different telecommunications future than the one to

which Americans were then accustomed. Unless accessibility needs were considered and addressed as each of these technological changes took place, Congress understood that the full integration of people with disabilities into American society would never be achieved. Precisely for this reason, just before approving the decoder bill, the Senate committee added a specific provision requiring the FCC to ensure the availability of closed captioning services as new video technologies were developed.⁶⁰

But compliance with this Congressional directive was complicated by two essential differences between traditional television sets and PCs. First, unlike television sets, computers are sold in separate components. Consumers often purchase the monitor, a central processing unit (CPU), and a TV plug-in card separately, and connect the units together only after making their purchases. The ability to receive both television signals and captions resides in the TV-equipped CPU or the TV plug-in card, not in the monitor. It was unclear whether the Decoder Act would apply if a consumer purchased only the CPU or the TV plug-in card without a monitor that measured at least thirteen inches.

The second difference is that the screen sizes of televisions and PCs are measured differently. In 1995, the majority of computer monitors were being advertised as having fourteen-inch screens, but the portion of those screens that were actually viewable was just under the minimum thirteen inches required by the Decoder Act. Accordingly, it was not clear that a TV-equipped computer would be covered by the Decoder Act, even if it was purchased together with a fourteen-inch monitor.

On March 22, 1995, the FCC's Office of Engineering and Technology (OET), without prior notice or an opportunity to receive comment from the public, ruled that when TV-equipped computer systems and monitors with viewable pictures measuring at least thirteen inches were sold *together* as part of the same sales transaction, the computers had to be capable of receiving and displaying captions.⁶¹ But OET also made clear that decoder circuitry would *not* be required in either TV-equipped CPUs or plug-in TV circuit boards if these devices were purchased without monitors.

Advocates were troubled by the FCC's decision, both procedurally and substantively.⁶² As to procedure, consumers were upset that the FCC had acted without any input whatsoever from the public. On substance, advocates maintained that the ruling violated Congress's intent in the Decoder Circuitry Act to extend the availability of closed captioning technology to "the widest possible audience."⁶³ Under the new ruling, computer and TV circuit board manufacturers would have to guess whether their devices would ultimately be purchased and assembled with thirteen-inch monitors when deciding whether to add decoder circuitry to those devices. This was a virtually impossible task given that retailers and consumers, not manufacturers, typically put together computer systems only *after* those products reached the retailers' shelves. The only alternative, to force consumers to purchase whole computer systems guaranteed to contain the decoder chip, would violate one of the fundamental goals of the Decoder Act: to make television access equally affordable to all Americans.

In December 1995, the NAD, NCLD, WGBH's National Center for Accessible Media (NCAM), TDI, and VITAC* challenged the FCC's new PCTV ruling.⁶⁴ The

* In 1993, WGBH created NCAM to conduct research and development to expand access to media and technologies by people with disabilities. CaptionAmerica was now operating under the name VITAC.

petition urged the Commission to require captioning decoder capability to be built into all TV computer components, whether or not these were sold separately or with monitors larger than thirteen inches. Eleven years later, the FCC has still not ruled on this appeal, though now more advanced technologies have complicated the picture even further. Exciting innovations now offer the general public options to view television programming through all types of new devices, including new digital real-time video recording devices, iPods, and even cell phones. In addition, interactive television services, sent over high-speed computer networks to television set-top boxes or home computers are beginning to enable viewers to use screens of varying sizes and shapes to receive—and even respond to—TV channels that provide games, shopping, and other novel programming. Disability advocates are now questioning whether the Decoder Act, absent amendment, will be enough to ensure that people with hearing loss can receive and display captions using these and other advanced technologies in the years to come.

Notes

1. Marie C. Franklin, “Persistence Pays for Amanda,” *Boston Sunday Globe*, September 25, 1988, B27.

2. See generally S. Rep. No. 393, 101st Cong. 2d Sess. 2 (1990), for the types of programs captioned around that time.

3. H. Rep. No. 767, 101st Cong., 2d Sess. 5 (1990).

4. Stuart Gopen, letter to Senator Harkin, March 10, 1990.

5. Renee Z. Sherman and Joel D. Sherman, *Analysis of Demand for Decoders of Television Captioning for Deaf and Hearing-Impaired Children and Adults* (Washington, D.C.: Pelavin Associates, June 1989).

6. Statement of Rocky Stone, SHHH, Hearings on S. 1974 before the Subcommittee on Communications of the Senate Committee on Commerce, Science and Transportation, 101st Cong., 1st Sess. 2 (June 20, 1990). Hereinafter cited as S. 1974 Hearings. A study conducted by NCI similarly found that the high costs, stigmas, and complicated wiring arrangements associated with decoders were deterring their purchase. Robert M. Silber, NCI, letter to Sy DuBow, legal director, NCLD, April 12, 1990.

7. See generally, NCI, memo on Television Decoder Circuitry Act of 1989, Update on National Captioning Institute’s Activities, March 1990.

8. FCC Chairman Dennis Patrick, letter to Senator Tom Harkin, March 21, 1988, 3.

9. Patrick’s letter was referring to “The Use of Telecasts to Inform and Alert Viewers with Impaired Hearing,” Public Notice, FCC 70-1328, 26 FCC 2d 917 (December 17, 1970). The failure of this notice to spur either visual access to televised emergencies or regularly scheduled television programming for many years after it was released is discussed in chapters 8 and 9.

10. These included KATU in Portland, Oregon, KCNC in Denver, Colorado, WSBT in South Bend, Indiana, WRGB in Schenectady, New York, and KAET, Arizona State University in Tempe, Arizona.

11. Frank Bowe, *Prospects for Built-In Television Captioning by Japanese and Korean Manufacturers* (September 1989).

12. See Bob Richardson, IPR, letter to Sy DuBow and the author (both of NCLD), April 11, 1989.

13. See, for example, Jeff Hutchins, CaptionAmerica, letter to Katy Beh, legislative assistant to the Senate Committee on Labor and Human Resources, November 8, 1989. Hutchins feared that without standards, manufacturers would build decoders that were incompatible with each other. As an example, Hutchins pointed to the fact that the first decoders were unable to backspace for real-time captioning, while the second generation decoders had this capability. NCI later took issue with

some of Hutchins's concerns in a letter to Beh, dated November 22, 1989, claiming that standards for the transmission and display of line 21 captioning had already been published and used in the design of over 250,000 decoders purchased since 1980. Networks, cable companies, producers, and captioning service providers, it maintained, relied on these universal standards. On November 28, 1989, Hutchins responded, insisting that although there were specifications for line 21 captioning, there were no published standards for their transmission and display, which would be needed for all manufacturers to design compatible decoder circuitry.

14. John Ball, NCI, letter to Bobby Silverstein, October 12, 1989.

15. EEG Enterprises had come up with the predicted \$10–15 increase, based on a single chip cost of \$5 per television set. See Edward A. Murphy, president, EEG Enterprises, Inc., letter to Sy DuBow, NCLD, October 5, 1989, discussing the increase in television retail prices. Initially, research into integrated captioning circuitry had produced designs that relied on two or more integrated circuits or “chips.” Incorporating several chips into television sets was costly, and might have raised the price of a television set by \$50 or more per set. But newer designs were now contemplating the use of only one application-specific integrated captioning circuit per TV set.

16. S. 1974, 135 *Cong. Rec.* 31541 (November 21, 1989). In all, there were fourteen cosponsors of the bipartisan bill when it was introduced. The other cosponsors were: Senators Dole, Hollings, Pressler, Gore, Lieberman, Kennedy, Burns, Burdick, Heinz, Bensten, and Kerry.

17. DuBow sent the following literacy studies to Bobby Silverstein on October 10, 1989: Rita M. Bean and Robert M. Wilson, “Using Closed Captioned Television to Teach Reading to Adults,” *Reading Research and Instruction* 28, no. 4 (1989): 27–37 (adult students who watched captioned television improved their word recognition significantly and found the learning experience to be both enjoyable and motivational); Patricia S. Koskinen, Robert M. Wilson, Linda B. Gambrell and Carl J. Jensema, *Using the Technology of Closed-Captioned Television to Teach Reading to Handicapped Students* (Washington, D.C.: U.S. Department of Education, February 1987) (use of closed captioning enhanced reading skills of students with learning disabilities and hearing disabilities); Paul Markham, “The Effects of Captioned Television Videotapes on the Listening Comprehension of Beginning, Intermediate, and Advanced ESL Students,” *Journal of Educational Technology* 29 no. 10 (1989): 38–41. (ESL students substantially increased comprehension after watching captions).

18. Dennis Kelly, “TV Closed-Captions Fight Illiteracy,” *USA Today*, July 11, 1990, 6D. Goldman would turn off the sound each time the programs that his students were watching became interesting. For his work in this area, Goldman received the 1987 “CBS Television Worth Teaching” award.

19. NCI, “NCI Reports Captioned Television is Fun, Effective Motivator for Students Learning Reading, Language Skills,” *nci news*, December 21, 1988.

20. Sy DuBow, “The Television Decoder Circuitry Act—TV For All,” *Temple Law Review* 64 No. 2 (1991): 609, 614, citing “TV Closed Captions Fight Illiteracy,” *USA Today*, July 11, 1990, 6D.

21. One of the pending bills that was closely related to the decoder bill was H. R. 2968, The Public Access to Captioned Television Act of 1989, introduced by Congressman Jim Florio (D-N.J.). This would have (1) required television decoders to be installed in nursing homes, hospitals, universities, and other institutions receiving federal funds, (2) prohibited the federal government from sponsoring conferences or training seminars in facilities that did not provide decoders, and (3) required captioning of federally assisted public service announcements (PSAs). Although the bill never made it out of the five House committees to which it was referred—and a parallel effort in the Senate to add a mandate for decoders in hospitals and nursing homes in the Senate Budget Reconciliation Bill was also defeated—Title IV of the ADA did eventually incorporate a captioning mandate for federally funded or produced PSAs. And it was because of this bill that later on, the House legislative report on the decoder bill added a congressional promise to monitor the provision of decoder-equipped television sets in federally assisted facilities, including hospitals, airports, prisons, and schools. H. Rep. No. 767, 101st Cong., 2d Sess. 13 (1990).

22. Supportive deaf and disability organizations included the NAD, SHHH, AG Bell, ASHA, ASDC, WID, AARP, the National Council of Senior Citizens, the American Civil Liberties Union, the Disability Rights Education and Defense Fund, the National Easter Seals Society, Paralyzed Veterans of America, and the United Cerebral Palsy Association. Educational and literacy groups

included the National PTA, the American Federation of Teachers, the National Education Association, the National Shorthand Reporters Association, the U.S. Program of Laubach Literacy International, the Literacy Volunteers of America, and the International Reading Association, which alone represented 90,000 members consisting of classroom teachers, reading specialists, school administrators, psychologists, librarians, and parents.

23. For example, support came from the South Carolina School for the Deaf and Blind, the Massachusetts Commission for the Deaf and Hard of Hearing, the Texas Rehabilitation Commission, the Michigan School for the Deaf, and the Kentucky School for the Deaf.

24. CCD, letter to Senator Harkin, February 13, 1990.

25. For this purpose, DuBow reached out to a number of deaf leaders and educators of deaf children whose U.S. senators were on the Senate Commerce Committee, including Albert Berke (Alaska); John Hudson (Kentucky); Joseph P. Finnegan (South Carolina); Robert Kellogg (Nebraska); Robert Deming (Montana); Patty Hughes (Washington); G. I Wilson (Oregon); Bill Nye (Maine); and Larry Evans (Texas).

26. Ronald N. May, Sanyo Fisher, letter to Senator Harkin, February 5, 1990. In a subsequent letter, May concluded "I have tried to consider negative aspects of this legislation, but I can not think of any." Ronald N. May, letter to Sy DuBow, NCLD, March 1, 1990.

27. See, for example, Larry R. Goldberg, the Caption Center, letter to George Hanover, Consumer Electronics Group, EIA, January 2, 1990.

28. Edward A. Murphy, EEG Enterprises, letter to Sy DuBow, NCLD, March 1, 1990.

29. 136 *Cong. Rec.* 3101 (March 1, 1990). Statements of Representatives Owens, Gunderson, 136 *Cong. Rec.* 3257–58 (March 1, 1990). Other sponsors included Representatives Berman, Lloyd, Slatery, Synar, Wyden, Bilirakis, Chandler, Madigan, and Oxley. See Statement of David Bonior, 136 *Cong. Rec.* 3255 (March 1, 1990); Statement of Edward Markey, 136 *Cong. Rec.* 4407 (March 14, 1990). Although when originally introduced the House bill was numbered H.R. 4163, its text contained the wrong date for compliance. On March 14, 1990, the bill was resubmitted with a new number: H.R. 4267. 136 *Cong. Rec.* 4376 (March 14, 1990).

30. Congressman Gunderson, letter to colleagues, February 16, 2004.

31. Shawn Pogatchnik, "The Battle Over Closed-Captioning," *LA Times*, May 26, 1990, F1; Written notes on teleconference among Dave Pontias of EIA, John Ball, Kim Dorgan of NCI, and Sy DuBow, April 4, 1990.

32. Ronald May, letter to Sy DuBow, April 9, 1990.

33. Ronald May, letter to Sy DuBow, April 26, 1990.

34. Sy DuBow, "Stars Come to Congress to Support TV Captioning Chip Bill," *Silent News* (1990), 1, 32

35. Others submitted statements in support of the decoder bill for the record. For example, Bruce Christensen, president of PBS wrote: "PBS is delighted to see such a significant step being taken in an area in which we have long been committed." Bruce Christensen, separate letters to Congressmen Major R. Owens, Ed Markey, and Senator Tom Harkin, May 4, 1990. Having won an Emmy for its leadership in engineering the development of line 21 technology in 1980, PBS now "enthusiastically" offered its support and assistance on the decoder bill. Neil H. Pilson, president of CBS Sports, similarly acknowledged the need to expand the audience of captioned viewers. Neil Pilson, letter to Senator Harkin, June 11, 1990.

36. Statement of Thomas P. Friel, group vice president, Consumer Electronics Group, EIA, Hearings on H.R. 4267 before the Subcommittee on Telecommunications and Finance of the House Committee on Energy and Commerce, 101st Cong., 2d Sess. (May 2, 1990).

37. Statement of Sy DuBow, NCLD, S. 1974 Hearings, 2.

38. Larry R. Goldberg, letter to Edward Markey, May 16, 1990.

39. Separate Statements of Senators McCain and Harkin, S. 1974 Hearings.

40. Statement of Marlee Matlin, S.1974 Hearings, 2.

41. Statement of Emma Samms, S. 1974 Hearings, 3.

42. S. 1974 Hearings, 17. In addition to Samms and Matlin, Senator Harkin was considered the third witness because he was not a member of that committee. By then, various members of the Communications Subcommittee had already become cosponsors. These included Senators

Hollings, McCain, Gore, Bensten, Pressler, and Kerry. At the hearing itself, Senators Burns also contributed his support.

43. 47 U.S.C. 396(a)(5) and (6).

44. "Captioning Capability for TV Sets Becomes Law," *Broadcasting*, October 22, 1990: 44.

45. S. 1974 Hearings, 49–50.

46. Gary Shapiro of the Consumer Electronics Group of EIA, letter to Inouye and Harkin, July 20, 1990. Zenith agreed with EIA on this point. Statement of Bruce A. Huber, Zenith Electronics Corporation, S. 1974 Hearings. Bill McCrone, a staff member in the Senate, helped strike a compromise that called for mandated display specifications, but allowed manufacturers sufficient flexibility to design their own specific line 21 decoding circuitry.

47. S. Rep. No. 393, 101st Cong., 2d Sess. 6 (1990).

48. 136 *Cong. Rec.* S12015–12021 (daily ed. August 2, 1990).

49. Al Sonnenstrahl, "Sonny's TDIbytes," *GA-SK* 21 (Summer 1990): 5.

50. Ted Smith, "Cheaper to Pass Out TV Decoders?" *Washington Times*, October 8, 1990, G3.

51. P. L. No. 101-431, 104 Stat. 960 (1990) codified at 47 U.S.C. §§303(u); 330(b). Many Hill staff members, including Larry Irving, Katy Beh, Bill McCrone, Lisa Gersky, Melissa Schulman, Michael Tecklenburg, Pat Laird, Bobby Silverstein, Jill Ross, and Mark Buse, were to be congratulated for their efforts in helping to shepherd the legislation through Congress.

52. Television Receiver Performance Specification for Basic Closed Captioned Services, Draft Revision 6.0, EIA Standards Proposal, EIA/CEG Television Receiver Committee (R-4) (December 7, 1990). NCI dissented and refused to be a signatory to this proposal. The group had used the signal and display specifications originally developed by PBS and NCI for external decoders as their guide, and improved upon these. Television Captioning for the Deaf: Signal and Display Specifications, Engineering Report No. E-7709-C, Public Broadcasting Service (May 1980), as amended by TeleCaption II Decoder Module Performance Specification, National Captioning Institute, Inc. (November 1985).

53. Lily Page Bess, vice-president, external affairs, NCI, letter to Gallaudet President I. King Jordan, February 4, 1991.

54. *Amendment of Part 15 of the Commission's Rules to Implement the Provisions of the Television Decoder Circuitry Act of 1990*, Report and Order, GEN Dkt. 91-1, FCC 91-119, 6 FCC Rcd 2419 (April 15, 1991), recon. granted in part, Memorandum Opinion and Order, 7 FCC Rcd 2279 (1992), codified at 47 C.F.R. §15.119. The Notice of Proposed Rulemaking that pre-dated this can be found at *Amendment of Part 15 of the Commission's Rules to Implement the Provisions of the Television Decoder Circuitry Act of 1990*, Notice of Proposed Rulemaking, GEN Dkt. 91-1, FCC 91-5 (January 4, 1991). After the FCC issued these standards, the EIA task force continued its work, and eventually took on permanence as the Television Data Systems Committee. See also *Permissible Uses of the Vertical Blanking Interval of Broadcast Television Signals*, Report and Order, Dkt. 92-305, FCC 93-235, 8 FCC Rcd 3613 (May 10, 1993).

55. Stephen Sigman, "The Impact of the Television Circuitry Law," *Written Proceedings of the National Conference for Closed Captioning of Local News*, sponsored by the U.S. Department of Education (November 21–23, 1991), 217. NCI continued to produce several generations of stand-alone caption decoders for people who wanted to add external captioning capability to television sets that they already owned.

56. "Legislators Join Gallaudet Community to Observe First Day of Decoder Act," *On the Green* 23, no. 34 (July 12, 1993): 1.

57. The Caption Center, "Introducing the Revolutionary Television Volume Control for Those Who Aren't Listening," news release, June 16, 1993.

58. 139 *Cong. Rec.* S8531–32 (daily ed. July 1, 1993).

59. Paul J. Berman and Ronald J. Krotoszynski, Covington & Burling, separate letters to Nancy Bloch and Andy Firth (both of the NAD), January 24, 1995; to Sy DuBow and the author (both of NCLD), January 24, 1995; to FCC Chairman Reed Hundt, January 25, 1995.

60. This amendment was added by Senators Inouye, Danforth, and Kasten. S. Rep. No. 393, 101st Cong., 2d Sess. 6 (1990).

61. *Closed Captioning Requirements for Computer Systems Used as Television Receivers*, FCC Public Notice, DA 95-581 (March 22, 1995), 60 *Fed. Reg.* 16055 (March 29, 1995).

62. See, for example, Frank Bowe, facsimile to Al Sonnenstrahl and the author (February 27, 1995); Al Sonnenstrahl, e-mail to Nancy Bloch, Andy Firth, and the author (April 6, 1995).

63. See H. Rep. No. 767, 101st Cong., 2d Sess. 10 (1990).

64. NAD, *et. al.*, *Closed Captioning Requirements for Computer Systems Used as Television Receivers*, Petition for Rulemaking (December 22, 1995).

II

Full and Equal Television Access

Obviously, deaf people can still dream of what is yet to come. Tomorrow, if and when the problems . . . are overcome to the point where speech can accurately and conveniently be converted to print, captioned television will be a complete reality. . . . It will happen; and when it does, the doors of communication will be opened wider than ever, bringing a new dimension to the lives of hearing impaired people.

—Malcolm J. Norwood,

“Captioning for Deaf People: An Historic Overview”

CAPTIONING WAS in full swing by the time that the Decoder Circuitry Act of 1990 became effective in July 1993. Nearly 100 percent of all prime-time, national news, and children’s programming on ABC, NBC, CBS, and PBS, and most prime-time programming on Fox contained captions, as did more than 900 hours of major sporting events each year, 400 music videos, and thousands of commercials and home video movies.¹ The U.S. House of Representatives had seen its first captioned congressional proceeding, and the Senate had approved a one million dollar appropriation to fund captioning of its own televised floor proceedings.² Even candidates for the presidency and vice presidency of the United States were now required to caption their television advertisements in order to receive money from the Presidential Election Campaign Fund.³ In addition, the Cable Television Consumer Protection and Competition Act of 1992 had become law, requiring all cable operators to pass through, intact, all line 21 closed captioning data coming from local broadcast programs.⁴

But despite all of these successes, the percentage of basic cable television shows with captions remained abysmally low, still hovering around 5 to 10 percent. It was becoming increasingly clear that the Decoder Act’s promises of larger audiences had not succeeded in motivating cable programmers to caption their programs, and that if consumers wanted full television access, they would have to get it in a different way. Fortunately, right around this time, Congress began contemplating an overhaul

Epigraph. Malcolm J. Norwood, “Captioning for Deaf People: An Historic Overview” in *Speech to Text: Today and Tomorrow*, ed. Judy Harkins and Bobby Virvan (Washington, D.C.: Gallaudet University, September 1988), 137.

of the nation's telecommunications policies to encourage greater competition in the telecommunications, information, and cable service industries. The new telecommunications reform proposals were intended to facilitate and guide the entry of each of these businesses into one another's fields.⁵ We grabbed the opportunity to make captioning part of the legislative equation: if the telephone companies wanted the right to compete with cable companies, advocates wanted Congress to condition that right on fulfilling certain captioning obligations.

A New Legislative Endeavor

Deaf and hard of hearing community advocates spent much of 1993 drafting the new captioning proposals.* Although very early drafts focused on creating an accessibility fund to support both captioning and research to make sure that technological advancements did not hinder the delivery of captions, over time, consumers vetoed the establishment of a separate pot of money for this purpose.† Advocates had once before rejected a separate corporation for interstate relay telephone services to prevent those services from being treated differently from telephone services available to the general public. Similarly, consumers now wanted captioning to become a routine part of television production processes. Imposing captioning obligations directly on the television industry would be consistent with the civil rights model of telecommunications access that we had come to adopt: like telephone access, the provision of captioning was a right, not merely a privilege that could be funded by "special," charitable sources, and revoked when that funding fell short.

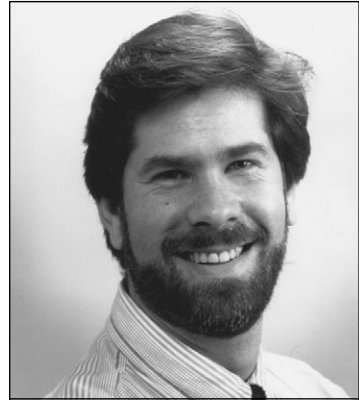
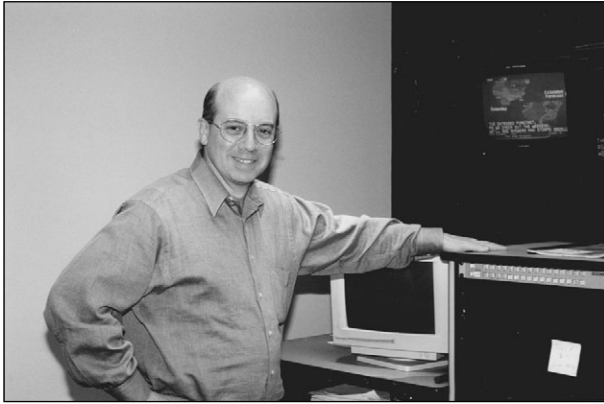
It was these same principles of equal access that, a few months into our drafting, prompted us to propose extending the captioning mandates to the entire cable industry, rather than only those telephone companies trying to enter that industry. Our early drafts also included requirements for "video description," a technology that inserts narrative verbal descriptions into the natural pauses of television programs to enhance television accessibility for blind and visually impaired persons.⁶

On November 22, 1993, Congressmen Edward Markey (D-Mass.) and Jack Fields (R-Tex.) introduced H.R. 3636, the National Communications Competition and Information Infrastructure Act, proposing to repeal various prohibitions left over from the break up of AT&T, which were still preventing the regional bell telephone companies from entering certain businesses. The telephone companies had already approached the disability community about incorporating statutory provisions requiring the accessibility of their products and services into this bill, in exchange for the community's support to lift these decade-old restrictions.⁷ We wondered whether we could also convince the companies to lend their support to our captioning proposals.

During the weeks that followed, we made our pitch to the companies, showering

* Larry R. Goldberg of the Caption Center and I initiated these drafting efforts, and worked closely with consumer leaders from the Television for All Coalition (TVFA), NAD, CAN, and CCD, including Harvey Goodstein, Mark Goldfarb, Toby Silver, Nancy Bloch, Brenda Battat, and Cheryl Heppner. Philip Bravin and Kim Dorgan of NCI, Jeff Hutchins of CaptionAmerica, and Sy DuBow of NCLD were also very involved in this effort.

† The TV enhancements about which consumers were concerned included video compression, digitization, and fiber optics.



Jeff Hutchins, formerly of CaptionAmerica (VITAC) (left) and Larry R. Goldberg of The Caption Center (right) were early pioneers in the efforts to secure legislation to expand closed caption programming.

them with materials that portrayed captioning as a service and a business that could reach nearly 100 million Americans.⁸ We showed how Zenith had just recently had a banner year in the sale of their decoder-ready sets, and how captioning had already proven itself to be an economically feasible service. At the time, television captioning costs—approximately three million dollars per network—were shared, one-third by the networks, and the remainder by the Department of Education, advertisers, foundations, and producers. If our captioning mandates were enacted, the increase in captioning competition—already there were approximately fifty-seven providers—would undoubtedly bring these costs down further.

While supportive, the telephone companies felt that it was inequitable to impose captioning obligations on cable providers only. They sought “regulatory parity,” legislative treatment that would apply consistently to *all* television providers, including broadcasters. Consumers were in full support of extending the captioning mandates to as many kinds of providers as possible, and quickly modified the language to win the full backing of the telephone companies.

On January 11, 1994, advocates Sy DuBow, Harvey Goodstein, Mark Goldfarb and I headed up to the House Telecommunications and Finance Subcommittee to present the case for the new mandates.⁹ Almost as soon as legislative aide Colin Crowell brought us to the meeting room, we noticed the captions scrolling across the House proceedings being broadcast on a television set perched in a corner of the ceiling. When, midway through the meeting, Congressman Markey—chairman of the subcommittee and a long-time champion of telecommunications access—poked his head in to say hello, we brought this to his attention. We needed for the congressman to see for himself how real-time captions were allowing his staff to go about their daily affairs while keeping abreast of the House floor debates. As Markey redirected his gaze to the screen, we noticed a look of understanding come across his eyes. On the spot, he pledged his support for our cause, and directed his aides to work out a captioning amendment for his telecommunications bill. His oral commitment on that

day proved to be a critical turning point in our consumer efforts to make television fully accessible.

The House subcommittee held its hearings on H.R. 3636 a month later (on February 8, 1994). When Paul Schroeder of the American Council of the Blind, testifying generally for the bill's accessibility provisions, included a formal request for our captioning proposals to be added to the telecommunications bill, it appeared to advocates that his request was well received.¹⁰ Unfortunately, *after* the hearings, the proposals began to meet with resistance by conservative legislators who feared the cable industry's reaction. We doubled our efforts to convince Markey's aides to quickly incorporate our language.

During the second week of February, we were successful in securing an oral commitment from House legislative aides Gerry Waldron and Mike Regan to amend the bill to include captioning provisions before the House subcommittee completed its mark-up on February 23, 1994. But exactly what form this amendment would take remained unclear. In the days ahead, we tried, but failed, to find out just how much of our captioning draft would make its way into the House proposals. When our letters and calls to the subcommittee spilled into the next week without answer, we grew increasingly alarmed that our proposals might never see the light of day. Even a joint appeal to the subcommittee from all of the state association presidents of the NAD did little good.¹¹ When we learned from Philip Bravin and Kim Dorgan of the National Captioning Institute (NCI) that some of the legislators had become intractable in their opposition to the bill, we began to fear that we would have the formidable, and potentially impossible task of getting the captioning changes made through a floor amendment.

By February 20, 1994, we still had not received confirmation that our specific captioning language would be incorporated in the House bill. To ignite a community response, deaf advocate Harvey Goodstein posted an alert on his Telephone for All electronic mailing list:

IT IS URGENT, URGENT, URGENT THAT ALL OF YOU FROM ALL OVER THE COUNTRY FAX OR CALL THE FOLLOWING CONGRESSMAN OR STAFF REGARDING TWO INFORMATION SUPERHIGHWAY BILLS . . . THE COMMITTEES WILL VOTE ON THESE TWO BILLS AS EARLY AS THIS WEDNESDAY, FEBRUARY 23. OUR STRONG INTEREST IN THESE BILLS IS IN REGARD TO ACCESS TO TELEPHONE AND CABLE TV SERVICES FOR INDIVIDUALS WITH DISABILITIES. . . . PLEASE SHARE WITH OTHER INDIVIDUALS AND ORGANIZATIONS AND HAVE THEM FAX OR CALL TOO!

Few could have predicted the impact that Goodstein's message would have or the response that it would engender. Within hours, deaf consumers from all over the nation bombarded House subcommittee staff with urgent pleas for the captioning amendments, causing fax machines to run out of paper, and phones to ring off the hook. To reinforce these efforts, on February 21, 1994, with only two days remaining before the markup, Dorgan and I sent final pleas to the legislative aides.¹² As a contingency plan, we proposed that Markey at least make a statement at the subcommittee's mark-up that publicly renewed his commitment to captioning mandates, to

give us more time to work with both the House and Senate chambers on mutually acceptable language.¹³

It was not clear whether it was the hundreds of faxes, letters, and calls that poured in as a result of Goodstein's action alert, or whether it was the dogged persistence of those of us pursuing more than an oral commitment from the legislative aides, but on the afternoon of February 21, 1994, I finally received a call from House aides, informing us that they were ready to add captioning language to H.R. 3636. There was only one hitch: they first wanted us to quickly "streamline" the language so that it could be shared with the cable industry.

I immediately began re-drafting the amendment that we had spent nearly nine months refining, working late into the night with subcommittee staff to slash three pages of single-spaced text into a statutory clause that filled less than a page. Although the subcommittee agreed to extend the captioning mandates to *all* television program distributors—including cable providers, broadcasters, and satellite companies—it resisted legislating specific deadlines for the captioning obligations. Rather, House staff insisted on shifting this responsibility to the FCC, a request that left us feeling uncomfortable. As a fall-back, we convinced the legislative aides to leave in language directing the Commission to ensure "fully accessible" programming. The new draft also more clearly defined the limited circumstances under which video programming providers could be relieved of their captioning obligations. Specifically, these companies would be able to petition the FCC for relief only if they could prove that the mandates would impose an undue burden on their businesses.¹⁴

On February 22, 1994, I faxed the new language to consumer leaders, telephone companies and the cable industry, and called an emergency meeting of disability advocates to go over the new provisions before the mark-up, still scheduled for the next day. A last minute delay postponed the mark-up for another week, and to our surprise and delight, a day before the mark-up was to take place, the subcommittee agreed to incorporate our revised captioning language—nearly verbatim—into the Markey/Fields bill, without even waiting to hear back from the cable or telephone companies.

Our exhilaration at these recent events was tempered a few days later when we met for the first time with the National Cable Television Association (NCTA), the motion picture industry, and independent television networks.* It was then that we learned of the industry's interest in exempting all local programming as well as programming published before the issuance of the FCC's rules. The latter was based on concerns about having to caption huge inventories of re-runs and old movies. Our meeting ended without resolution, but with an industry promise to deliver a counterproposal.

On March 14, while waiting for the industry's response, we received a most unusual document, delivered by fax to NCLD's offices. Originally sent to Frank Bowe by one of his industry connections, this turned out to be an unfinished draft of the cable industry's alternative proposal for captioning mandates. As excited as were to get this inside information, we were deeply distressed by its contents. In addition to the exemptions proposed by industry during our initial meeting, the draft contained

* Attendees at this March 11 meeting included representatives of Paramount, Independent Television, the Motion Picture Association of America, and NCTA.

exclusions for all new networks, programming shown by small broadcasters and cable operators that received a relatively small audience share, and any programming considered “unreasonable, unnecessary or unsuitable” for captioning. The latter was broadly defined to include locally produced programming, programming produced or distributed by nonprofit entities, video games, music videos, commercials, promotional and other nonprogram-related materials, programming on public, educational, government, or leased access channels, and programming distributed in languages other than English. We knew that if adopted by Congress, this counterproposal would crush our efforts to achieve full television access. The official counteroffer that we received later that afternoon looked much the same.*

Matters worsened later that day, when legislative aides informed us that the industry’s counteroffer would be introduced as an amendment by one of the ranking Republican members of the committee, Congressman Carlos Moorhead (R-Calif.). Moorhead’s involvement had been prompted by the Media Institute, a conservative group working with the motion picture industry that was dedicated to promoting corporate speech.¹⁵ The Institute claimed that the captioning mandates would force networks to provide a particular type of “speech” in violation of the Constitution’s First Amendment freedoms. Their opposition to our draft also explained an unusual letter that we received around the same time from another member of the House committee, Congressman Bill Richardson (D-N.M.), requesting our input on these same constitutional issues.¹⁶ We could only surmise that Richardson was searching for ways to head off Moorhead’s attacks.

The First Amendment protects both an individual’s right to speak freely and the right not to speak at all. The Media Institute claimed that while video program providers could create and include captions on their own, it was against the Constitution to order them to do so by governmental fiat. Both Moorhead and the Institute were particularly concerned that requirements to caption immense libraries of older programming would “chill” speech for smaller video providers who, unable to afford captions for all of their programs, would have to keep certain shows off the air. At the same time, the Media Institute opposed a provision in the captioning mandates that allowed the FCC to exempt programs upon a television distributor’s showing that captioning would cause an undue burden to its business. Specifically, the Institute charged that allowing the Commission to relieve stations of their captioning obligations based on their ability to pay would result in content-based unconstitutional discrimination against certain video providers. It predicted that, left with the freedom to choose which programs were covered by the rules, the FCC could simply exempt programming that it favored and impose huge captioning expenses on programs that it disliked!

* The final document contained yet another exemption that would relieve a video programming provider from providing captions where such action would be inconsistent with existing contracts. This section, which eventually found its way into the final law, covered the narrow situation where a studio or other copyright owner had already entered into a contract to provide syndicated reruns to a television station, and did not want the station to insert captions on its own. The contracts, usually of three- to five-year duration, required that the shows be returned to the copyright owner for alterations, including the addition of captions. Once these temporary agreements expired, this provision would become moot. Matt Gerson, memorandum to Dave Zesiger, Kristan Van Hook, and Gerry Waldron, March 14, 1994.

On March 15, 1994, consumers wrote back to Congressman Moorhead, explaining that nothing in the captioning bill prohibited speakers from choosing how they could express themselves.¹⁷ We explained that captions were simply written words mirroring a show's audio content; if anything, the captioning mandates would *broaden* the audience receiving the intended message. Unfortunately, we had scarcely finished posting our letter when we got hit with a blow from another, very unlikely, adversary.

In a shocking turn of events, on the very same day that we sent our letter to Moorhead, Robert Peck of the American Civil Liberties Union (ACLU) sent a letter of his own questioning the constitutionality of both the captioning and video description mandates, and, like the Institute, challenging the FCC's discretion to exempt certain providers based on their ability to pay.¹⁸ Peck insisted that Congress hold off on adopting captioning mandates until after it had explored less burdensome approaches, such as tax incentives and reliance on the marketplace.

The ACLU's public opposition to the captioning mandates infuriated the deaf community. Advocates had not been surprised that the television and motion picture industries had been resistant to our proposals. But just a few years before, the ACLU had been one of the ADA's chief proponents. Deaf advocates could not comprehend how an organization premised on protecting civil rights could oppose the right of deaf and blind Americans to receive access to the most powerful information and entertainment medium in the world.

By the time these First Amendment battles took center stage, only a day remained before Moorhead was to introduce his amendment at the House mark-up. Markey had been urging us to narrow our differences with the industry before that amendment was introduced, and so captioning advocates spent the rest of March 15 hectically exchanging drafts and participating in a flurry of telephone conferences with industry representatives to negotiate mutually agreeable mandates.

From the start, disability advocates remained firm on a number of issues. Exemptions for all local programming, and in particular, local news, community affairs, and public, educational, and governmental proceedings were out of the question: the information provided by this type of programming gave Americans the tools that were essential to effective citizenry. Similarly, we contested exclusions for music videos and commercials; captioning providers were already providing captions on these at little cost and at great benefit to deaf and hard of hearing audiences.

Advocates also opposed the industry suggestion to use a program's popularity or audience size as a factor to determine whether a program needed to be captioned. In many cases, audience share would not even be known until after a program aired, at which time it would be too late to add captions.¹⁹ Moreover, under the ADA and other disability laws, a retail establishment's popularity had never been used to determine its required level of compliance. Rather, the test of whether a business had to provide an accommodation was whether it could afford to do so—and not whether the cost of providing that accommodation was reasonable vis-à-vis the cost of the service involved or the payment received for that service. For example, a lawyer earning \$300,000 a year might have to provide an interpreter to a deaf client for an office visit, even if the cost for the interpreter was greater than the client's fee for that appointment. Similarly, advocates wanted television providers with significant financial

resources to caption shows when they could afford to do so, whether or not the shows themselves had large budgets or attracted sizable audiences.²⁰

When the negotiations for exemptions on captioning turned to older programming, including movie classics and re-runs from the 1970s and '80s, we argued that refusing access was tantamount to denying deaf adults their only chance to view these early portrayals of American culture. However, because the motion picture industry was adamant about not having to caption all of its archives, consumers ultimately compromised by agreeing to draw a distinction between all *new* programming, which had to be “fully” accessible, and *older* programming, whose access would have to be “maximized.”

Cable providers were also very concerned about television networks with very small budgets. Specifically, they feared that if these networks had to petition the FCC every time they wanted an undue burden exemption, the long delays in receiving FCC approval would prevent them from being able to air their programs, in violation of their First Amendment free speech rights. This concern was resolved by the inclusion of new language by House legislators, against the consumers’ better judgment—allowing the FCC to exempt, on its own and not by provider petition, “programs, classes of programs, and services determined to be economically burdensome to the provider.”*

Despite some minor setbacks, we felt victorious at the close of our March 15 negotiations. The final draft retained full captioning accessibility for all new programming and significant mandates for captioning older programming. Blanket exemptions for entire categories of programming had been defeated, as had been the exclusion of programs based on audience share. Moorhead introduced the newly agreed-upon language at the House mark-up on March 16, 1994, and during the third week of March, the bill was marked up and approved.²¹

Moving Over to the Senate

With the House captioning amendments firmly in place, at the end of April 1994, we turned our attention to getting the same language inserted in the Senate’s companion bill, S. 1822, The Telecommunications Equipment Research and Manufacturing Competition Act of 1994.²² A number of things were already working in our favor. Preliminary discussions with John Windhausen, chief of staff of communications on the Senate Commerce Committee and Senator John McCain’s staff, Gina Keeney and Mary McManus, had gone well. In addition, Senator John Kerry (D-Mass.) had promised to help convince the Democratic leadership to introduce the amendments,

* The final draft gave the FCC discretion both to issue rules that automatically exempted whole classes of programs or services based on *economic burden* and to grant individual petitions for exemptions based on *undue burden*, though neither Congress nor the FCC ever delineated differences between these two exemption standards. Yet another consumer defeat was the failure of the House to include report language clarifying that programs would be deemed “fully accessible” only if they met standards for captioning quality with respect to accuracy, spelling, grammar, timing, and placement, and used real-time captioning for all local news programming. To this day, the deaf community continues to fight for improved standards of captioning quality.

and, if that was unsuccessful, to introduce them himself when the bill arrived on the Senate floor.²³

Unfortunately, as had occurred in the House, verbal assurances to incorporate captioning language into S. 1822 were not accompanied by the inclusion of any captioning text in the bill itself long after its introduction. The problem was that our issue was just one of a plethora of issues competing for space in the mammoth telecommunications reform bill. Some of the committee members were so bombarded with requests for amendments that they were uniformly turning everyone away.²⁴

When the Senate Committee on Commerce, Science and Transportation held hearings on S. 1822 on May 24, 1994, Mark Goldfarb, director of Gallaudet University's International Center, tried to rectify this situation. Goldfarb testified passionately about the benefits that captioning was bringing to the deaf community. But he went on to stress that captioning access to cable programming remained woefully inadequate. Even recent televised conferences addressing telecommunications reform had not been captioned, making it difficult for Goldfarb to stay informed about this vital debate, though he lived in the very city in which it was taking place.²⁵

Unfortunately, the hearings also provided ACLU's Robert Peck a public opportunity to unleash his constitutional attacks on the video description and captioning mandates. This time, however, Peck's charges were not unforeseen, and consumer advocates were ready and waiting with persuasive rebuttals.²⁶ It helped as well that the captioning amendments were now garnering support from new sources outside of the disability community.²⁷ Moreover, several Senators were clearly disturbed with Peck's flawed allegations. For example, in a heated dialogue, Senator Danforth (R-Mo.) charged that it could not possibly be unconstitutional to require access to an existing artistic product so long as the author was not required to make any changes to the original work.

But the most persuasive rebuttal to ACLU's charges came after the Senate hearings. On June 8, 1994, Georgetown University's IPR, which had assisted the deaf community on a number of prior telecommunications access issues, produced an analysis that unequivocally affirmed the constitutionality of the captioning mandates.²⁸ IPR pointed out that the Media Institute and the ACLU had been inappropriately relying on cases in which courts had disallowed mandates compelling speakers to make statements *with which they disagreed*.^{*} By contrast, the captioning proposals would merely require video programmers to convert the speech that they *freely chose* to utter to be accessible to people with limited hearing. Moreover, IPR explained that the captioning requirement hardly gave unbridled discretion to the FCC to grant captioning exemptions. The language contained very explicit criteria that did not by any "stretch of the imagination" allow the Commission to grant waivers depending on its view of the content of particular programming. The bottom line, IPR concluded, was that the captioning mandates furthered a substantial governmental purpose that easily passed constitutional muster.

On June 10, 1994, only two days after IPR sent its analysis to Senator Hollings, chief sponsor of the telecommunications reform bill, the captioning mandates were

^{*} For example, one court had disapproved a requirement for all drivers to have their state's motto "Live Free or Die" on their license plates.

appended to S.1822. A little more than two weeks later, on June 28, 1994, H.R. 3636 sailed through the House by a vote of 423 to 4. Although it appeared that the Senate bill might swiftly follow, this was not to be the case. By the summer of 1994, the legislative battles among the long distance companies, regional Bell companies, and other telecommunications stakeholders had so intensified on matters unrelated to captioning, that progress on S. 1822 came to grinding halt. As the congressional session drew to a close in the fall of 1994, the Senate leadership abandoned all attempts to resolve these differences, causing the bill to die upon adjournment.

A few weeks later, a federal election changed the balance of power in Congress. The Democratic leadership with whom we had worked so closely would now take a back seat to Republican legislators who eagerly awaited their opportunity to be in charge of telecommunications reform. For us, the arrival of these new political bosses potentially thrust the captioning mandates back to the starting gate.

A New Congress Steps In

When S. 652, the next version of the Senate telecommunications reform bill, surfaced in the winter of 1995, we were relieved to learn that our captioning mandates had survived various cuts made by new Congress. But the new draft was a serious setback compared to the version agreed upon by prior legislators. To begin with, although the prior version relieved providers of their captioning obligations only if they could prove that meeting those obligations would impose an undue burden, the new draft only required captioning if it was “readily achievable” for video programmers to provide this service. This standard, which meant “easily accomplishable without much difficulty or expense,” had first been used in the ADA as a means of relieving building owners from requirements that could otherwise force them to expend huge sums of money to eliminate structural barriers.²⁹ It was considered far less stringent than the “undue burden” defense, the latter having already been applied to ADA obligations to provide captioning on educational and employment videos. To make matters worse, the new Senate version also omitted the mandate for new television programming to be “fully” accessible, and created a blanket exemption for all locally produced programs.

Advocates moved quickly to inform Senator Dole and his staff, who were now leading efforts to shepherd the telecommunications bill through the Senate, that the captioning language finalized by the prior Congress had been the culmination of extensive negotiations among the cable industry, the motion picture industry, small networks, and consumers. We needed for this new Senate leadership to understand that consumers had already made significant concessions affording television providers various types of relief. Weakening the language even further would put the most basic objectives of the captioning mandates into serious jeopardy.³⁰

We were successful in convincing Dole’s staff to restore most of the pre-negotiated captioning mandates, but their consent did not come until after the Senate Commerce Committee finished marking up a version of S. 652 that contained the watered-down captioning provisions. Although we were given verbal assurances that our changes would be made through amendments on the Senate floor or during a House-Senate conference, we found ourselves in an extremely precarious position. With the House

and Senate versions now incompatible with one another, a push for a more provider-friendly version could easily sway conservative legislators to adopt the more lenient Senate proposals when the bill went to a Conference Committee for final resolution. To prevent this from happening, on May 2, 1995, I sent letters to House legislative aides, summarizing the history of the Moorhead compromise and the willingness of Dole's staff to restore that language.³¹ Only a few days later, on May 5, 1994, I received an urgent request to produce a witness for yet more House hearings (on H.R. 1555, the new House companion bill to S. 652), to be held in just six days. By the time Al Sonnenstrahl testified before the House Subcommittee on Telecommunications and Finance on May 11, 1995, nearly two years had passed since the Decoder Circuitry Act had gone into effect and still, he reported, few, if any, inroads had been made in convincing basic cable programmers to caption their shows.*

During the weeks that followed, advocates finally had a spate of successes. These began on May 26, 1995, when the House committee completed its mark up of H.R. 1555 with the Moorhead compromise still intact. In addition, at the end of June, a resolution passed by ACLU's biennial convention put to rest its objections to closed captioning. Introduced by Paul Siegel, professor of communications arts at Gallaudet University and an ACLU member, the resolution distinguished captioning from First Amendment freedoms that gave speakers the right not to speak when they were being forced to disseminate a message against their will. Siegel was successful in getting the delegates to understand that captioning merely called upon speakers to provide access to messages that they were already sending through television's audio channels.³² In the end, the ACLU delegates agreed that captioning provided information needed for one's effective participation in the political process.

Unfortunately, the progress that we had made in the House was countered by a temporary setback in the Senate. On June 15, 1995, after a week-long floor debate, the Senate passed S.652 by a vote of 81 to 18, without any of our requested changes to the captioning section: as passed, the captioning mandates still hinged on the readily achievable standard, there was no mention of "fully" accessible television programming, and the gaping exemption for all local programming remained. A few weeks after this, on August 4, 1995, the House passed its version of the legislation containing the much more favorable Moorhead version.³³ Although we were relieved to see that the House had honored its promise to enact the stronger language, a new amendment to the captioning text of the House bill infuriated consumers. At the industry's request, the final bill intentionally removed an individual's right to go to court to enforce the captioning mandates. Without this "private right of action," consumers would have to rely on policing compliance through complaints filed at the FCC.

The considerable differences between the House and Senate telecommunications reform bills—which included, but went far beyond, our captioning section—now sent the bills to a Conference Committee. There, legislative aides spent the next several months engaged in painstaking negotiations aimed at eliminating the conflicts

* Sonnenstrahl's testimony was presented on behalf of NCLD, NAD, TDI, and CAN. Statement of Alfred Sonnenstrahl, Hearings on H.R. 1555 before the Subcommittee on Telecommunications and Finance of the House Committee on Energy and Commerce, 104th Cong., 1st Sess. (May 11, 1995).

between the two versions. Fortunately, when the committee produced its final version of the bill at the end of December 1995, captioning advocates could not have been happier. Although we were unsuccessful in removing the last minute private right of action restriction, we had succeeded in convincing the Conference Committee to adopt the House (Moorhead) compromise, rather than the Senate's more restrictive language. Miraculously, we were about to get legislation that would, for the first time in our nation's history, require all broadcasters, cable operators, satellite operators, and other television programming distributors to make the vast majority of their programming accessible to deaf and hard of hearing people through closed captions. The Telecommunications Act of 1996 Act passed the House by a vote of 414 to 16 and the Senate by 91 to 5, and was signed by President Clinton at a ceremony held at the Library of Congress on February 8, 1996.³⁴

To the nation's telecommunications companies, our captioning section was an insignificant part of a much grander law that promised to revolutionize the provision of telecommunications, information and cable services. But for deaf and hard of hearing people, the few paragraphs setting forth the captioning obligations would become one of the most important legislative advancements in their lifetimes.

The FCC Gets Involved

In a somewhat unprecedented move, the FCC had decided not to wait for Congress to finalize the Telecommunications Act of 1996 before initiating its own inquiry into television programming accessibility.³⁵ Concerned that closed captioning might not survive a very new and highly competitive telecommunications marketplace, in December 1995, FCC Chairman Reed Hundt and his fellow commissioners had decided to take the first steps to guarantee television access, just in case the pending telecommunications bill did not become law.³⁶ To this end, the Commission conducted a comprehensive inquiry that produced detailed information on the benefits, availability, costs of, and enormous need for closed captioning.³⁷ After the new captioning mandates became law, the FCC summarized these materials in a detailed report submitted to Congress in July 1996.³⁸ Just half a year later, the Commission proposed rules to implement the requirements contained in the new 1996 statute.³⁹

During the months that followed the release of these proposals, the battle lines between television program providers and captioning consumers were bitterly drawn. Disputes over how quickly captioning should be required, the extent to which real-time captioning should be required on live programming, and the extent to which the FCC should exempt older programming, local sporting events, commercials, and late night TV pushed themselves to the front of these debates.⁴⁰

To consumers, it seemed like every network was seeking some type of an exemption. Cable providers wanted exemptions for public access programming, instructional programming, and foreign language programming, insisting that the small audience sizes and production budgets of these shows made their captioning particularly burdensome. New networks wanted to be exempt during their start-up years to develop their financial viability. Advertising agencies complained that it would be too time-consuming to caption commercials. Home shopping channels insisted that the



Gallaudet University President I. King Jordan (right) is given a demonstration of a Zenith TV equipped with internal decoder circuitry.

graphic content of their programming was sufficiently visual for deaf viewers, without captions.*

But the music industry provided what were undoubtedly the strangest justifications in support of their requests to be exempt from the captioning rules. The Recording Industry Association of America (RIAA), in pursuit of a blanket exemption for music videos, claimed that lyrics were often “subordinate to the actual music.”⁴¹ Even worse, another commenter had the tenacity to suggest that lyrics, although unintelligible when spoken, could be “patently offensive or potentially obscene” if they appeared in text!⁴²

Advocates vigorously opposed these and other exemptions, and reminded the Commission of the need for high standards of captioning quality, including the use of real-time captioning for live newscasts.⁴³ All too often, captions were scrambled or stripped as a result of engineering errors, the failure to readjust settings after commercial breaks, or the use of digital video effects. Captions replete with these and other mistakes in spelling, timing, and placement were of limited value to viewers.

We also urged the FCC to create a tight schedule for the transition to full captioning. Congress was now contemplating amendments to the Individuals with Disabili-

* To evaluate the claim that background conversation was of only marginal relevance on home shopping channels, I decided to watch one of these channels. Shortly into the program, I realized that without captions, deaf viewers would not have enough information to make an informed judgment about any of the advertised products. For example, graphics provided in an ad for a household cleanser failed to provide information about the cleanser’s composition and application, safety issues, discounts, and money-back guarantees mentioned in the show’s audio commentary. Unfortunately, while conducting my analysis, I lost sight of my original purpose for turning on the show and, carried away by the persuasive advertising of this miraculous all-in-one product, found myself picking up the phone to order over a year’s supply of cleaning fluid. Luckily, as I reached for my credit card, I was brought to my senses and quickly terminated the call. For my pocketbook’s sake, I switched the channel.

ties Education Act (IDEA) that would disallow captioning funding beginning October 2001 for television shows that were not “educational, news or informational.”* This change stemmed largely from the discovery by a few legislators that Department of Education funds were being used to caption *Baywatch*, a program they deemed unsuitable for the receipt of federal money. Because the Commission’s captioning rules were needed to ensure access to programs whose funding might be cut by these new guidelines, we asked the FCC to require full captioning within four years.⁴⁴ This was countered by broadcaster requests for eight years and cable industry requests for ten.

On August 7, 1997, the FCC finally adopted the long-awaited captioning rules.⁴⁵ But instead of heralding the day as the beginning a new era of accessible television, many deaf and hard of hearing consumers were sorely disappointed. Huge gaps in the rules seemed to go well beyond the exemptions permitted by the legislation. Programming providers were directed to begin providing captions on approximately 25 percent of their new programming within two years, and to increase this amount by an additional 25 percent every two years, until 95 percent of their new programming was captioned at the end of eight long years.[†] The providers would then have complete discretion to choose what shows fell into this remaining 5 percent exempt category, with no oversight from the FCC. Additionally, the rules entirely excluded all commercials under five minutes, all overnight programming between the hours of 2:00 and 6:00 a.m., programming on all new networks (for their first four years), and all foreign language programming. When added together, the FCC’s new mandates allowed daily exemptions of more than 20.5 percent of all new programming.

The Commission’s decision to exempt television commercials under five minutes—based on the justification that that advertising was “ancillary” or secondary to main programming content—was particularly confusing, given that other federal laws treated advertisements and other programming alike.⁴⁶ And the fact that this exemption applied to political advertising was quite troubling; the FCC had previously acknowledged the injustices of denying access to information provided by political candidates.⁴⁷ Moreover, it made little sense to allow this exemption: the cost of captioning commercials was insignificant—a mere \$100 to \$200 per thirty-second slot, compared to the thousands, and sometimes millions of dollars paid to air national advertisements on popular television shows.[‡] Indeed, national advertisers had been among the first to use captions to broaden their markets back in the early 1980s; it was ironic that they were now coming forward in an aggressive campaign to win this exemption.

The rules also gave television providers a full ten years to caption 75 percent of older, or “pre-rule” programming, with no requirements to phase in captioning for these shows over this period. This meant that all re-runs, old movies, and classic

* The restriction was in fact later added to the IDEA Amendments of 1997.

[†] New programming was defined as programming first shown or exhibited after the effective date of the FCC’s rules, January 1, 1998. Older or pre-rule programming was defined as programming first shown before that date.

[‡] The very last episode of *Seinfeld*, shown in May 1998, reportedly brought in \$2 million per thirty-second ad. www.winning-newsmedia.com/ratings.htm (retrieved January 3, 2004). A few months before, the Superbowl brought in \$1.3 million per commercial.

sporting events could remain without captions for up to ten more years! Even Chairman Hundt, who had been compelled to agree to these compromises to get the captioning mandates approved by other commissioners, expressed dismay over this time schedule: “I would have preferred to have these rules be more aggressive in providing swifter accessibility to much more TV programming for our nation’s 20 million persons with hearing disabilities,” he said in a separate statement when the commissioners’ votes were cast.*

Perhaps most disconcerting was the Commission’s decision not to adopt minimum standards of captioning quality and to permit indefinitely the use of the “electronic newsroom captioning technique” (ENCT) for local news programming. In order to save costs, local newscasts around the country had begun using ENCT to automatically convert their news scripts into live captions. The problem with this approach was that it only provided viewers with information that had been entered into the teleprompter script; this typically excluded late-breaking stories, live field interviews, and sports and weather updates. Local and national advocacy groups around the country had, for some time, been trying to convince stations to replace ENCT with real-time captioning.† Even the FCC had previously questioned the ability of this technique to provide functionally equivalent news information.⁴⁸

Concerned that the rules would not achieve full television access, in October 1997, the NAD, CAN, and SHHH filed petitions for reconsideration requesting removal of many of the exemptions, a shortened compliance schedule, Spanish language captioning, and recordkeeping requirements to assist in monitoring captioning compliance.⁴⁹ The television industry opposed all of our requests and filed their own petitions requesting even broader exemptions for, among other things, political debates, programming before 1970, interactive game shows, and even instructional and children’s educational programming.⁵⁰ But one thing would potentially work in our favor: with the exception of Commissioner Ness, all of the FCC commissioners who had agreed upon the FCC’s final captioning rules were about to be replaced by a new slate of officials. This would begin with the departure of Chairman Hundt in the fall of 1997.

As the very first FCC chairman to elevate disabilities issues to the forefront of the FCC’s agenda, Hundt had paved the way for people with disabilities to have a say in the nation’s telecommunications policies. Early in his tenure, Hundt (who dubbed himself “The Disability Commissioner”) had worked with FCC employee Linda Dubroof to develop a top ten list of ways to ensure disability access to “the information highway.” Throughout Hundt’s tenure, many of these had been accomplished: the creation of the FCC Disabilities Issues Task Force, improved mandates for volume control and hearing aid compatibility, and new Commission policies to make publications available in alternative formats and public meetings accessible through captioning. However, by the time Hundt was readying to leave the agency, the FCC

* By contrast, in a separate statement accompanying the new order, Commissioner Rachelle B. Chong said that the rules appeared “over-regulatory in an era of deregulation,” and complained that the requirement for 75 percent of older programming to contain captioning might be “too onerous.”

† For example, in the Washington, D.C. metropolitan area, TVFA, acting under the leadership of Toby Silver and Mark Goldfarb, had succeeded in convincing all four major network affiliates to broadcast their news with real-time captioning.

was down to four commissioners (two Democrat and two Republican) from its usual five, and the political gridlock that resulted from the split along party lines had significantly weakened the chairman's ability to make progress on disability issues. We could only hope that Hundt's replacement, FCC General Counsel William E. Kennard, would take on our disability issues with the same enthusiasm as his predecessor.

Shortly after Kennard assumed the FCC's chairmanship in November of 1997, we learned that the racial prejudice that he had witnessed as a child significantly aided his understanding of disability discrimination. Kennard would often tell how his grandfather, an African American, had to settle for work as a Pullman porter on the railroads, despite his high intellect. He analogized his grandfather's triumphs against discrimination to the struggles of the disability community for equal access. Almost from day one, Kennard pledged that as long as he was chairman, he would do everything in his ability to continue breaking down barriers to telecommunications access by people with disabilities. A true champion of disability rights, he more than carried out that promise with the creation of the FCC's first Disability Rights Office and the Commission's first federal advisory committee on disability and consumer issues, as well as the issuance of a near-endless string of rules expanding telecommunications access. These included long-awaited rules to bring relay services into the twenty-first century, new requirements for visual access to televised emergencies, and captioning on digital television programming.*

The fall of 1997 also brought the departure of Commissioners Rachelle Chong and James Quello, and the arrival of FCC Commissioners Harold Furchtgott-Roth, Michael Powell, and Gloria Tristani—a transition that restored the Democratic majority within the Commission's leadership. Over the next several months, I joined other captioning advocates, including Nancy Bloch, Harvey Goodstein, Toby Silver, and Brenda Battat, in trying to convince the newcomers that the captioning rules approved by their predecessors violated the 1996 act's promises of full accessibility. During this same period, FCC staff waded through the hundreds of comments submitted in response to the various reconsideration petitions, trying to strike a balance among the competing interests. After an extended period, the Commission finally designated September 17, 1998, for a vote on revisions to its captioning rules. As the target date approached, we became aware that the cable industry was doing everything it could to erode support for our proposed improvements. We stepped up our lobbying efforts, not realizing that we had an advocate fighting for greater television access right within the cable industry. As the head of operations at the Silent Network (a national cable network dedicated to deaf programming that already provided 100 percent captioning without federal mandates or federal grants), David Pierce was the only deaf television executive in the United States.† In 1997, Pierce had joined NCTA's Closed Captioning

* Kennard's Chief of Staff Kathy Brown and I worked with Scott Marshall and several other FCC employees to help put together the FCC's first consumer-oriented advisory body, which we named the Disability/Consumer Telecommunications Advisory Committee (CDTAC). Although the Bush Administration later changed its name to the "Consumer Advisory Committee," the group continues to have various subcommittees dedicated to disability issues.

† In the early 1990s, the Silent Network was sold and became Kaleidoscope until 2000, when it went out of business. Its founder, Sheldon Altfeld, is now developing programs for the deaf community that can be aired on other networks.

Task Force, where he was now advocating internally for elimination of some the very same exemptions that had become the target of our advocacy efforts.

Fearing that the industry was beginning to prevail on some of the outstanding issues, especially their requested exemption for national advertisements, on September 10, 1998—the last day on which it would be permissible to confer with FCC staff on the pending reconsideration order—I ran to the Commission to plead our case with as many officials I could find.* Although an eleventh hour attempt to save captioning access to national advertising was defeated, overall, the Commission's Order on Reconsideration proved to be a vast improvement over its initial rules.† The revised captioning order expanded the definition of full television access for all new programming from 95 percent to 100 percent, created new requirements for real-time captioning of newscasts on stations in larger communities, removed the exemption for Spanish language programming, and added a 30 percent captioning benchmark for older programming midway through its ten year transition.⁵¹ Our year-long effort to expand programming access had been a major success.

Digital Television

Former Vice President Al Gore once described the shift from analog to digital television, or “DTV,” as “the greatest transformation in television’s history. . . . It’s like the difference between a one-man band and a symphony.”⁵² DTV offers sharper, more vivid pictures and CD-quality audio, allows the simultaneous transmission of multiple television streams over a single channel, and promises to offer supplementary television services, including the rapid delivery of huge amounts of data, interactive educational services, and even the distribution of computer software. The accuracy, versatility, and flexibility of this new technology has been equated with the change from black-and-white to color TV, and is predicted to forever change the way we use TV.

In 1996, Congress granted broadcasters free DTV licenses in exchange for both their old analog licenses and a promise to serve the “public interest, convenience, and necessity.”⁵³ In order to further define this obligation, on March 11, 1997, President Clinton appointed members to a new Advisory Committee on Public Interest Obligations of Digital Television Broadcasters.⁵⁴ Along with twenty-one other consumers and leaders in the broadcast, film and computer industries, I was privileged to serve on this committee from the fall of 1997 through the following winter. Dubbed the “Gore Commission,” our task was to advise the vice president on how best television licensees could fulfill their role as public trustees of the airwaves in the digital age. Unfortunately, from the start, many of the industry members on the new commission

* The FCC has a rule disallowing contact with Commission officials during the seven days prior to a commission vote on a rule or order. This period is called the “Sunshine Period.” September 10 was the last day on which we could try to influence the commissioners with respect to the captioning reconsideration order.

† In a separate statement attached to the order, Kennard revealed his disappointment with the majority’s ruling on national advertising: “I do not believe that captioning nationally distributed advertisements can be seen as an economic burden given the amount of money generally spent to develop these national advertisements. . . . Advertisements disseminate information to the public, and may have an even greater relevance for persons who are otherwise cut off from the rest of society.”

Chart 11.1**FCC Final Captioning Rules
47 C.F.R. §79.1****Schedule of Captioning Deadlines (captioning required per channel per quarter)**

- **New, non-exempt English language programming** (450 hours by 2000; 900 hours by 2002, 1350 hours by 2004): 100% by 2006
- **Pre-rule, non-exempt English language programming** (30% by 2003): 75% by 2008
- **New, non-exempt Spanish language programming** (450 hours by 2001; 900 hours by 2004): 1350 hours by 2007; 100% by 2010
- **Pre-rule, non-exempt Spanish language programming** (30% by 2005): 75% by 2012.

Specific Exemptions Advertisements under 5 minutes, public service announcements under 10 minutes (unless federally funded or produced), programs shown between 2 a.m. and 6 a.m., instructional programming that is locally produced and locally distributed to individual educational institutions, locally produced and distributed programs with limited repeat value (for example, parades and local school sports), non-vocal music; programs in languages other than English or Spanish

General Exemptions Programming on new networks during first 4 years of operations; programming providers with annual gross revenues under \$3 million per year; classes of programs where captioning would be economically burdensome to providers or owners of programming

Individual Exemptions Permitted for individual shows upon request if adding captions would create undue burden for provider or owner of programming

Spending Ceiling Programming providers may limit spending on captioning to 2% of annual gross revenues.

Repeats of Already-Captioned Programs Must be shown with captions intact unless shows have been edited

Monitoring Program distributors expected to monitor captions from their point of origination to end users (viewers) to make sure they arrive intact.

Special Rules for Newscasts The following to use real-time captioning for newscasts: (1) 4 major national broadcast networks (CBS, ABC, NBC and Fox); (2) TV stations affiliated with these 4 major networks in the top 25 television markets; (3) national nonbroadcast networks (for example, cable) serving at least 50% of all households subscribing to television services.

made clear their intent to defeat any new public interest obligations, including free airtime for political candidates and expanded public affairs programming. But despite the discord that characterized much of our negotiations, most of the members consistently remained open to expanding television access for people with disabilities.⁵⁵

On December 18, 1998, the Gore Commission released its final report, *Charting the Digital Broadcasting Future*.⁵⁶ The report acknowledged the ability of digital television services to create new opportunities for individuals with disabilities in employment, education, and recreation, and called upon broadcasters to “take full advantage of the new digital closed captioning technologies to provide maximum choice and quality for caption viewers, and to work to make captioning in the digital age functionally equivalent to audio transmissions.”⁵⁷ In an attempt to fill a gap left by the FCC’s captioning rules, the report even contained a specific recommendation to expand captioning on public service announcements, public affairs programming, and political programming, where doing so would not impose an undue burden.

Standards for Digital Captioning

Nearly a year after the Gore Commission report was released, Vice President Gore confirmed the need for the FCC to ensure access to digital programming by people with disabilities:

The Administration believes that all Americans, including those with hearing and vision disabilities, should have access to digital programming and all the innovative services that broadcasters may offer in the future. . . . We urge the Commission [FCC] both as part of its public interest inquiry and as a follow-up to its mandate under Section 305 of the Telecommunications Act to explore the Committee’s recommendations and to solicit other workable proposals.⁵⁸

Indeed, back in 1990, when Congress passed the Television Decoder Circuitry Act, it had made very clear that it expected television captioning to remain viable even after new video technologies, such as digital TV, were developed. To this end, in 1993, various captioning agencies, PBS, electronics manufacturers and the Electronic Industries Alliance (EIA) began working on technical standards to provide digital television captioning.* Unlike analog television, there is no vertical blanking interval in the digital environment. This meant that instead of inserting closed captions into line 21, these engineers had to find a way for captioning transmissions to become part of the digital bitstream. It took five years for these guidelines to finally be released in November 1998, but the delay was not all the fault of these contributors.⁵⁹ Rather, discord within the television industry as to the appropriate standard for all digital television programming had generally delayed the roll out of this technology for the American public.

The new EIA standard, EIA-708, promised great improvements that would enable viewers to control the font, color, size, and placement of captions. For example, caption users could potentially choose from among eight fonts and up to sixty-four

* EIA, a trade organization representing American companies providing advanced technology, was the successor to the group that first developed decoder circuitry standards for analog television.

foreground and background colors! The standard also allowed for simultaneous captions in multiple languages or different language levels by permitting as many as six captioning streams.

On November 18, 1998, the National Center for Accessible Media, in partnership with Lucent Digital video and the ULTECH Corporation, announced the first working on-air captioning solution for DTV. It was not surprising that WCVB in Boston became the first to try out the new technology on a live broadcast. When its General Manager, Paul La Camera, served on the Gore Commission, he had been among the strongest supporters of full access. His station had also been one of the first in America to provide real-time captioning of local news.

Unfortunately, as industry efforts to further develop solutions for the delivery of digital captioning transmissions continued, a number of technical glitches along the way made disability advocates conclude that FCC mandates would be needed to compel the television industry to ensure a smooth transition for caption viewers to digital programming. For example, during the spring of 1999, it was discovered that some digital video set top boxes removed the entire vertical blanking interval and laid captions back over the picture. This process made viewing the captions the first time around possible, but impossible to see if recorded and played back at a later time. The problem was that EIA's digital captioning standard was merely voluntary; manufacturers were under no obligation to adopt it. Without an FCC directive, there would be no guarantees that their digital systems would ever be fully accessible to people who relied on captions. With 2006 as the year designated by Congress for the complete conversion to digital programming,* FCC mandates would be needed rather quickly to prevent an increasing amount of new digital programming from becoming inaccessible to caption viewers.⁶⁰

After much prodding from advocates, the FCC proposed technical standards for the display of closed captions on digital television receivers on July 15, 1999.⁶¹ But rather than recommend the full range of accessible digital features contained in the EIA standard at a time when incorporating these features into DTV equipment would have resulted in little cost or disruption to the industry, the Commission proposed a far less rigorous standard that did little to bring the improvements and versatility of DTV to deaf and hard of hearing viewers. For example, the FCC's draft proposed requiring only the most basic of features—one size, one font, and one background color, rather than the full range of options made possible by EIA-708. Indeed, the FCC's proposals did little more than maintain the status quo and, in one regard, even took a step backward: the rules actually proposed to reduce the number of required caption streams from the FCC's existing analog standard of two, to a single stream for DTV.

Consumers were furious. On repeated occasions, the Commission had promised to make the wonderfully diverse benefits of digital television available to all Americans. It also had boasted of DTV's ability to achieve "substantial improvements over current captioning mandates"⁶² In every sense of the word, the Commission was now ignoring its own advice. Rather than take advantage of these substantial improvements, its proposals seemed to be responding to threats by television manufacturers to delay

* In early 2006, Congress extended this deadline to mid-February 2009.

the transition to digital television if saddled with too many equipment changes.⁶³ The NAB, for example, opposed requiring any of the advanced captioning display features until the conversion to DTV was complete, a shortsighted approach that ignored the heavy costs that would come with having to retrofit digital equipment once the equipment had already been designed and developed for the general public.⁶⁴

Both consumers and captioning agencies strongly opposed the proposed rules. Once Chairman Kennard learned of the consequences of going forward with the original proposals, he approved revisions to strengthen the regulations, and on July 21, 2000, the FCC released considerably stronger DTV standards that enabled viewers to choose among various caption sizes, fonts, foreground and background colors, characteristics, and up to six captioning services.⁶⁵ While the greater mandates would add nominal costs to the production of digital television sets, the FCC acknowledged that these would easily be offset by the ability of caption viewers to more effectively enjoy the benefits of DTV programming.⁶⁶ In addition, the new rules would enable DTV to reach new audiences, most notably senior citizens and other people with low vision, and children learning to read, all of whom had been unable to utilize the “one size fits all” approach to captions.⁶⁷

To adjust for the different shape of DTVs, which are wider and more rectangular than screens used for analog programming, the FCC applied its new rules to digital sets with screens that measured 7.8 inches vertically, roughly the equivalent of a 13-inch diagonal analog screen. In addition, the agency granted consumer requests to apply the new mandates to all stand-alone DTV tuners and set top boxes, whether or not they were marketed or sold with display screens over a certain size. The Commission reasoned that even if consumers purchased digital tuners and screens separately, more than likely those screens would measure at least 7.8 vertical inches. Moreover, because consumers would be able to manipulate the size, font, and color of captions, even smaller screens would be able to display readable captions.⁶⁸ In July 2002, Zenith, in conjunction with WGBH, became the first to demonstrate its decoder-equipped HDTV at the NAD and Deaf Way II conferences held in Washington, D.C.⁶⁹ Zenith’s eagerness to be a leader in providing accessible digital television equipment was reminiscent of its efforts a decade earlier to be the first manufacturer to install decoder chips in its analog television sets.

Captioning Funding Threatened

The successes achieved through the various FCC captioning proceedings during the 1990s were accompanied by increasingly discouraging events at the Department of Education. The problems started back in 1997 when, in response to complaints about *Baywatch*, Congress amended IDEA to limit federal captioning support to educational, news, and informational programs.⁷⁰ Matters worsened when, during the winter of 1998, similar complaints were made about *The Jerry Springer Show*.⁷¹

When magazine headlines that read “Stripper Wars” and “I Have a Bizarre Sex Life” incited readers about governmental appropriations being given to the *Springer* show, Senators Lieberman (D-Conn.) and Dan Coats (R-Ind.) wrote a scathing letter to Secretary of Education Richard W. Riley urging termination of *Springer*’s captioning funding. According to the legislators, “the mission of the Department’s program

Chart 11.2**Digital Captioning Decoder Rules
47 C.F.R. §15.122**

- Size—standard, large, and small size captions
 - Fonts—8 fonts
 - Colors—8 background and foreground colors of choice (white, black, red, green, blue, yellow, magenta and cyan)
 - Background Opacity—transparent, translucent, solid, and flashing
 - Character Edges—none, raised, depressed, uniform, or drop shadowed
 - Services—up to 6 standard services, to be displayed one at a time
 - Default Option—caption display options saved when receiver is turned off
 - Record and Play-Back Equipment: VCRs, DVD players, and personal video recorders need not have decoding capability, but must pass through closed captions intact to the digital television decoder attached to these devices
-

[was] not to expose the hearing impaired to every form of cultural depravity under the sun,” and the Department’s “decision to promote the lurid antics of Jerry Springer,” meant that something was “extremely out of whack with the administration of this [captioning] program.”⁷² Calling the *Springer* show the “closest thing to pornography on broadcast television,” the senators demanded that the Department use future captioning funds for programs that contributed to the “‘general educational and cultural experiences’ of hearing-impaired viewers.”⁷³

Perceiving this to be censorship, NAD attorney Kelby Brick responded quickly with electronic alerts that produced a slew of complaints to Lieberman and Coats’s offices.⁷⁴ Secretary Riley agreed with the consumers, and with the encouragement of Joann McCann and Ernie Hairston, long-time captioning advocates within his agency, rejected the senators’ request to terminate *Springer’s* funding.⁷⁵ Riley said that although the show might offer “tasteless entertainment,” granting the senators’ request would force the Department to “supersede the individual judgment of millions of deaf Americans who have worked long and hard to make sure that they have full standing as citizens in this society.” Emphasizing his faith in the “common sense and good judgment of deaf Americans” to make their own decisions about which programs to watch, he explained that it was not the role of his agency to deny access to any programs that are watched by America’s hearing communities.*

* The Department of Education generally decides which shows are eligible for captioning with the assistance of grantee peer review and advisory boards that include deaf and hard of hearing individuals at the various captioning agencies. The work of these panels is reviewed by a Department of Education panel that also includes people with hearing loss.

Although the uproar over the *Springer* show quieted down when the Department of Education refused to pull its captioning grant, the issue again reared its ugly head in December of 1999, when the Department asked the public to help it define programming that was “educational, news, and informational.” Its goal was to establish new funding eligibility for captioned shows in order to implement the 1997 IDEA amendment by its October 2001 deadline. Over 3000 consumers responded, with comments that uniformly urged a broad interpretation of the new provision.

The Department of Education did little to change its captioning rules over the next two years. But not knowing this, deaf and hard of hearing television viewers who relied on captioning began to panic that they would lose television access as the 2001 deadline approached. Confusion about the roles of the Department of Education and the FCC caused nearly 1,000 of these individuals to inundate the Commission with pleas not to cut off captioning in the fall of 2001. After clarifying that it had no role in administering the federal captioning grant program, the Commission assured these consumers that its own transition schedule to require captioning remained on track.⁷⁶

The next two years again passed without revisions to the Department of Education’s funding guidelines, but in 2003, without any formal public input or public explanation, the Bush administration convened a secret five-member panel that created a list of television shows ineligible to receive captioning grants. The list disallowed funding for many children’s movies and cartoons (because of excessive violence), virtually all national sports programming, documentaries on entertainment personalities, sports figures, and criminals, and several primetime shows. Incensed, Cheryl Heppner, Nancy Bloch, and other deaf leaders reminded the Department of Education why it had created a captioning program in the first place, more than forty years earlier.⁷⁷ One of the purposes of the very first captioning law had been to provide enriched educational and cultural experiences through which deaf persons could be brought into “better touch with the realities of their environment”⁷⁸ Noting the many ways in which captioning had succeeded in ending isolation and educating the deaf public, Heppner wrote: “How many of us have increased our understanding of police work by watching captions on *NYPD Blue*, the legal process with *L.A. Law*, *The Practice*, and *Law & Order*, and medicine through *E.R.*? . . . How many teens watching *Lizzie McGuire* or kids watching *Power Rangers* have been better able to understand conversations when their hearing friends talk about these shows?” Several members of Congress and the chairman of the National Council on Disability joined the chorus of opposition in letters sent to Roderick Paige, the Department of Education’s secretary.⁷⁹ Although it remains unclear whether the “no-funding” list was put into use for a brief period of time, the passionate response that it engendered may have prevented it from becoming a permanent fixture in the Department’s grant eligibility guidelines.

A Success Story that Is Far from Over

In 2006 captioning advocates attained a milestone when America became the first country in the world to require all new television programs, with few exceptions, to be closed captioned. But some are concerned that this hard-won civil right may be in danger. Governmental decisions about the suitability of captions for certain shows impinge upon this right and raise issues of censorship directed only to viewers

who cannot hear. In addition, over the past few years, deaf and hard of hearing consumers have increasingly complained of poor captioning quality, including excessive misspellings and omissions. These and other captioning deficiencies, likely caused by the proliferation of captioning agencies that are not held to consistent standards, have seriously impeded full access to television. When, back in 1998, the FCC first declined to issue standards on caption quality, it promised to reconsider this ruling if future needs so warranted.⁸⁰ In July 2004, Claude Stout, executive director of TDI, orchestrated the filing of an FCC petition by several deaf and hard of hearing consumer groups to make good on this promise and to convince the FCC to step up its enforcement of existing captioning rules.⁸¹ On July 21, 2005, the Commission released this petition for public comment, and at the time this book goes to print, is carefully considering ways to significantly improve captioning access.⁸²

Notes

1. "Closed Captioned Programming Currently Available," fact sheet, The Caption Center, June 1993.

2. S. Res. 13, requiring closed captions on televised Senate floor proceedings, had been introduced by Senator Bob Dole (R-Kans.) in the 101st Congress and passed on June 21, 1989. The Senate approved the \$1 million appropriation to fund these captions on September 7, 1989.

3. P.L. 102-393, Title V §534(a) (1992), codified at 26 U.S.C. 9003(e).

4. P.L. 102-384, codified at 47 U.S.C. §§534(b)(3), 535(g)(1); 47 C.F.R. §§ 76.62(e) and (f); §76.606.

5. H.R. 1504, the Communications Competitiveness and Infrastructure Modernization Act of 1993, was one of the earliest of these bills.

6. Video description was the brainchild of Margaret and Cody Pfanstiehl. Statutory provisions giving the FCC authority to issue rules on video description were watered down during the final stages of the telecommunications reform legislation. Although the FCC tried to use authority contained elsewhere in the Communications Act to release these rules in July of 2000, *Video Description of Video Programming*, Report and Order, MM Dkt. 99-339, FCC 00-258, 15 FCC Rcd 15230, amended in part at Memorandum Opinion and Order on Reconsideration, FCC 01-7, 16 FCC Rcd 1251 (2001), on November 8, 2002, these were struck down by the U.S. Court of Appeals for the D.C. Circuit in response to a challenge by the television industry. To this day, there are no federal requirements for video description; however a few television providers who began adding descriptions to shows when the rules first went into effect have voluntarily continued to provide this form of programming access.

7. See chapter 15 on Section 255 for a more thorough overview of the relationship between the disability groups and the regional bell telephone companies regarding this and other legislative proposals.

8. The first of these attempts was made at a December 9, 1993, meeting attended by Harvey Goodstein, Mark Goldfarb, Sy DuBow, the author, and representatives of the blind community. Ron Stowe of Pacific Telesis served as the principal representative for the regional telephone companies on this matter, and the negotiations were facilitated by Pam Ransom.

9. Paul Schroeder of the ACB was also present to press for the video description mandate.

10. Statement of Paul Schroeder, ACB, Hearings on H.R. 3636 and H.R. 3626 before the Subcommittee on Telecommunications and Finance of the House Committee on Energy and Commerce, 103rd Cong., 2d Sess. (February 8, 1994).

11. This appeal was orchestrated by NAD Executive Director Nancy Bloch and the author. See State Association Presidents of the Deaf, letter to Congressmen Markey and Fields, February 18, 1994.

12. See, for example, Kimberly Olsen Dorgan, NCI separate memoranda to Gerry Waldron, Kristan Van Hook, Cathy Reid, legislative aides, all sent February 21, 1994.

13. Karen Peltz Strauss, NCLD, memorandum to Gerry Waldron and Colin Crowell, House legislative aides, February 21, 1994.
14. Karen Peltz Strauss, NCLD, memoranda to Michael Regan, Gerry Waldron, Colin Crowell, Kristan Van Hook, and Karen Colannino, legislative aides, February 22, 1994.
15. Patrick D. Maines, president, the Media Institute, letter to Congressman Carlos J. Moorhead, March 11, 1994.
16. Congressman Bill Richardson, letter to the author, March 10, 1994.
17. Karen Peltz Strauss, NCLD, letter to Congressman Moorhead, March 15, 1994.
18. Robert S. Peck, legislative counsel, ACLU, letter to Congressman Richardson, March 15, 1994. Peck charged that mandates for video description directly violated the First Amendment's right for speakers to choose their own method of speaking. He remained somewhat undecided about the constitutionality of the captioning mandates.
19. See Jeff Hutchins, VITAC, memorandum on "Response to Industry Draft for H.R. 3636 Language on Requirement for Closed Captioning" to Sy DuBow, NCLD, March 15, 1994.
20. See Sy DuBow and Karen Peltz Strauss (both of NCLD), memorandum on suggested report language to Kristan Van Hook and Gerry Waldron, House legislative aides, March 25, 1994. The memo was prepared with input from Cheryl Heppner, Brenda Battat, Al Sonnenstrahl, Harvey Goodstein, Toby Silver, Mark Goldfarb, Judy Harkins, Larry Goldberg, and Jeff Hutchins. Although two years later, the House did direct the FCC to conduct an inquiry on captioning that included an examination of relative audience shares and television viewing markets served by captions, as noted below, consumers were able to successfully defeated a captioning exemption based on audience share. See 47 U.S.C. §713(a); Conf. Rep. No. 458, 104th Cong., 2nd Sess. 182 (January 31, 1996).
21. See generally H. Rep. No. 560, 103rd Cong., 2nd Sess. 92–94 (June 24, 1994).
22. S. 1822, 103rd Cong., 2d Sess. (introduced by Senator Ernest Hollings [D-S.D.] on February 3, 1994).
23. Senator John Kerry (D-Mass.), letter from to Heidi Reed, executive director, DEAF, Allston, Massachusetts, April 12, 1994.
24. See Karen Peltz Strauss, NCLD, memorandum to Frank Bowe, May 11, 1994.
25. Statement of Mark Goldfarb, Gallaudet University, Hearings on S. 1822 before the Senate Committee on Commerce, Science and Transportation, 103rd Cong., 2d Sess. (May 24, 1994). Hereinafter S. 1822 Hearings.
26. See, for example, separate Statements of Paul Schroeder, CCD Task Force on Telecommunication/Communication Accessibility and Margaret Pfanstiehl, founder and president, Metropolitan Washington Ear, S. 1822 Hearings.
27. See, for example, separate Statements of Tony Pharr of the United Church of Christ Office of Communication and Susan Hadden of the Alliance for Public Technology, S. 1822 Hearings.
28. Angela Campbell, associate professor, Georgetown University Law Center and Steven Shiffrin, professor, Cornell University, letter to Senator Ernest Hollings (D-S.C.), June 8, 1994.
29. 42 U.S.C. §§ 12182(b)(2)(A)(iv); 42 U.S.C. 12181(9).
30. Karen Peltz Strauss, NCLD, facsimili to Alex Vachon, Office of Senator Dole, March 28, 1995.
31. Karen Peltz Strauss, NCLD, separate facsimili to Mike Regan and Colin Crowell, House legislative aides, May 2, 1995.
32. See Paul Siegel, memorandum containing "Binding Resolution on Closed Captioning of Broadcast and Cable Television Programming" to Biennial Delegates, ACLU, June 5, 1995.
33. See H. Rep. No. 204, Part 1, 104th Cong., 1st Sess. 113–15 (July 24, 1995), reporting on H.R. 1555. The vote was 305 to 117 in favor of the legislation.
34. Telecommunications Act of 1996, P.L. 104-104, 110 Stat. 56 (1996). The captioning provisions were codified at 47 U.S.C. §713.
35. *Closed Captioning and Video Description of Video Programming*, Notice of Inquiry, MM Dkt. 95-176, FCC 95-484, 11 FCC Rcd 4912 (1996) (December 4, 1995).
36. World Institute on Disability, "Info Superhighway Must be Open to All, Start in Class-

rooms, Says FCC Chief Hundt,” *Open Line* (January/February 1996): 1–2; Chris McConnell, “FCC Launches Closed-Captioning Rulemaking,” *Broadcasting and Cable*, December 11, 1995: 22.

37. See, for example, Comments of the NAD in MM Dkt. 95-176 (March 15, 1996); Tara Mack, “Activists Make Noise Over Captioning,” *Washington Post*, August 23, 1996, D1.

38. *Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996*, Report, MM Dkt. 95-176, FCC 96-118, 11 FCC Rcd 19214 (July 29, 1996). Just before the report was released, we got the good news that Larry Irving, administrator of NTIA and one of the president’s principal advisors on telecommunications issues, had sent a letter to Hundt urging him to do whatever he could to make television programming more accessible. Irving asked the FCC to carefully scrutinize any requests for exemptions and create stiff penalties for noncompliance with the captioning mandates.

39. *Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996*, Notice of Proposed Rulemaking, MM Dkt. 95-176, FCC 97-4, 12 FCC Rcd 1044 (January 17, 1997). Hereinafter cited as Captioning NPRM 1997.

40. Cable and broadcast networks alike continued to complain of the expenditures needed to caption their huge inventories of old movies and reruns. See Ted Hearn, “Cable’s Fears Growing Over Closed—Captioning,” *Multichannel News*, May 26, 1997, 3; see also Ted Hearn, “NCTA Fears Captioning Costs,” *Multichannel News*, March 25, 1996; Chris McConnell, “FCC Asked to go Easy on Captioning,” *Broadcasting and Cable*, March 25, 1996: 22.

41. Comments of RIAA in MM Dkt. 95-176 (February 28, 1997), 3.

42. Comments of Ameritech in MM Dkt. 95-176 (February 28, 1997), 19.

43. Comments of the NAD in MM Dkt. 95-176 (February 28, 1997), 22–27.

44. This and other matters were discussed in visits to FCC Commissioners Chong, Quello, Ness, and Hundt by Bloch, Bravin, Silver, and the author on July 21, 1997.

45. *Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996*, Report and Order, MM Dkt. 95-176, FCC 97-279, 13 FCC Rcd 3272 (August 22, 1997). Hereinafter cited as Captioning R&O 1997.

46. For example, one law requires cable operators to carry advertisements along with the rest of a broadcaster’s program schedule. 47 U.S.C. §614(b)(3)(B).

47. Captioning NPRM 1997, ¶80.

48. *Ibid.*, ¶121.

49. NAD and CAN, “Request for Reconsideration of the Captioning Mandates” (October 15, 1997). I prepared this petition with the assistance of Nancy Bloch, Harvey Goodstein, Toby Silver, Al Sonnenstrahl, Ben Soukup, Phil Bravin, and IPR attorneys. Brenda Battat filed a similar petition for SHHH. The petition noted that the FCC already had rules requiring broadcasters to file reports on the quantity of their children’s programming and that advocates wanted the same for captioning. See Policies and Rules Concerning Children’s Television Programming, Revision of Programming Policies for Television Broadcast Stations, 47 C.F.R. §73.3526(e)(11)(iii).

50. Industry petitions were filed by the Association of America’s Public Television Stations (APTS), the Association of Local Television Stations, Encore, Outdoor Life, and the Game Show Network, among others.

51. *Closed Captioning and Video Description of Video Programming, Implementation of Section 305 of the Telecommunications Act of 1996*, Order on Reconsideration, MM Dkt. 95-176, FCC 98-236, 13 FCC Rcd 19973 (October 2, 1998), codified at 47 C.F.R. §79.1 et. seq. Hereinafter cited as Captioning Order on Reconsideration 1998. Meryl Icové, Pam Gregory, Susan Fox, and Marcia Glauberman joined various other individuals at the FCC in taking on the Herculean task of resolving the captioning issues.

52. Advisory Committee on Public Interest Obligations of Digital Television Broadcasters, *Charting the Digital Broadcasting Future: Final Report of the Advisory Committee on Public Interest Obligations of Digital Television Broadcasters* (December 18, 1998), 1. Hereinafter cited as Gore Report.

53. 47 U.S.C. §336(d).

54. Executive Order 13038 (March 11, 1997).

55. Disability issues received particularly strong backing from Newton Minow, former FCC

chairman, Peggy Charren, founder of Action for Children's Television, Gigi Sohn, executive director of the Media Access Project, Cass Sunstein, University of Chicago constitutional law expert, and Charles Benton, chairman and CEO of the Benton Foundation and Public Media, Inc. In addition, broadcasters Leslie Moonves, president and CEO of CBS Television, James Goodman, president and CEO of Capitol Broadcasting Company, and Paul La Camera, president and general manager of Boston television station WCVB, were broadcasters who helped push along the disability agenda.

56. Gore Report; See also NAD, "Gore Commission Releases Report on the Public Interest Obligations of Digital Television Broadcasters: Disability Access Recommended," press release, December 23, 1998.

57. Gore Report, 61. The report also contained recommendations for expanding access to video description.

58. The Honorable Al Gore, letter to FCC Chairman William E. Kennard, October 20, 1999. The FCC did initiate a general inquiry into these recommendations, *Public Interest Obligations of TV Broadcast Licensees*, Notice of Inquiry, MM Dkt. 99-360, FCC 99-390, 14 FCC Rcd 21633 (December 20, 1999) and on October 16, 2000, held an en banc hearing on this issue. Although the FCC has never formally completed rules on all of the Gore Commission's proposals, in 2004, it did issue rules for digital children's programming and as discussed in the text, created standards for digital captioning. In addition, the FCC has been working on new digital broadcast reporting obligations.

59. Electronics Industries Alliance, EIA-708-A, "Digital Television Closed Captioning" (November 23, 1998).

60. In July 1998, the NAD along with PBS, APTS and the CPB, had also weighed in on an FCC proceeding concerning the carriage of captions along with digital broadcast signals by cable operators. *Carriage of the Transmissions of Digital Television Broadcast Stations, Amendments to Part 76 of the Commission's Rules*, Notice of Proposed Rulemaking, CS Dkt. 98-120, FCC 98-153, 13 FCC Rcd 15092 (July 10, 1998). Comments of the NAD in CS Dkt. 98-120 (October 13, 1998); Joint Comments of APTS, PBS, and CPB in CS Dkt. 98-120 (October 13, 1998).

61. *Closed Captioning Requirements for Digital Television Receivers*, Notice of Proposed Rulemaking, ET Dkt 99-254, FCC 99-180, 14 FCC Rcd 16697 (July 15, 1999). Hereinafter cited as Digital Captioning NPRM 1999.

62. Digital Captioning NPRM 1999, ¶6.

63. See, for example, separately filed Comments of the NAB, NCTA, and the Consumer Electronics Manufacturers Association in ET Dkt. 99-254 (all filed on October 18, 1999).

64. Comments of the NAB in ET Dkt. 99-254 (October 18, 1999).

65. *Closed Captioning Requirements for Digital Television Receivers*, Report and Order, ET Dkt. 99-254, MM Dkt. 95-176, FCC 00-259, 15 FCC Rcd 16788 (July 31, 2000,), incorporating by reference, EIA-708-B, "Digital Television Closed Captioning" (December 1999), codified at 47 C.F.R. §15.122. Hereinafter cited as DTV Captioning Order 2000. The rules went into effect on July 1, 2002. FCC employees Dale Hatfield, Meryl Icove, and Neil McNeal were instrumental in producing the final, revised product. In 2004, the FCC updated these standards to ensure their consistent and effective delivery. *Second Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Report and Order, MB Dkt. 03-15, FCC 04-192, 19 FCC Rcd 18279 (September 7, 2004).

66. See DTV Captioning Order 2000, ¶14, citing WGBH's assertions that the new mandates would not significantly impact costs for DTV devices and Toshiba's estimates that the per unit mass production cost would be under a few dollars per DTV.

67. *Ibid.*, ¶10, citing Reply Comments from Pam Holmes. For example, children would be able to benefit from a second caption stream dedicated to simplified captions that were easier for them to understand.

68. *Ibid.*, ¶47.

69. Zenith Electronics Corporation, "Zenith Launches HDTVs with Digital Closed Captioning Capability, Demonstrates New Technology with WGBH at Deaf Way II," news release, July 9, 2002.

70. This restriction was added in Section 687(c)(2) of the IDEA Amendments of 1987, P.L. 105-17 (1977).

71. Steven Drummond, "Captions Open Window on Culture, Learning" *Education Week on the Web*, February 25, 1998, <http://www.edweek.com/ew/vol-17/24captn.h17>.

72. Senators Joseph Lieberman and Dan Coats, letter to Secretary Richard Riley, March 3, 1998.

73. *Ibid.*; see also See also John Carmody, "'Jerry Springer in Closed Captions?' That's Not What These Senators Want to Pay For," *Washington Post*, March 4, 1998, D5; Dan Trigoboff, "Senators Fight 'Springer' Captions," *Broadcasting and Cable*, March 9, 1998: 14.

74. Kelby Brick, electronic action alert, "IT IS NOT TOO LATE! . . . TELL CONGRESS HOW IMPORTANT CAPTIONING IS TO YOU, March 1998. In response to the letters triggered by this action alert, Lieberman reaffirmed his general commitment to the captioning program, but continued to insist that the federal government pull its captioning funding. The program, he said, "shamelessly promotes violence, revels in the degradation of its guests, and violates many of our most basic common values," and was therefore not deserving of the limited funding available under the Department of Education's captioning program. Senator Joseph Lieberman, letter to Nancy Bloch, executive director, NAD, March 17, 1998.

75. Secretary Richard Riley, letter to Senator Lieberman, March 30, 1998.

76. "FCC and U.S. Dept. of Education Reassures the Public on Closed Captioning Plans Effective October 1, 2001," e-note mailing to TDI-L listserv, February 20, 2001.

77. Cheryl Heppner, executive director, Northern Virginia Resource Center for Deaf and Hard of Hearing Persons (NVRC), "Action Alert: Your Family's Favorite Shows May Lose Captioning," NVRC News—e-mail alert (October 1, 2003). See also NAD, "Television Captioning Censorship Hurts Family Values," news release, October 2, 2003; Charlie Crawford, ACB, letter to Dr. Louis C. Danielson, Office of Special Education Programs, Department of Education, September 26, 2003 (protesting the Department's failure to request input from the community prior to adopting the new policies). Other signatories to the ACB letter were the Association for Education and Rehabilitation of the Blind and Visually Impaired, the American Foundation for the Blind (AFB), TDI and the Washington Ear. Blind groups would be even more severely affected by the agency's new restrictive funding policy because it limited programs eligible for video description funding. Although the 1996 Telecommunications Act's mandates would ultimately require captioning on nearly all programming (regardless of available federal funding for those shows), there were no parallel mandates requiring video description of the now prohibited programs.

78. P.L. 85-905 §2 (1958) (second objective listed).

79. NCD Chairman Lex Frieden, letter to Roderick R. Paige, December 15, 2003, urging him not to prevent the nation's "28 million deaf and hard of hearing people from accessing programming that is available to the general public." Representatives Jan Schakowsky (D. Ill.), Jim McDermott (D. Wash.), Maurice Hinchey (D. N.Y.), Sherrod Brown (D. Ohio), Lynn Woolsey (D. Calif.), Juanita Millender-McDonald (D.-Calif.), Jerry F. Costello (D. Ill.), Maxine Waters (D. Calif.), Sephanie Tubbs Jones (D. Ohio), letter to Roderick Paige (May 11, 2004).

80. Captioning R&O 1997, ¶222; Captioning Order on Reconsideration 1998, ¶40.

81. TDI et al., Petition for Rulemaking, RM-11065 (July 23, 2004). CAN, NAD, SHHH, and ALDA joined TDI in the petition.

82. *Closed Captioning of Video Programming, Telecommunications for the Deaf, Inc.—Petition for Rulemaking*, Notice of Proposed Rulemaking, CG Dkt. 05-231, FCC 05-142, 20 FCC Rcd 13211 (July 21, 2005).

12

Hearing Aid Compatibility: A Compatible World Becomes Undone

We appeal to you, Mr. Chairman and members of the committee: Reach out, reach and touch someone, someone who will remain phone deaf unless you touch him with your vote. The right to hear and be heard is inherent in humankind. . . . We appeal to you to restore that usurped right to hearing-impaired people, and to the millions of nonimpaired people with whom they should be able to communicate by telephone.

—David Saks, director,
Organization for Use of the Telephone, Inc.

SOME MAY say that it is even worse to lose access once enjoyed than never to have had it at all. It was perhaps for this reason that a small band of crusaders, most of whom were senior citizens, fought with the tenacity that they did—for more than two decades—to reclaim the telephone access that had been snatched away from them.

During the first part of the twentieth century, people with hearing aids used “acoustic coupling” to hear over the telephone. A hearing aid’s microphones would pick up sounds from the phone’s receiver, which would then be amplified for the phone’s user. Unfortunately, this mode of coupling often failed to secure a tight seal between the hearing aid and the phone, causing distracting background noise to seep in and make it difficult for the user to hear. Acoustic coupling also could create annoying feedback when sound from the hearing aid output reflected off the handset, and was re-amplified by the hearing aid’s microphone.¹

After World War II, certain hearing aids made in America began to be equipped with a small, coiled wire called a telecoil, or “T-coil,” that was able to “inductively couple” with AT&T standard or general purpose telephones, then being used by approximately 80 percent of all Americans.* When activated by means of a switch

Epigraph. Statement of David Saks, Hearings on H.R. 5022 before the Subcommittee on Communications of the House Committee on Interstate and Foreign Commerce, 96th Cong., 2d. Sess. 62 (March 27, 1980).

*The remaining 20 percent of the country—mostly rural and suburban communities—were served by small independent telephone companies that obtained their telephones from suppliers other than AT&T.

on the hearing aids, the telecoil would enable individuals to receive sound through a magnetic field emitted by a “U-type” receiver used in these telephones; the user could then turn off the hearing aid’s microphone to eliminate the background noise or feedback associated with acoustic coupling.² Although technically, AT&T’s policy disallowed such inductive coupling as an impermissible attachment to its telephone system, the company did not actively enforce this restriction against hearing aid users, and this policy was later invalidated by the FCC.³ As a result, many people with moderate to severe hearing loss became increasingly dependent on telephones with that could inductively couple with their hearing aids to meet their communication needs.

Around the 1960s, AT&T decided to redesign its standard telephone handset because it disliked the phone’s heavy reliance on expensive cobalt, chrome, and nickel materials, and its vulnerability to vandalism when used at payphones. The company created a new “L-type” handset receiver, one that was cheaper, more rugged, and therefore more able to resist abuse at payphones.* The revised configuration also enabled AT&T to launch a new compact phone, the Trimline telephone. Unfortunately, the new design did *not* generate a magnetic field strong enough to couple effectively with hearing aid T-coils. AT&T paid little attention to this fact, however, because the magnetic field released by AT&T’s telephone had never been a deliberate design feature of those phones, and because inductive coupling was still not permitted under its tariff.

In 1966, AT&T approached hearing aid manufacturers to explain the change in its handsets, and to seek exploration of other ways to achieve hearing aid compatibility with its telephones.⁴ At the time, however, approximately half the hearing aids in America already contained the inductive pickup coil, and the hearing aid industry would not retreat from its stance that inductive coupling provided the best means of achieving telephone access.⁵

By the early 1970s, AT&T’s increased reliance on its L-type receivers began to have a devastating effect for many hearing aid users, who suddenly found locating hearing aid—compatible (HAC) phones to be a challenge. David and Reba Saks, senior citizens living near Baltimore, Maryland, were among the many individuals who discovered that certain public phones no longer worked with their T-coil-equipped hearing aids. They anxiously contacted AT&T to protest the company’s actions, but quickly learned that the company had no intention of reverting to its original handset configuration. In response, the graying activists founded the Organization for the Use of the Telephone, Inc. (OUT) in 1973, hoping that the strength of an organized effort would make AT&T pay greater attention to their concerns.[†]

Many of the phones made by these other manufacturers were unable to couple with hearing aid T-coils. In Europe, inductive coupling was also used to enhance sound quality for hearing aid wearers in classrooms, lecture halls, churches, and other large areas. Wire loops, temporarily or permanently installed in the floors and walls of these facilities, used electromagnetic fields to carry audio signals directly from the source of the sound to an individual’s hearing aids.

* According to Peter Bennett, formerly of EIA, AT&T wanted to reduce “out-of-service” reports that would occur when irate “I lost my dime” customers banged the handset of the coin telephone against the telephone’s armored coin vault.

† In one of OUT’s first publications, “All Telephones Must Work With All Hearing Aids—Everywhere,” Reba Saks tried to convey the stress of spending the month of June 1973 in Durham, North Carolina,

Seventeen very indignant individuals attended OUT's first meeting. David Saks, the group's ringleader, later described the organization's daring decision to seek an immediate face-to-face meeting with the president of AT&T:

We were an uncommonly compatible group of strangers. That first decision to immediately approach the company's top executive was indicative of our activist attitude and set the tone for the years of struggle that lay ahead. Our slogan: *All Telephones Must Work With All Hearing Aids Everywhere* indicated the comprehensive nature of the goal that we sought.⁶

Although the meeting that Saks and his crew eventually got with high level AT&T executives ("a crafty crew of vice presidents" Saks called them) initially elicited flat-out refusals to alter the company's course, the following year, AT&T did agree to restore the magnetic emissions on its public payphones and to even provide compatible handsets upon request. While reports differ as to what prompted this reversal in position, some say it was pressure on AT&T, GTE, and other companies to reinstate the HAC phones from the White House's Special Assistant for Consumer Affairs Virginia Knauer.⁷

AT&T's decision to restore some of the access that had been taken away may have also been influenced by a new technology that was developed around 1974. Telephone engineers had succeeded in designing an auxiliary coil that was able to produce a magnetic field strong enough to couple with hearing aid telecoils, but was also small enough to include in the lighter, L-type telephone receivers. In 1975, AT&T began to install these modern "LC-type" handsets on its new payphones, and to retrofit its older models. Consumers would be able to identify a HAC handset by looking for the phone's "blue grommet," a blue rubber ring attached where the telephone cord met the handset. In 1976, GTE, whose phones previously had never been compatible, followed suit with a three-year plan to add inductive coupling to all of its coin phones and to make other telephones compatible upon request.

In the mid-1970s, AT&T also developed a portable telephone adapter, the 100A coupler, which, when strapped onto the receiver of a phone's handset, converted the acoustic signals emanating from the phone into magnetic signals that permitted inductive coupling.⁸ But consumers severely criticized the device as cumbersome and difficult to use. Because the adapter could not remain attached to a wireline telephone when the phone was hung up, its user needed to create a perfect seal each time it was attached; this required significant physical dexterity and was quite difficult for senior citizens, people with mobility impairments, and children.* Consumers were also concerned about the stigma associated with using the device; Saks alleged that salespeople and working professionals who regularly interacted with customers and clients would find it "embarrassing and demeaning" to have to attach an awkward

without a compatible phone: "It is not easy to put into words what happened to me. I couldn't reach my husband at the hospital. He couldn't reach me at the motel. I couldn't talk to my family in Baltimore. I was in fear of an emergency. I felt completely isolated from the world. I was in an environment that kept me in a constant state of anxiety."

* The elastic band that held the device onto the telephone was particularly difficult to maneuver for people with arthritis or little hand strength. According to Dan Bart of TIA, the adapter was frequently referred to as "the hockey puck" because it looked like a puck with a large rubber band.

device simply to receive a telephone call.⁹ Finally, the price of the adapter, plus the cost of a spare and batteries, placed added burdens on hearing aid wearers.*

Despite industry's various concessions, OUT remained dissatisfied. The disability activists insisted that only the universal compatibility of *all* telephones manufactured and sold anywhere in the United States could provide hearing aid users with the equal access they needed in "employment, social activity, education, business and professional practices—every phase of daily living."¹⁰ Absent a firm industry commitment to full compatibility, they feared that future telephones would continue to eliminate access provided in the past, and that hearing aid manufacturers would not be able to keep up with future electronic telephones that were "radically different from the instruments" to which society had grown accustomed.¹¹

In 1977, OUT organized a spirited effort to mobilize hearing aid users across America in the fight for universal telephone access. The group widely distributed a "Guide to Action," proclaiming:

We must stand firm that ALL TELEPHONES MUST WORK WITH ALL HEARING AIDS—EVERYWHERE . . . and EVERY HEARING-IMPAIRED PERSON MUST BE AN ADVOCATE FOR ALL HEARING-IMPAIRED PEOPLE EVERYWHERE."¹²

The guide asked potential advocates to enlist the aid of the media, regulatory agencies, professional and service groups, and unions in prevailing upon the nation's hundreds of telephone companies to provide telephone access. Along with these national efforts, OUT met with local regulators to persuade them to install HAC-only telephones in their governmental offices. But while Saks's home state of Maryland agreed to purchase compatible phones for some of its facilities, overall this approach achieved only occasional successes that were not very helpful in contributing toward the group's goal of universal access.¹³

In 1977, OUT also arranged for NCLD to include a request for hearing aid compatibility in a major FCC petition that the law center was putting together on telecommunications access.¹⁴ But when the FCC opened a formal proceeding on the petition (Docket 78-50) and invited public comment, AT&T came out in strong opposition to any rules that would mandate inductive coupling, insisting that they would freeze the design of telephone handsets to 1950s technologies: "the door should be left open for the utilization of new technology, which at some future date may offer attractive features or economic advantages that cannot be ignored."¹⁵ This angered OUT's crusaders, who queried whether AT&T's "strange progress" could truly bring about advances if this progress was depriving so many consumers of telephone service.¹⁶ AT&T's response was a mere promise to have its researchers investigate other types of telephone coupling. At the same time, the company insisted that the hearing aid industry bore an equal responsibility to achieve compatibility between its devices and modern telephone technologies.

* Although the adapter was initially sold on a nonprofit basis for as little as \$7.50, over time its cost rose considerably, and in the years to come, consumers would have to pay between \$30 and \$47 to purchase one of these devices.

Legislative Efforts for Universal Compatibility

Over the next several years, the FCC's proceeding on telecommunications access sat untouched. But neither industry's staunch opposition to a HAC mandate nor the Commission's foot-dragging proved enough to break the resilience of Saks and his band of activists. Convinced that the FCC was violating its universal service obligation to make telephone service available to all Americans, OUt's advocates decided to take their cause to Congress.¹⁷ In 1980, Saks convinced his congressman, Clarence Long (D-Md.), to introduce federal legislation that would prohibit the production of non-HAC telephone handsets. Co-sponsored by Representatives Edward Markey (D-Mass.) and Robert Matsui (D-Calif.), H.R. 5022 would make it unlawful to manufacture, import, or install, offer for sale, or lease any telephone not designed to be compatible with hearing aids via inductive coupling.¹⁸ Violations would be punishable by fines up to \$5,000 for an initial offense, and up to \$10,000 for second or subsequent offenses. Long pointed out that the bill would not only benefit millions of Americans with hearing loss; it would also benefit people who wished to communicate with those people.

The House Subcommittee on Communications held hearings on the proposed HAC legislation on March 27, 1980. Readily acknowledging the need for regulatory intervention to correct the market failures that had occurred, the subcommittee's chairman, Representative Lionel Van Deerlin (D-Calif.), posed a question that set the stage for the day's events: "As we move forward in adopting new computer and telecommunications technologies, will we make an effort to see that those new technologies and services make our society more open, more inclusive, or we will design the electronic equivalent of a building without wheelchair ramps?"¹⁹

In fact, hearings on H.R. 5022 provided one of the first national forums for individuals with hearing loss to publicly share the harsh consequences of telephone barriers. One woman testified that after bringing her daughter to college in Florida in a raging hurricane, she discovered that the lack of a compatible phone at her motel prevented her from calling family back at home. In order to let relatives know that she had arrived safely, she ventured out in the torrential rains, traveling more than two miles before she could find an accessible handset.²⁰ Others came forward with their own tales of isolation and fear, with one witness calling his constant efforts to guess the location of a compatible telephone "roulette with a telephone."²¹ The potential dangers were underscored by Sarah Geer, an NCLD attorney, who pointed out the urgent need for communication in the event of sudden illness or unexpected travel changes.²² The National Retired Teachers Association (NRTA) and AARP also emphasized the critical need for telephone access by older Americans to prevent social isolation, and to be able to receive support services, such as home delivered meals and help in an emergency.²³

AT&T however, remained vigorously opposed to the proposed legislation, citing the more than 90 percent of its coin phones that were already HAC.* According to AT&T's witness, John L. Clendenin, future technologies were moving toward "low-

* By the end of 1980, 90 percent of all GTE coin phones were also HAC, with the company promising to convert all phones by 1982.

power, lightwave, and digital systems,” and a requirement for inductive coupling on all phones would stifle research and development on what promised to be smaller and less expensive phones that featured improved voice quality reception.²⁴ The company argued that it would be unfair to impose a “unilateral requirement on telephones that might really have little effect on improving overall hearing aid coupling performance” without creating a parallel obligation on hearing aid manufacturers.²⁵ In any event, Clendenin said, AT&T was committed to providing telephones with built-in magnetic coupling for people who requested them. This was not enough, however, for Congressman Matsui, who challenged the adequacy of AT&T’s efforts to alert consumers and businesses about the availability of HAC devices. Noting his own slight hearing loss, Matsui asserted that he himself never would have thought to ask about the existence of an accessible telephone. Before the congressman was through, he had Clendenin admitting that AT&T could be more “up front” in notifying the public about its offer to convert phones.²⁶

AT&T’s claims regarding the future of telecommunications were buttressed by the witness for the Electronic Industries Association (EIA), Otto J. Gusella, who predicted that inductive telecoil coupling would be phased out entirely over the next twenty years. Gusella said not to worry, however, because hearing aid industry research taking place in Canada offered “promising results” with acoustic cancellation techniques that prevented howling from in-the-ear hearing aids. He urged continued sponsorship of such research, rather than legislation, as the best approach to providing telephone access to hearing aid users.²⁷

Saks implored the subcommittee to stop putting consumers in the middle of the telephone and hearing aid industries’ battles; each had consistently attempted to shift responsibility to the other.²⁸ Though he applauded the progress made by AT&T, GTE, and other companies, he also insisted that only federal regulation could prevent regressive design changes from denying access in the future. With some crafty arithmetic, Saks then fashioned his famous “one-cent solution,” a mathematical equation designed to prove that universal HAC access would cost only one penny per telephone per year!*

Although H.R. 5022 never was enacted, it successfully drew attention to the hearing aid compatibility issue both on Capitol Hill and within the telephone industry. After the hearings, the North American Telephone Association (NATA) invited OUT to make a presentation on HAC at its 1981 NATA convention. Unfortunately, Saks later described attendance at this event to be a spectacular disappointment:

NATA provided our seminar panel with a beautiful room, more-than-adequate amenities, generous print and display publicity, and we had a pool of several thousand attendees from which to draw our audience. We attracted exactly *three* representatives . . . who listened courteously to the information offered by our *six* panelists.”²⁹

* Saks would consistently rely on his one-cent solution in the years to come. His arithmetic went like this: if twenty million handsets were manufactured each year, and if, as the industry alleged, 80 percent of these were already HAC, then only four million telephones would need to be made compatible on an annual basis. Assuming that the cost of incorporating inductive coupling in each telephone was only \$.50, the annual cost to the entire telephone industry of providing compatibility would be \$2 million annually. Dividing this cost among the 170 million telephone users in the United States would cost \$0.0188 or one penny per year per telephone!

Although Saks lamented that his “hopes for voluntary accommodation to the needs of hearing-impaired subscribers were shattered,” poor attendance at one conference was hardly enough to sway his determination. Armed with his new slogan, “Telephones for Hearing-Impaired People—The One-Penny Bargain,” in June of 1981, the maverick convinced Representative Long to introduce another HAC bill, H.R. 375, to end discrimination against hearing aid users.³⁰ However, this bill, too, died in Congress.

In September 1981, FCC Chairman Fowler announced the Commission’s intention to resolve the issues in Docket 78-50 within the year. But with nearly four years having already passed with little or no FCC action on this proceeding, there was reason to be skeptical about the FCC holding true to its promise. On January 10, 1982, Saks continued his crusade with an open letter from OUT to the telephone industry, focusing his attacks on industry’s increased reliance on the telephone adapter as a permanent HAC solution: “We are not struggling for the right to carry around another electronic device. We’re struggling for the right to use—and pay for the use of—your products and services.”³¹ An exasperated Saks also complained that few consumers had enough information to know how or where to request a handset with magnetic emissions because industry personnel did a poor job of responding to consumers who could not successfully articulate their needs.* With manufacturers stepping up their production of phones without inductive coupling, and private businesses, including hotel chains, health-care facilities, and government agencies increasing their purchases of these less expensive devices, Saks again went back to Congress, this time convincing Senator Charles Mathias (D-Md.) to introduce another HAC bill, S. 604, on March 3, 1982.³²

Peter Bennett was an EIA engineer who had been working on telephone design since 1955. When he saw that the newest HAC bill would again prohibit incompatible telephones at the risk of steep financial penalties, he assumed that the bill would suffer the same fate as its predecessors. Earlier HAC bills had been defeated partly because there were no industry specifications defining a magnetic field strength in telephones. Without these standards, anyone could wrap a few wires around an inexpensive transistor radio, call it a hearing aid, and require its compatibility with all telephones. In the past, industry had been successful in convincing Congress that in the absence of compatibility standards, it would be unfair to outlaw the manufacture of non-HAC telephones and to impose stiff penalties for noncompliance.³³

Convinced that the continued absence of HAC specifications would kill Mathias’s bill as well, Bennett arranged a meeting with staff of the Senate Subcommittee on Communications to persuade them of the absurdity of the bill’s provisions. Although he left the meeting confident that he and his colleagues had secured the bill’s demise, only a few days passed before he received a call from Peyton Wynns, a legislative aide, asking him what EIA wanted in the new legislation. When Bennett assuredly told him “nothing,” Wynns politely informed him that the committee intended to pass a HAC bill, and that if industry did not submit alternative language to the subcommittee

* The Washington Area Group for the Hard of Hearing (WAGHOH), a grassroots organization of mostly senior citizens in the Washington, D.C., metro area, would later testify that most hearing aid users did not understand the mechanics of telephone coupling that enabled them to hear over some phones but not others.

within three days, the Saks bill would become law. One of the individuals who had accompanied Bennett to Capitol Hill had been Dan Bart, a lawyer and engineer for GTE. Realizing there was no turning back, Bennett sought Bart's legal and technical expertise to help draft an alternative proposal. In a matter of hours, Bennett, Bart, and Gusella hammered out a compromise that they believed to be workable, if not completely palatable.

Senators Cannon (D-Nev.), Goldwater (R-Ariz.), and Riegle (D-Mich.) introduced the revised proposals in a substitute bill, S. 2335, on April 1, 1982.³⁴ But advocates were not happy with the revisions. Rather than require universal HAC access, S. 2335 required merely "reasonable" access to telephone service, a term that advocates perceived to be both vague, and in conflict with the Commission's universal service obligation guaranteeing *equal* telephone access to all Americans. Although S. 2335 gave the FCC discretion to require compatibility on telephones "frequently used by the public" or "provided for emergency use," the bill required the inclusion of inductive coupling *only* on coin telephones, something that the industry was already doing. Intense lobbying by Motorola had also succeeded in exempting cellular telephones from the proposed mandates. On May 6, 1982, the Senate subcommittee held joint hearings to compare the merits of S. 2335 with S. 604's proposal for universal compatibility.

Hearing loss occurs across all segments of society. It does not distinguish among rich entrepreneurs, high-ranking government officials, rural farmers, or low-income construction workers. When Senator Barry Goldwater, chairman of the subcommittee, opened the Senate hearings, he announced his own connection with hearing loss: "This is a subject that is quite close to my heart because my wife is hard of hearing and she wears a hearing aid and is able to use the telephone because of the newer type of aid and the fact that they put in an amplifier."³⁵ Some attributed the committee's unprecedented interest in the HAC issue to this family connection.

Nine years had passed since OUT had begun its aggressive campaign to achieve universal compatibility. Saks testified that during this period, industry had created successive "nonsolutions" to the HAC problem, which had effectively sidetracked consumers' appeals for universal access, and unnecessarily complicated what should have been a simple solution to a simple problem.³⁶ OUT witness Edna Lee Schmidt testified that she had not even considered herself disabled until she began working in an area of the country where telephones were incompatible. Unable to hear her own sister over the phone, she had learned of her own grandmother's death from a stranger.

The remaining witnesses were divided in their support for each of the HAC proposals. Various consumer organizations, including the NAD, the American Coalition of Citizens with Disabilities, the Communication Workers of America (CWA), the Disabled American Veterans, NRTA, and WAGHOH, strongly supported the universal access provisions of S. 604. However, hearing aid manufacturers, speaking through the Hearing Industries Association (HIA), declared their support for the less restrictive mandates of S. 2355, noting all of the progress made in the production of compatible payphones, as well as new joint efforts between HIA and the telephone industry to standardize telephone magnetic field strength.³⁷

Most disappointing was the FCC's refusal to support the universal access

alternative. Rejecting the “overbroad” ban of S. 604 in favor of S. 2335’s more flexible approach, the Commission’s witness testified that the widespread modification of telephones would only make sense if there was proof of commensurate benefits for consumers. It was still too early to make this judgment, he said, because more information was needed about the number of consumers who actually used T-coils, as well as the efficacy of telephone adapters. The FCC also shared industry’s concerns that an FCC-prescribed magnetic leakage standard would “inhibit the development of new and more efficient telephone receivers.”³⁸ Worst of all, however, was the FCC’s reluctance to assume jurisdiction of the HAC issue under either bill. Asserting that it only had authority to regulate telephone *services*, the FCC suggested that the Committee “may want to consider the assignment of an administrative role to another federal agency which has more experience in dealing with this type of program.”³⁹

The telephone industry welcomed the Commission’s support for the less restrictive measures of S. 2335 and continued to vehemently oppose any type of governmental intervention that would result in monetary penalties for noncompliance. Companies continued to point to the widespread availability of payphones that had been converted with inductive coils, programs to modify phones upon request, efforts to develop technical HAC standards, and the availability of external adapters as reasons to reject the universal access provisions of S. 604.⁴⁰ In addition, industry disagreed with consumers over how many Americans would actually benefit from a universal HAC law. They insisted that millions of hearing aid wearers could either benefit from acoustic coupling with volume-controlled handsets or, if they only had monaural hearing loss (hearing loss in one ear), use speakerphones, or put the telephone to their hearing ear. While these alternatives could work for some Americans, HAC advocates insisted that only inductive coupling had proven effective for the millions of hearing aid users with moderate to severe hearing loss.

On August 18, 1982, the Senate approved S. 2335, the less restrictive of the two HAC measures. Sorely disappointed with his colleagues’ decision, Senator Mathias complained that the bill offered little hope for rectifying problems associated with telephone access, and only mandated compatibility where it was already being provided. His forceful objection accurately forecast the consumer battles that lay ahead:

The prospect of establishing telephone compatibility through the Federal Communications Commission and through the courts points to years of unnecessary confusion, delay, frustration and expense—both for telephone users and for the industry. Issues of compatibility between telephones and hearing aids have been on the docket before the Federal Communications Commission for several years, but the Commission has been moving at a snail’s pace. The bill before us calls for “reasonable” access to telephones for people with hearing aids. But this issue would not be before the Senate tonight if people could agree on what is reasonable. Universal access is what hearing impaired people want.⁴¹

Despite their temporary defeat, OUT’s activists persevered. This time, they returned to the House and successfully convinced Congressman Timothy E. Wirth (D-Colo.) to introduce yet another HAC substitute, H.R. 7168, on September 22, 1982. H.R. 7168 built upon S. 2335 by replacing the FCC’s discretion to require compatibility on certain phones with a mandate to do so. Specifically, the new bill now directed the compatibility of all “essential telephones,” collectively defined as

telephones that were coin-operated, frequently used by the public, and provided for emergency use. Wirth's interest in the HAC issue, he would later explain, was in response to "four years of inactivity in Docket 78-50," and the overall failure of the FCC to pay sufficient attention to the accessibility needs of people with disabilities.⁴²

Amazingly, Wirth was successful in getting the House to incorporate the expanded text of H.R. 7168 into S. 2335.* While consumers were unable to get the universal compatibility mandates to which they had originally aspired, as an additional compromise, industry agreed to a legislative provision that would require HAC labeling on telephone packaging to assist hearing aid users in finding accessible phones.⁴³ The vastly improved S. 2335 was then sent back to the Senate where it was approved on December 18, 1982, and on January 3, 1983, the Telecommunications for the Disabled Act (TDA) was signed into law.⁴⁴

A New Law for "Reasonable" Access

The TDA proved to be groundbreaking legislation. Although advocates had been unsuccessful in their attempts to get a universal HAC law, for the first time in America's history, the statute acknowledged the enormous costs to society of failing to provide telephone access to people with hearing loss, recognized the failure of the marketplace to ensure disability safeguards, and declared the furnishing of this access a national priority.[†] In order to implement the new HAC mandates, the legislation specifically directed the FCC to delineate the "essential" locations where only HAC phones would be permitted, instructing the Commission not to order any retrofitting of phones, except those that were coin-operated or provided for emergency use.⁴⁵ In December 1983, the FCC defined these locations, and at the same time adopted HAC specifications (jointly developed by EIA and HIA) for the appropriate telephone magnetic field strength needed to achieve internal inductive coupling.⁴⁶ The FCC made clear, however, that Congress had not specified this type of coupling as the *only* means of providing HAC phones, and that these standards did not preclude future revisions needed to reflect technological advances.⁴⁷

Before these rules were even finalized, however, Saks had—yet again—returned to Congress to take another stab at obtaining a universal HAC law. By the time the FCC released its new rules, his new campaign, "Telephones for Hearing Impaired Americans: The Second Step," was in full swing, having been launched in May of 1983, with the introduction of H.R. 210 by Congressman Clarence Long.⁴⁸ Unfortunately H.R. 210 became just the latest in the long string of universal HAC bills that did not become law.

The Labeling Requirement Saga

The federal deregulation of the sale and manufacture of telephone equipment during the early 1980s prompted an explosion of new domestic and foreign telephone

* A last-minute amendment was added by Congressman James Broyhill (R-N.C.) allowing the states to enforce the new HAC mandates. To date, only three states have opted to undertake this enforcement responsibility: Illinois, Massachusetts, and Vermont.

[†] More about the legislative intent and impact of the TDA can be found in chapter 2.

Chart 12.1**Hearing Aid Compatibility FCC Rules—December 1983
“Essential” Wireline Phones
47 C.F.R. §68.112****Coin operated telephones:**

- telephones operated with coins, whether located on public property or in semipublic locations such as drugstores, gas stations, or private clubs

Telephones provided for “emergency use:”

- telephones in isolated locations such as elevators, tunnels, and highways
- telephones in confined settings needed to notify others about life-threatening or emergency situations, including hospital rooms, nursing homes, and other institutional settings. Compatibility not needed if person has alternative way of notifying others about the existence of an emergency—for example, through a bedside button
- telephones installed specifically for the purpose of contacting public authorities about an emergency, including telephones in elevators, police and fire departments, and call boxes that link directly to emergency authorities

Telephones “frequently needed by hearing impaired individuals:”

- telephones for use with credit cards or other pre-arranged credit, third party or reverse billing, if coin-operated HAC telephones are not available nearby
 - telephones at employee’s workstation, if needed for that person to fulfill regular work responsibilities
 - telephones in public buildings and places of business where members of the public are welcome, such as building lobbies, transportation terminals
 - telephones in at least ten percent of the rooms in hotels and motels
 - hospitals, nursing homes, and prisons where person could be confined
-

manufacturers eager to stake their claims to the newly opened telecommunications market. Unfortunately, the telephones produced by many of the new entrants, though less expensive than their predecessors, were also not hearing aid compatible. As a consequence, within a fairly short period of time, it became increasingly difficult for hearing aid users interested in purchasing phones to know which of these were HAC. Often only after a consumer brought home a new device did he or she realize that a particular phone’s magnetic emissions were not strong enough to couple effectively with hearing aids. For this reason, when the FCC issued proposals to implement TDA’s new labeling requirement, consumers urged affixing labels right on the

surface of telephones themselves.* However, strong industry opposition—based on the statute’s reference to “packaging materials”—defeated this proposal.

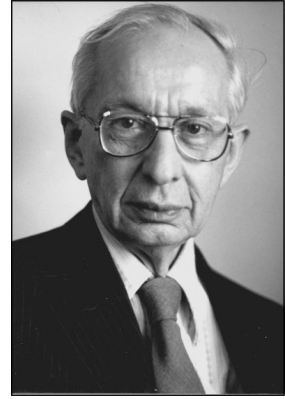
Instead, when the FCC released its rules implementing the TDA in December 1983, it directed manufacturers to include a HAC statement in a conspicuous location on the external packaging of each telephone. Telephones that were not compatible would also have to include notices alerting purchasers of the “essential locations” where installation of these telephones was prohibited. The new labeling rules were set to go into effect for telephone equipment sold after June 1, 1984.

Though acknowledging the need to label their products, several telephone manufacturers requested reconsideration of the FCC’s deadline, insisting that the Commission had provided insufficient notice to make the needed packaging changes, and alleging that the short turnaround would impose onerous economic burdens on their industry.⁴⁹ Specifically, they claimed that millions of telephones that had been manufactured before June 1, 1984—but that would not be sold until after that date—were already in transit to or in the possession of retailers. EIA claimed that this amounted to a full year’s worth of merchandise, much of which had been distributed to supermarkets, hardware stores, and other retail outlets across the United States.⁵⁰ Companies lamented that in order to meet the FCC’s deadline, they would have to track these phones down, and then unwrap, relabel, repackage and reship them. The combined price tag for these various chores, some contended, could be as much as five to ten million dollars.

Saks had no patience for the industry’s grumblings. He insisted that a delay in labeling telephones would be unfair to consumers who had agreed to rely on these disclosures in place of universal compatibility. Moreover, OUT questioned the authenticity of petitioners’ claims that they had been given insufficient notice.⁵¹ Some companies, including AT&T, had already announced plans to label their phones on or before the June 1, 1984 deadline.⁵² Saks accused the petitioners of providing generalizations in place of hard evidence, and said that consumers no longer wished to be subjected to “pig-in-the-poke purchases”; labeling was the minimum that consumers should be able to demand of manufacturers who failed to provide accessible phones.

CWA and the NAD agreed, and averred that the hardships claimed by petitioners had been entirely self-inflicted, as industry had had more than a year to begin preparing for a labeling requirement.⁵³ Though GTE claimed that it had been unable to prepare for labeling mandates without knowing exactly what those mandates would be, the NAD feared that not proceeding with the rule as scheduled could have dire consequences.⁵⁴ Deregulation of the telephone industry resulting from the divestiture of AT&T and associated FCC rulings was likely to spur consumer purchases of telephone equipment in 1984 in unprecedented quantities.⁵⁵ The damage to consumers who would not have adequate information about these purchases would far outweigh any costs imposed by the labeling requirement. The NAD’s opposition to the industry petitions was bolstered by Congressman Thomas J. Bliley (R-Va.), who proclaimed that granting the petitions would be in “clear violation” of congressional intent:

* Saks had similarly urged Congress to require telephones to be embossed with HAC labels, but this was rejected when the legislators opted instead for a packaging label.



During his retirement years, David Saks was unstoppable in his pursuit of universal hearing aid compatibility. His crusade for equal telephone access, begun in 1973, triggered an advocacy movement that has lasted for more than thirty years.

Only after long negotiations and compromise did Congress conclude that labeling of telephone equipment as to its hearing aid compatibility would be an acceptable alternative to requiring that all telephone sold in the United States be compatible. Had Congress suspected that it might be two full years after the passage of the law (as suggested in the Mura petitions) or longer (as suggested by EIA) before consumers had the relevant information, it would have required mandatory compatibility for all telephones.⁵⁶

Bliley took issue with EIA's claim that it had a full year's worth of unsold merchandise. Calling this a "shallow misrepresentation," he suggested that it was very unlikely that EIA had increased imports by over 1,000 percent between 1981 and 1983!

On April 17, 1984, the Commission revised its labeling rules slightly, extending its June 1, 1984 deadline to telephones *shipped* from manufacturers' or refurbishers' plants, or *sold* on or after January 1, 1985.⁵⁷ The shipping date would give companies a bit more time to come into compliance because it would relieve them of having to label all phones shipped before June 1, even if those phones were sold after that date. But at the same time that the agency agreed to adopt this slight extension, it concluded that EIA's projection of a full year's worth of inventoried phones was "unsubstantiated," and that the harm to consumers in waiting too long for information outweighed the costs of speedy compliance.⁵⁸ The Commission also imposed interim requirements on retailers to make written HAC information available in other ways, such as by posting signs near their telephone displays.

Although, for the most part, consumers prevailed this first time around, only three weeks before the revised deadline, EIA again requested an additional twelve months for compliance.⁵⁹ This time, EIA alleged that telephone sales had dramatically slowed since January of 1984, unexpectedly leaving great quantities of telephones that had been manufactured prior to June 1 still in warehouses and on retailer shelves. Again, EIA insisted that mandating compliance for these phones would impose severe fiscal burdens, especially on small-business retailers that were already hurting from the adverse market conditions that had kept these phones on their shelves.*

* A second petition for an extension was filed by a company called Dynascan. In comments filed on December 17, 1984, GTE agreed that economic realities warranted a further delay, and suggested that it

Consumers were furious with the thought of another delay. Saks accused industry of engaging in a “marathon foot dragging exercise.”⁶⁰ The petitioners had had their “day in court,” argued the NAD.⁶¹ CWA and others insisted that the FCC had been sufficiently generous with its first extension of time, and that an additional delay would simply reward recalcitrant suppliers who “should have exercised better foresight and judgment.”⁶² They charged that granting the eleventh hour request would be an abuse of regulatory discretion, and allow unlabeled phones to remain in the distribution chain for as long as eighteen months past the original June 1 deadline.

Nor were consumers alone in opposing the industry’s second appeal. Hotels and motels had since become frustrated in their attempts to obtain accurate information when making telephone purchases. With little information to go by, some telephone suppliers had begun substituting amplification for telecoil coupling, making it exceedingly difficult for hotels to comply with the Commission’s rules. The American Hotel and Motel Association feared that an additional delay would exacerbate the confusion that already existed.⁶³

Heeding these concerns, the FCC rejected the new petitions on January 8, 1985, concluding that the costs of allowing an additional delay would be too severe.⁶⁴ The Commission recommended that manufacturers follow a suggestion proposed by Saks: simply distribute self-adhesive labels for distributors and retailers to save the costs of retrieving and repackaging telephones. Because of the confusion that had already occurred, however, the Commission granted the hotel industry a small extension—until July 1, 1985—to provide compatible telephones where older phones were replaced or rooms were refurbished.

Renewed Attempts for Universal Access

During the years following the passage of the TDA, Saks and other community advocates became even more convinced that the only way to effectively restore access lost by the massive influx of non-HAC telephones during the early 1980s would be to go back to Congress. With the labeling debacle only contributing to their already heightened sense of frustration, in the winter of 1985, the indefatigable crusaders convinced Senator Larry Pressler (R-S.D.) to introduce S. 402, a bill that would again require universal compatibility, but, unlike its predecessors, not impose financial penalties for noncompliance.* A few months later, the House took its own stab at a universal HAC bill with H.R. 3099, introduced by Congressman Nicholas Mavroules (D-Mass.).⁶⁵ As Mavroules would later comment, “the bottom line is that any telephone becomes essential if it is the only telephone available.”⁶⁶

Although Pressler’s bill attracted twenty-nine cosponsors and H.R. 3099 garnered as many as 119, both bills sat for months, untouched by the committees to which they had been assigned. To prompt action on S. 402, and allay any concerns about the effect that the bill might have on the flow of telephone equipment to and from

would have been even better to use a manufacturing date to trigger the labeling mandates. A sales date placed the burden of compliance upon retailers, but retailers did not control the packaging of products.

* As the third-ranking member of the Senate Special Committee on Aging, Pressler took a special interest in addressing problems experienced by the nation’s senior citizens.

America, Pressler obtained an opinion from the U.S. Department of Commerce in October of 1985 confirming both that the costs associated with HAC handsets were not likely to be greater than the costs for incompatible phones and that it was “very unlikely” that the universal HAC bill would have a significant impact on American trade.⁶⁷ The report explained that although the number of telephones imported into America had increased dramatically from 1980 to 1984, an estimated one-half of these were already HAC.*

When another year passed without any movement on either of the new bills, Saks called upon fellow activists to get family, friends, and businesses to lobby Congress with letters, telegrams and personal visits.⁶⁸ By this time, with the exception of some cordless telephones and older models that were being phased out, nearly all AT&T and GTE residential and business telephones were HAC. Nevertheless, the need for a universal HAC bill had never been greater. Though gains had been made domestically, millions of incompatible phones were still flooding into the United States from foreign manufacturers, exacerbating an already difficult situation for people with significant hearing loss. Additionally, research efforts had all but confirmed that inductive coupling remained the only viable means of providing telephone compatibility for hearing aid users. A five-year research effort to find an acoustic coupling solution jointly conducted by the Canadian Hearing Society, Bell Canada, and a steering committee of twenty-two organizations had been abandoned in frustration, resulting in a concession by the Canadian industry to use only HAC receivers in 1980.⁶⁹ And the need for universal HAC legislation had now been highlighted in a report issued by the U.S. Office of Technology Assessment (OTA), which emphasized the importance of the telephone “in maintaining [the] safety, independence, and ‘quality of life’” of elderly people.⁷⁰

Unfortunately, even this was not enough to prompt congressional hearings, and as the legislative session drew to a close in the fall of 1986, S. 402 and H.R. 3099 were headed for their certain deaths.[†] But just when all hope seemed lost, Senator Pressler decided to risk appending the contents of his HAC measure to a continuing resolution under consideration by the Senate during its closing days.⁷¹ In a speech to his fellow senators, Pressler implored his colleagues to recognize the second-class status that the TDA had imposed on hearing aid users by relegating them to “essential telephones.” As an example, Pressler told of an emergency room physician at a Missouri hospital who had been forced to retire after the installation of non-HAC telephones made it impossible for him to communicate with other hospital wings; the senator declared that his bill promised a day when *all* employees, regardless of their ability to hear, would have equal access to the telephone. Attached to his statement was a list of thirty national organizations supporting the new measure.

Pressler’s persuasive arguments attracted the support of a parade of senators from both aisles of Congress. Senator Dole (R-Kans.) agreed that the provision would ensure access for an additional two million Americans, who would “be able to work,

* Cordless phones presented a more dire story: *all* cordless telephones sold in America were imported, and the technology to make these compatible was first being developed.

† Although Senator Goldwater had seemed supportive of prior HAC proposals, Saks now suggested that as Chairman of the Senate Communications Subcommittee, he was ultimately responsible for not scheduling hearings or otherwise moving the Senate bill forward.

travel, and move throughout this great country of ours knowing that telephone communication is as available to them as it is to their able-bodied brothers.”⁷² Senator Simon (D-Ill.) pledged his support in the same breath that he acknowledged his own recent use of a hearing aid. And Senator Mathias noted that while the TDA had given hearing aid users a taste of telephone access, the time had come to expand its mandates: “Adoption of this amendment would make the telephone an instrument of opportunity for hearing impaired Americans instead of a handicap to effective communication and participation in everyday life.”⁷³

Amazingly, Pressler’s amendment passed the full Senate. But while Saks and his congressional cohorts had miraculously resuscitated the universal access law once again, the provisions of S. 402 were promptly removed from the continuing resolution when the bill went to the House Conference Committee. Not ever ones to be deterred, OUT’s activists once again perceived this as only a minor setback on their journey for equal telecommunications access.

Notes

1. Linda Kozma-Spytek, “Hearing Aid Compatible Telephones: History and Current Status,” *Seminars in Hearing* 24 (2003): 17–28.

2. S. F. Lybarger, “Development of a New Hearing Aid with Magnetic Microphone,” *Electrical Manufacturing* (November 1947); See also Gale M. Smith, “The Telephone Adapter and Other Telephone Aids for the Hard of Hearing,” *Volta Review* 76, no. 8 (1974): 474–84. AT&T telephones that contained the ring-type armature (housed between a magnet and a wire coil) that were capable of achieving inductive coupling (the “500” sets), were manufactured by Western Electric, and under license from AT&T by ITT, Stromberg-Carlson and in Canada by Northern Telecom.

3. *Use of the Carterfone Device in Message Toll Telephone Service, Thomas F. Carter and Carter Electronics Corp., Dallas, Texas v. American Telephone and Telegraph Co., Associated Bell System Companies, Southwestern Bell Telephone Co. and General Telephone Co. of the Southwest, Decision*, Dkts. 16942, 17073, FCC 68-661, 13 FCC 2d 420 (June 26, 1968).

4. Statement of John L. Clendenin, vice president, Residence Marketing, AT&T, Hearings on H.R. 5022 before the Subcommittee on Communications of the House Committee on Interstate and Foreign Commerce, 96th Cong., 2d. Sess. 74, 77 (March 27, 1980). Hereinafter cited as H.R. 5022 Hearings.

5. Gale M. Smith, “Coupling Hearing Aids to the Telephone,” *Volta Review*. 1 (1971): 47–50.

6. David Saks, “Access—New Law Enacted,” *The Voice* (Spring 1989) (emphasis included in original).

7. Interview with Dan Bart, formerly of GTE, May 2, 2003.

8. Testimony of John L. Clendenin, AT&T, H.R. 5022 Hearings, 78.

9. Testimony of David Saks, director, OUT, H.R. 5022 Hearings, 59; See generally, Testimony of Helen B. Webber, National Committee on Persons with Handicaps, United Church of Christ, H.R. 5022 Hearings, 56–57.

10. OUT, “A Guide to Action,” attached as appendix D to NCLD, “Telecommunications Service and Charges for Deaf and Hearing-Impaired Citizens,” Petition for Rulemaking (December 21, 1977). Hereinafter cited as NCLD Petition.

11. *Ibid.*, 2.

12. *Ibid.*

13. Statement of David Saks, OUT, Hearings on S. 604 and S. 2355 before the Subcommittee on Communications of the Senate Committee on Commerce, Science, and Transportation, 97th Cong., 2d Sess. 28 (May 6, 1982). Hereinafter cited as S. 604 and S. 2355 Hearings. Specifically, the Maryland PSC had authorized the expenditure of \$56,000 for C&P Telephone to replace or modify nearly 6,000 phones in Maryland hospitals.

14. NCLD Petition, 6–7. See also *Telecommunication Services for the Deaf and Hearing Impaired*, Notice of Inquiry, CC Dkt. 78-50, FCC 78-82, 67 FCC 2d 1602 (February 13, 1978), ¶11(f). Additional information about this petition can be found in chapter 1.

15. AT&T Supplemental Comments in CC Dkt. 78-50 (May 5, 1980), 10, 12.

16. Reply Comments of OUT, 6. See also Comments of the United Church of Christ, 6–7: “It seems the further ahead communications technology advances, the further behind handicapped individuals fall in their ability to cope through these technological systems.”

17. The FCC’s universal service obligation is contained at 47 U.S.C. §151.

18. H.R. 5022, 96th Cong., 2d Sess. (1979). In the Senate, a companion bill, S. 2642, was introduced, but did not survive the legislative session. See generally, Statement of Clarence Long, H.R. 5022 Hearings, 48.

19. H.R. 5022 Hearings, 1.

20. Statement of Edana Lee Armstrong Schmidt, H.R. 5022 Hearings, 52.

21. Statement of Charles Vlcek, Washington Area Group for the Hard of Hearing, H.R. 5022 Hearings, 53. Also present at the hearings, and a staunch advocate for hearing aid compatibility, was George Fellendorf of the newly created Consumers Organization for the Hearing Impaired. H.R. 5022 Hearings, 54–55.

22. Testimony of Sarah Geer, NCLD, H.R. 5022 Hearings, 49–51.

23. Statement of NRTA and AARP, H.R. 5022 Hearings, 122–33.

24. Statement of John L. Clendenin, AT&T, H.R. 5022 Hearings, 80.

25. *Ibid.*, 72.

26. *Ibid.*, 86–87.

27. Testimony of Otto J. Gusella, chairman, Telephone Equipment Section, Communications Division, EIA, H.R. 5022 Hearings, 94.

28. Testimony of David Saks, OUT, H.R. 5022 Hearings, 58, 60.

29. OUT, “An Open Letter to the Telephone Industry,” January 10, 1982, 2 (emphasis in original).

30. H.R. 375, 97th Cong, 1st Sess. (1981); “Telephones for Hearing-Impaired People: The 1-Penny Bargain.” Saks’s statement was reprinted (by Congressman Long) in 127 *Cong Rec.* 13504 (June 23, 1981).

31. OUT, “Open Letter,” 3.

32. S. 604, 97th Cong., 1st Sess. (1981). 127 *Cong. Rec.* 3393 (March 3, 1982).

33. According to Peter Bennett, because these standards were not in place, industry would not sit idly by and watch what it perceived to be a “nonsense” bill become law. Interviews with Peter Bennett, September, October 2002.

34. S. 2355, 97th Cong., 2d Sess. (1982).

35. Opening Statement of Senator Goldwater, S. 604 and S. 2355 Hearings, 1.

36. Statement of David Saks, OUT, S. 604 and S. 2355 Hearings, 28.

37. Statement of Sheldon J. Hauck, executive director, HIA, S. 604 and S. 2355 Hearings, 55–58.

38. Statement of Leon M. Kestenbaum, deputy chief, Policy, Common Carrier Bureau, FCC, S. 604 and S. 2355 Hearings, 13.

39. *Ibid.*, 14. The FCC explained that in its recent Computer II inquiry, it had “determined that the provision of telephones and other terminal equipment was not really part of such utility service and that it should be provided in an open market without any regulatory restraints.” S. 604 and S. 2355 Hearings, 13.

40. Testimony of Dan Bart, senior attorney for GTE Service Corporation, S. 604 and S. 2355 Hearings, 44. Other industry witnesses included Dennis J. Sullivan, Jr. of AT&T and Otto Gusella of EIA. Industry also suggested that acoustic coupling through signal processing technology that relied on low frequencies and noise cancellation remained a possible means of providing access.

41. Statement of Senator Mathias, “Access to Telephone Service for the Hearing Impaired,” 128 *Cong. Rec.* S10725 (daily ed. August 18, 1982).

42. Honorable Timothy E. Wirth, chairman, House Subcommittee on Telecommunications, Consumer Protection, and Finance of the Committee on Energy and Commerce, letter to Al Pimentel, executive director of the NAD, December 21, 1982. Congressmen Long and Pepper were also chief sponsors of this bill.

43. 47 U.S.C. §610(d). H. Rep. No. 888, 97th Cong., 2d Sess. 12 (September 28, 1982). Congress directed that these labels explain “in a clear and understandable manner, whether and how persons with impaired hearing may use such equipment effectively.”

44. P.L. 97-410, 96 Stat. 2043, codified as 47 U.S.C. §610. David Leach, the same legislative aide who would later help secure passage of the relay mandates contained in the ADA, helped facilitate enactment of the TDA; See also S. Rep. No. 503, 97th Cong., 2d Sess. (1982). In addition, in his December 1982 letter to Al Pimentel, Congressman Wirth made special mention of the assistance he had received from NCLD attorney Sarah Geer throughout the legislative process that led to the passage of the TDA.

45. P.L. 97-410(f).

46. *Access to Telecommunications Equipment by the Hearing Impaired and other Disabled Persons*, Report and Order, CC Dkt. 83-427, FCC 83-565, 55 RR 2d 531, ¶19 (December 23, 1983), adding 47 C.F.R. §68.112. Hereinafter cited as HAC R&O. At the time that the proposals for this order were issued, the FCC terminated its prior docket on telecommunications access (which had been opened in response to the NCLD petition), CC Docket 78-50, without resolution. The agency decided that passage of the TDA warranted the initiation of a new proceeding, with a fresh start. *Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons*, Notice of Proposed Rulemaking, CC Dkt. 83-427, FCC 83-176, 93 FCC 2d 1311 (May 4, 1983), 48 *Fed. Reg.* 20771 (May 9, 1983).

47. Magnetic Field Intensity Criteria for Telephone Compatibility with Hearing Aids, codified at 47 C.F.R. § 68.316 and based on EIA Standard RS-504. The FCC made clear that Congress did not intend to “freeze technology by specifying a particular design and excluding potentially superior alternatives” for hearing aid-compatibility. HAC R&O, ¶40, n. 55. This standard was confirmed to fall within the range of an international standard on an electromagnetic field strength for telephones, later adopted by the International Telegraph and Telephone Consultative Committee.

48. H.R. 210, 98th Cong., 1st Sess. (1983); 129 *Cong. Rec.* 11737 (May 10, 1983).

49. See Petitions for Reconsideration filed in CC Dkt. 83-427 by the Personal Communications Section of the Telecommunications Group of EIA (February 9, 1984); the Mura Corporation (February 10, 1984); the Uniden Corporation (February 10, 1984); and GTE (February 13, 1984). Where phones needed to be retrieved from retailers, GTE estimated the costs of compliance to be as much as five dollars per telephone for large manufacturers. For smaller manufacturers, it said that these costs might exceed the retail value of very low-priced telephones.

50. EIA Petition for Partial Reconsideration in CC Dkt. 83-427, 4.

51. Comments of OUT on the petitions filed by Mura Corporation and EIA in CC Dkt. 83-427 (February 17, 1984).

52. Comments of AT&T in CC Dkt. 83-427 (March 12, 1984).

53. CWA Opposition to the petitions filed by Mura Corporation and EIA (February 16, 1984); NAD and ACB Opposition to Petitions for Reconsideration (March 12, 1984). Both were filed in CC Dkt. 83-427.

54. Reply Comments of GTE in CC Dkt. 83-427 (March 27, 1984), 2.

55. NAD and ACB Opposition to Petitions for Reconsideration in CC Dkt. 83-427 (March 12, 1984), 3.

56. Thomas J. Bliley Opposition to the petitions filed by Mura Corporation and EIA (February 17, 1984), 1–2.

57. The second deadline, for phones sold after January 1, 1985, was also the deadline for essential telephones to be equipped with inductive coupling. *Access to Telecommunications Equipment by the Hearing Impaired and Other Disabled Persons*, Order on Reconsideration, CC Dkt. 83-427, FCC 84-144, 56 RR 2d 771 (April 17, 1984), reprinted in 49 *Fed. Reg.* 19666 (May 9, 1984). Hereinafter cited as HAC Order on Reconsideration.

58. *Ibid.*, ¶12.

59. EIA Petition to Postpone in CC Dkt. 83-427 (December 10, 1984).

60. OUT Opposition to Petition to Postpone (undated) in CC Dkt. 83-427, 2.

61. NAD Opposition to Petition to Postpone in CC Dkt. 83-427 (December 20, 1984), 5.

62. CWA Opposition to Motion to Postpone in CC Dkt. 83-427 (December 20, 1984), 4.

63. American Hotel and Motel Association Comments in CC Dkt. 83-427 (December 18, 1984). In fact, there was so much confusion, they said, that on December 13, 1984, they had formally requested the FCC to waive its rules requiring the installation of HAC phones in hotels and motels for an additional six months (until July 1, 1985).

64. *American Hotel and Motel Association, Electronic Industries Association, and Dynascan Corp., Petitions for Relief from Sections 68.4, 68.112, 68.218 and 68.224 Regarding Hearing Aid Compatibility of Telephones*, Memorandum Opinion and Order, ENF 85-7, 85-8, 85-9 (January 8, 1985).

65. H.R. 3099, 99th Cong., 1st Sess. (1985); 131 *Cong. Rec.* 21631 (July 30, 1985). S. 402 was also introduced in the first session of the 99th Congress.

66. Remarks of Representative Mavroules, 134 *Cong. Rec.* 13507 (June 7, 1988).

67. David Saks and Lee Richardson, "Consumerism and the Disabled Consumer in the Communications Marketplace" (presentation, Annenberg Washington Program and the Gallaudet Research Institute Joint Forum, Washington, D.C., February 20–21, 1996), 14, citing Bruce Smart, undersecretary for international trade, U.S. Department of Commerce, personal correspondence to Senator Pressler and Representative Mavroules, October 18, 1985. Indeed, Radio Shack was offering HAC telephones for only \$12.95, the lowest price of any telephones in a twelve-store survey.

68. See, for example, David Saks, "Legislation Stalled," *The OUT-line*, 2 no. 29 (July 25, 1986), 1.

69. H. Rep. No. 674, 100th Cong., 2d Sess. 5 (1988); Saks and Richardson, "Consumerism," 12.

This followed earlier efforts to find acoustic coupling solutions that were conducted by the Hearing Aid Industry Conference, the predecessor to HIA, in the 1960s.

70. Saks, "Legislation Stalled," 2, citing U.S. Office of Technology Assessment, *Hearing Impairment and Elderly People*, Document #052-003-01040-2.

71. 132 *Cong. Rec.* 28396 (October 3, 1986).

72. *Ibid.*

73. *Ibid.*

13

The Restoration of Hearing Aid Compatible Telephones

Several years ago we began to move toward equal telephone access for the hearing impaired with passage of Public Law 97-410, the Telecommunications for the Disabled Act. . . . Many people think that this step was adequate. . . . Unfortunately, the actual result of these rules [was the] creation of a second class of citizens—namely those persons who are able to use only essential telephones. . . . I, for one, cannot think of a single reason why one segment of our society—through no fault or choice of its own—should be able to use only specific telephones.

—Senator Larry Pressler (R-S.D.)

FOUR YEARS after passage of the Telecommunications for the Disabled Act (TDA or 1982 Act), hearing aid users remained frustrated with that statute's limited ability to address their telephone needs. Although the TDA had moved access one step forward, it only guaranteed hearing aid users the ability to use HAC telephones at their individually assigned workstations and other select locations defined by the federal government as "essential." As a consequence, a great number of hearing aid users—many of whom were senior citizens—were never quite sure whether they would be able to use a particular phone at any given location.

At an FCC public forum on telecommunications access issues held on December 5, 1986, consumers complained that the restricted scope of the existing HAC regulations hindered their ability to lead independent lives and summon help in the event of an emergency. Advocates urged the FCC to either expand its existing definitions of essential telephones or to support legislation to require all telephones to be compatible. The telephone industry, however, continued to oppose an across-the-board compatibility mandate. At the time, President Reagan had acquired a relatively new type of "in-the-ear" hearing aid that was becoming very popular among consumers with mild-to-moderate hearing loss. Because it was believed that these devices could not be equipped with telecoils, companies pointed to their increased sales as an indication

Epigraph. Senator Larry Pressler (R-S.D.), "Introduction of Senate Amendment to Require Universal HAC Compatibility," 132 *Cong. Rec.* 28396 (October 3, 1986).

that the need for inductive coupling was on the decline. Consumers insisted, however, that telecoil coupling still offered people with more severe hearing loss the only real means of achieving telephone access because efforts to find effective alternatives had not been successful.

Since the 1970s, David Saks and his advocacy group OUT had been tenaciously lobbying Congress for a federal law that would require all telephones in the United States to be HAC. Whenever GTE or another company would claim that all of the payphones in a given state were already compatible, Saks would take a trip to the state, find payphones that he could not use, and then complain to the company's executives that their claims were untrue. Whenever a bill proposing to require universal HAC access was defeated, Saks would find a new sponsor to re-introduce the very same bill. The latest in this line-up of HAC bills was S. 314, introduced by Senator Larry Pressler (R.-S.D.) on January 14, 1987, and H.R. 2213, introduced by Congressman James Mavroules (D-Mass.) on April 29, 1987.¹

Only two weeks after Mavroules's bill was introduced, the FCC followed up on a promise made at its December 5th forum to formally request public comment on various HAC-related issues (through a notice of inquiry).² Consumers responded by strongly urging the FCC to support the universal compatibility measures of S. 314 and H.R. 2213, and by asking the Commission to expand its current definition of "essential phones." Hearing aid users wanted to be able to use telephones throughout an employer's premises, not only at their individual workstations. They also wanted the FCC to require hearing aid access to all credit card-operated telephones and new or refurbished hotel phones. The current rule, requiring hotels to only equip 10 percent of their rooms with HAC phones, left consumers never knowing whether they would be able to find an accessible phone while traveling.³ In addition, consumers asked for all coin- and credit card-operated phones to be equipped with volume control. While inductive coupling capability could assist individuals who used hearing aids equipped with telecoils, volume control would enable any person to amplify sound emanating from the handset receiver. This would assist senior citizens, people with minimal hearing loss, and telephone users in high noise environments.*

Industry responses to the Commission's inquiry were varied—and somewhat surprising. Although many companies continued to urge strict reliance on the marketplace as a means of fulfilling the needs of consumers with disabilities,[†] for the first time, other industry segments, many of whom had already begun designing their phones with compatibility, revealed far less resistance to a universal HAC mandate.[‡] Consumers wondered whether the tide was finally turning in their favor.

A Leap toward Access: Congress Moves Ahead

On February 24, 1988, the House Subcommittee on Telecommunications and Finance held hearings on H.R. 2213, more than a year after the bill's introduction.⁴ By

* Connecticut had already passed a statute requiring 25 percent of its coin- and credit card-operated telephones to be equipped with amplifiers.

[†] For example, USTA and BellSouth still resisted HAC mandates.

[‡] GTE, Ameritech, and the United Telephone System Companies were among the companies that now seemed more amenable to HAC regulation.

then, the bill had widespread bipartisan support, including the cosponsorship of 117 representatives, fifteen of whom were on the House committee overseeing the bill. The strong support of the subcommittee's chairman, Congressman Edward Markey (D-Mass.), also bode well for the latest HAC proposal. Markey promised to make access to "the wonders of modern telecommunications" one of his "highest priorities;" six years after assessing the impact of the earlier HAC law, he and many of his colleagues agreed that it was time to guarantee universal telephone access.⁵

But what truly made these hearings stand apart from earlier ones on universal HAC bills was AT&T's decision to withdraw its resistance to, and GTE's active support in favor of, the new HAC proposals. Delighting consumers, GTE's witness Freeman E. Robinson presented testimony that eradicated any remaining doubts about the practical and economic feasibility of requiring all phones to be HAC.⁶ Robinson explained that although the cost of incorporating inductive coupling would initially range from twenty to fifty cents per handset, once compatibility became the norm, economies of scale would likely drive *non-HAC phones* into the higher-priced slot. He also noted that new efforts to miniaturize telecoils for insertion in "in-the-ear" hearing aids, would mean an *increase*, not a decline in the number of telecoil users. After announcing GTE's decision to produce or purchase only HAC phones, Robinson asked the legislators to imagine for a moment that they were limited to certain phones: which phones did *they* think they would not need?

The 180-degree reversal in GTE's position was in part prompted by the forward-thinking views of Sam Shawhan, Jr., a new GTE vice president responsible for regulatory affairs. At the time of the hearings, GTE was in the process of closing its last manufacturing plants in the United States. Shawhan predicted that making its off-shore products accessible to people with disabilities would succeed in attracting new customers. In addition to giving his company's support to the HAC bill, Shawhan requested GTE's Dan Bart to help grow the company's business in new disability markets. This in turn enabled Bart to internally promote accessibility features as the company developed new products and services in the years to come.⁷

With AT&T silent and GTE in support of the bill, EIA—representing more than eighty American companies producing approximately 85 percent of domestically manufactured telecommunications equipment—remained the bill's sole opponent.* As a consequence, Peter Bennett, EIA's spokesperson, was placed in the unenviable position of being the lone dissenter at the hearings on H.R. 2213. Although Bennett acknowledged the need to provide HAC phones throughout the workplace, his association firmly opposed a universal mandate that would force HAC phones into all private homes. Bennett testified that the increased availability of HAC phones

* Though less vocal about it, SHHH, then a relatively new national organization representing individuals who were hard of hearing, also did not actively support the legislation. Harold "Rocky" Stone, the organization's founding director, initially believed that the HAC bill inappropriately addressed only half the problem by targeting the telephone industry, and not trying to get the hearing aid industry to expand consumer use of telecoil-equipped hearing aids. SHHH also believed that broader dissemination of information by the FCC about the HAC rules, and greater involvement by consumers and states in the execution of the rules, would help achieve greater access for hearing aid users. But many years later, Stone acknowledged that Saks had been right to get "a foot in the legislative door," and that, in retrospect, he understood that acquiring access was a "cumulative process." Rocky Stone, e-mail to Brenda Battat, SHHH, and the author, March 8, 2003.

was attributable to business decisions made in an open and free market. He insisted that “the draconian solution of substituting governmental fiat for free individual choice and free market forces has no place in America, absent a clear and present emergency.”⁸ According to Bennett, just as automobile drivers had to carry their own tools as an emergency precaution, so too, should hearing aid users have to carry around telecoil adapters for their own telephones.*

As the fall guy for the industry, Bennett was the recipient of heavy cross-examination by many of the subcommittee members. For example, Congressman Bill Richardson (D-N.M.) challenged Bennett’s assumption that improving telephone access for people with hearing loss could be considered governmental “interference.”⁹ And Congressman Markey, admitting that it was a secret dream of his to live to be old enough to need a hearing aid, proclaimed, “in the year 2020, after Mr. Bennett and I put ourselves into a vigorous program of clean living and pure thoughts, there will be, *and we will be included, Mr. Bennett*, there will be 44.3 million Americans who will be between the ages of 65 and 84.”¹⁰ Markey insisted that it would be “a fundamental public policy mistake” not to have phones that enabled all Americans to “fully enjoy all of the benefits of old age.”

The FCC Budes . . . But Not Enough for Consumers

In March 1988, a month to the day after the House completed its subcommittee hearings, the FCC partially granted the consumer requests for expanded access by proposing to extend its HAC rules to all credit card-operated telephones and all telephones in the common areas of workplaces, the latter to include libraries, reception areas, and other common locations where phones might be needed by employees in the ordinary course of their employment.¹¹ The FCC explained that the benefits of mandating access to these phones far outweighed their costs,[†] especially because inaccessible phones could “impair the productivity of persons using a hearing aid in their place of work.”¹² The Commission also accompanied its proposals with yet a new notice of inquiry that, among other things, requested feedback on telephone interactions with hearing aids and improved ways to disseminate information on the FCC’s HAC rules.[‡] But in the same breath that the FCC proposed these advances, it cited the alleged decrease in the use of telecoil-equipped hearing aids, the availability of inexpensive external adapters, and concerns about impairing the development of new

* Though fiercely opposed to unnecessary governmental regulation, Bennett eventually befriended Saks, even standing in to present the advocate’s position during a Capitol Hill session that Saks unexpectedly was unable to attend. When Saks became old and frail, Bennett would help him get around at consumer-industry forums, and even after Saks was too sick to continue attending these meetings and his wife, Reba passed away, Bennett remained in touch with his dear adversary.

[†] By then, ten of the twelve models of credit card-operated telephones registered with the Commission were already designated to be compatible. The FCC said that this, together with Congress’s interest in ensuring the compatibility of public telephones—as demonstrated by its mandate to retrofit coin phones—warranted the rule change.

[‡] The FCC explained that this was to follow up on a study conducted by the Gallaudet Research Institute, which had indicated that many individuals who were not using HAC phones had no knowledge of the HAC mandates.

technologies, as justification for not supporting a federal law requiring all handsets to be HAC. Congress, it insisted, had struck the appropriate balance in determining what was best for the public in the TDA of 1982.

Consumers expressed extreme disappointment with the FCC's decision not to propose an even greater expansion of the mandates and with the agency's continued refusal to support universal HAC legislation.¹³ They complained that even if interpreted broadly, the FCC's proposed "common area" rule would continue to deny hearing aid users an equal opportunity to move freely around their places of employment. Moreover, by letting each employer define what constituted a "common area," the proposed rule would conflict with congressional intent to avoid ambiguous policies that could result in uneven enforcement of the HAC mandates.¹⁴

Back to the Senate

On March 31, 1988, only a week after the FCC's proposals were released, congressional hearings on the HAC legislation were again held, this time by the Senate Communications Subcommittee. By then S. 314 already had twenty-four cosponsors, including Senators John Kerry (D-Mass.), Daniel Inouye (D-Hawaii), and John McCain (R-Ariz.), the latter of whom, only the day before, had introduced a bill requiring relay services for communication with federal agencies.¹⁵ But consumers feared that the FCC's recent, though negligible, proposals to expand the HAC mandates might tempt Congress to conclude that statutory revisions were no longer needed.¹⁶ Testimony delivered by Gerald Brock, chief of the FCC's Common Carrier Bureau, confirmed the Commission's desire *not* to expand the agency's HAC authority.

According to Brock, universal compatibility would impose additional costs and "impair the development of new network technologies," with few attendant benefits for consumers.¹⁷ Even worse, the FCC's witness suggested that if pushed forward, mandates for universal HAC would have to compete with the agency's consideration of and the substantial expenditures needed for telecommunications relay services: "If the FCC impose[s] costs on other telephone users for the hearing aid compatibility [sic], it might detract from efforts to establish an interstate relay system which appears to us to be a more useful use of those funds to promote telephone allocation by the hearing impaired."¹⁸ Consumers found this statement to be irresponsible. It ignored the fact that HAC phones and relay services addressed very different accessibility needs, and suggested that the FCC was willing to trade off communication access needed by one disability group for that of another.

Advocates worked hard to defend the new legislative proposals. Fewer than three weeks earlier, Gallaudet had witnessed the installation of its first deaf president after a week-long, internationally televised protest. On the heels of this victory, Gallaudet had become a household name, capturing the attention of the world in its civil rights struggle. HAC advocates tried to make Congress understand that the quest for equal telecommunications access was a central part of this struggle.¹⁹

Unfortunately, by the time that the Senate held its HAC hearings, various amendments tacked onto the original bill's provisions threatened to weaken its impact. One

of these would have allowed the FCC to waive the compatibility requirement for new technologies whenever compliance with the HAC mandate was either technologically infeasible or the costs of compliance would prevent the successful marketing of a new technology; the FCC would have been permitted to grant this waiver on a temporary basis even before making a determination of the waiver's impact on the public interest. Consumers feared that a grant of such unbridled authority would open the floodgates to inaccessible technologies that could defeat the goals of universal service.²⁰

After several attempts, consumers were finally successful in convincing Congress to restrict the "new technology" waiver to situations where compliance would make it "impossible to produce or sell the product competitively . . . [not where it] would simply be *impractical* or would add only a nominal additional cost to a new technology or service."²¹ Additionally, Congress added a requirement for the Commission to first conduct a full public interest inquiry that included consideration of the waiver's social and economic effects on consumers before granting an exemption from its rules.²²

Other amendments that ultimately received congressional approval included a limited, two-year exemption for cordless phones,* and a permanent exemption for secure telephones (phones used for national security purposes to transmit confidential information). Congress also added temporary exemptions for phones used with private radio services (for dispatching trains, planes, and taxis), and telephones used with public mobile services, now more commonly known as wireless or cellular telephones. In 1988, wireless phones were still new to most Americans, and were considered more of a compliment to, rather than a replacement for, landline phones. For this reason, Congress said that it did not expect the lack of wireless access to pose a serious hardship to hearing aid users.²³ However, acknowledging that these phones might one day become a necessity, the legislature directed the FCC to periodically consider the benefits to consumers, costs to industry, and technical feasibility of providing wireless HAC access, in determining whether to continue this exemption.[†]

During the months following the Senate hearings, OUT successfully inundated Congress with letters of support from more than thirty national and regional organizations and countless individuals from all over the country, and arranged a plethora of visits from consumers in the Washington, D.C., area to Capitol Hill legislators.²⁴ The effort to push the bill forward paid off. On May 18, 1988, the House committee took a voice vote to approve H.R. 2213, and on May 24, 1988, an executive session of the Senate Commerce Committee accepted the House's amended text as a substitute for S. 314.²⁵

The whirlwind of activity continued when H.R. 2213 overwhelmingly passed the House by a vote of 391 to 15 on June 8, 1988, and a month later passed the Senate by a unanimous voice vote.²⁶ On August 16, 1988, fifteen years after David Saks first began his extraordinary journey for telephone access, the Hearing Aid Compatibility Act of 1988 (1988 Act) was signed into law, creating a HAC requirement for all wireline telephones manufactured or imported for use in the United States after August 16, 1989.²⁷

* Although all GTE cordless telephones were already HAC in 1988, it was rumored that AT&T still had inaccessible cordless phones that it needed to phase out.

[†] It would take another fifteen years for the FCC to only partially lift this exemption. Chapter 14 discusses the consumer battles to achieve this result.

The new legislation not only expanded the HAC mandates, it reflected an overall change in congressional attitudes regarding the right of people with disabilities to have access to telecommunications services. Unlike the TDA of 1982, which had required only “reasonable” access, Congress now spoke of requiring “*equal* access to the national telecommunications network.”²⁸ Legislators especially relied on the FCC’s universal service mandate requiring communication service to be available “to all the people to the United States” to conclude that “advances in technology have made communication possible and it is time that hearing impaired persons are included in ‘all the people.’”²⁹

According to Congress, a “steady erosion” in the number of HAC phones available in the United States and the resulting social and economic harm to those who needed phone access, had necessitated the new law:³⁰

No matter how broadly the FCC defines “essential,” it is impossible to specify in advance all the telephones that a hearing aid user might need. Traveling salespeople, repairmen and women, doctors, and others who make house calls or work outside of an office, for instance, often use telephones that would not be classified as “essential.” . . . Similarly, it is impossible to predict beforehand when an emergency situation may arise. . . . In short, the situations in which a hearing aid user would need access to a telephone are innumerable.³¹

The legislators acknowledged that America was behind other countries in the world, including Canada and the Netherlands, that had been producing only HAC phones since the early- to mid-1980s.³²

As in the TDA, lawmakers made very clear that compliance with the new HAC law could only be achieved by providing an internal means of hearing aid compatibility. They rejected external adapters because of their added cost for senior citizens with low incomes, the stigmas associated with their use, and the difficulties that people with limited manual dexterity had when using these devices.³³ At the same time, in order to alleviate any industry concerns that the new law might stifle technological development, Congress clarified that inductive coupling offered just one means of achieving HAC compliance, and that the FCC needed to issue rules that did “not discourage or impair the development of improved technology.”³⁴ The House report explained:

Freedom to develop new products and technologies is essential. The hearing aid bill will not freeze today’s technology and inhibit future development. The bill only requires that telephones be compatible; it does not mandate any particular type of technology. Induction coupling and electromagnetic fields are not even mentioned.³⁵

A Huge Accessibility Gap

Although consumers judged passage of the 1988 HAC Act to be a huge success, the statute’s prohibition against non-HAC telephones had been so long in the making that there were now literally millions of inaccessible handsets installed in “nonessential” locations across the country. Prior to the law’s passage, national advocacy groups commonly received letters from consumers revealing the harmful impact that not having telephone access was having on their lives. An engineer from Pennsylvania wrote that his inability to receive calls from clients and salespeople continually blocked his

advancement at his company. A student teacher reported problems with her employment performance because she was unable to communicate with her supervisor or her colleagues as she traveled between her various school placements. And a brand new user of hearing aids, just twenty years old, wrote of the inconvenience and embarrassment of being stranded at Kennedy Airport without the ability to call her sister: "I just stood there crying, dazed by all the confusion of people milling about, dazed by my helplessness, and my forced deafness." She lamented:

I am an educated, hard working professional woman who is continually being reduced to imbecility because so many phones do not work with hearing aids. The stress which results from not being able to rely on telephones . . . eats away my confidence, at my energy levels like an insidious cancer. I feel the inner erosion as the stress levels rise and must, with the best of my senses and wits about me, temporarily withdraw, however inconvenient or untimely that withdrawal might be.³⁶

A consistent thread wove together these personal chronicles. They proved that obstacles to telephone accessibility had worsened rather than improved in the intervening years since the passage of the TDA, because of the increased circulation of incompatible phones. If something more was not done, it might take a full decade, or more, for the HAC phones required under the 1988 Act to replace their incompatible counterparts across the United States. The only way of closing the gap left between the TDA's "essential telephone" mandate and the HAC Act's requirement for future compatibility, advocates concluded, would be to convince the FCC to expand the number and type of "essential" locations where HAC phones were required. Consumers knew that getting the FCC to broaden its mandates in this fashion would pose considerable challenges, given the agency's track record. But before consumers even had the chance to approach the Commission with its ideas, the agency had an unwelcome surprise of its own.

In February of 1989, the FCC finally addressed its March 1988 proposals to include jobsite common area and credit card-operated phones within its definition of "essential" HAC phones.³⁷ But rather than put those proposals into law, the Commission now shocked consumers by proposing to *withdraw* these recommendations, claiming that the 1988 Act's mandate for the prospective sale of HAC-only phones made an expanded definition of essential phone locations unnecessary. Pouring salt on consumers' wounds, the agency also asserted that its original proposal would have resulted in ambiguity and enforcement challenges because the definition of common areas could not adequately be defined—an argument previously used by *consumers* to oppose extending the rules to only common areas.*

Consumers could not conceal their disappointment or their anger.³⁸ They perceived the FCC's sudden and unexpected reversal as unjustly bowing to telephone manufacturers who were very concerned with discarding the non-HAC phones that remained in their inventories.³⁹ But while advocates made every attempt to persuade the FCC that its action would fly in the face of Congress's efforts to improve opportunities for

* In an equally unexpected move, the Commission also proposed adding an additional year to the two-year statutory exemption for cordless phones. Thankfully, the Commission eventually dropped this proposal, though its authority to have adopted this change was, in any case, questionable.

employment and job productivity, on May 11, 1989, the Commission issued a final order that went ahead with this plan to withdraw its earlier HAC proposals.⁴⁰

The FCC's new ruling was a headlong leap into the past. Consumer organizations wasted little time in challenging the FCC's unexpected shift, with a petition for reconsideration filed on June 16, 1989.⁴¹ They charged that the Commission was ignoring the expressed will of Congress to adopt a dual approach to increasing the availability of HAC phones: to ensure, under the 1982 Act, the compatibility of essential telephones already placed in circulation, and to require, under the 1988 Act, the compatibility of all newly produced phones. Consumers also charged that the FCC had misinterpreted the TDA's mandate for all emergency phones to be compatible: a proper reading would require the provision of telephone access throughout hotels, motels, and hospitals. Predictably, the telecommunications industry opposed the petition; they insisted that granting the consumer request would violate the TDA's prohibition against retrofitting any phones except those that were coin-operated or used for emergencies.⁴²

A year went by without FCC action on the petition, but this time, the delay aided the cause of the disability advocates. Over the many months that the petition sat untouched, new staff arrived at the FCC, bringing with them an increased sensitivity to disability issues. Some of the heightened awareness may have been due to the considerable momentum building for the ADA, which through its provision for relay services, was bringing to light the pressing need for telecommunications equality. The result was that on April 12, 1990, the FCC again reversed itself, and finalized its *original* proposals to require hearing aid compatibility on all phones used with credit cards and in workplace common areas, setting May 1, 1991, as the compliance deadline.⁴³ Noting that it would cost only \$1.50 to make each phone compatible, this time the FCC acknowledged that the public interest would best be served by providing access to existing phones while consumers waited for the 1988 HAC Act to be fully implemented. Once again the FCC concluded that the benefits of expanding its HAC rules would outweigh the associated costs, considering the small number of telephones involved, and the need for both types of telephones during an emergency.⁴⁴

The Commission's next action again amazed consumers, but this time pleasantly so. Rather than stop at the above HAC expansions, in an accompanying notice, the FCC recommended replacing its "complex web" of HAC requirements with an entirely new set of rules that would reclassify *all* workplace, hospital, nursing home, hotel, motel, and prison telephones as "emergency" telephones subject to the HAC mandates by May 1, 1992. The Commission proclaimed that not being able to find a phone in an emergency was "intolerable," and that, upon reflection, it had determined that its current rules unfairly restricted the movement of people with hearing loss.*

* The Commission declined, however, to accommodate a consumer request to raise the minimum acceptable field strength of HAC telephones. Consumer groups were concerned that the original FCC standards produced signals that were six decibels too weak for individuals with profound hearing loss. Although advocates insisted that the standards had been adopted on industry recommendations with scant field testing, industry suggested that it might be the consumers who were having problems with marginally designed hearing aid telecoils that did not adequately couple to properly designed HAC phones. Industry had based the amount of electromagnetic coupling used in these phones on postwar U-type receivers. In the end, the FCC agreed with industry that there was not enough technical data to prove that the existing

Regulatory Battles at the FCC

Before the FCC could even direct its attention to its more expansive proposals, however, consumers were stunned to learn that GTE had challenged the FCC's brand new rules on common area and credit card payphones.⁴⁵ The company complained that by only focusing on the cost of manufacturing HAC phones, the FCC had ignored the huge costs of replacing phones that were already installed. According to GTE, making sure that these phones were compatible would first require determining the extent to which each handset, telephone, or entire business system needed to be replaced, dispatching installers, and then making the necessary adjustments. Rather than the \$1.50 per unit estimated by the Commission, costs could run as high as \$2.60 to 4.50 per phone, adding up to hundreds of dollars where entire phone systems needed to be replaced. GTE also warned that significant FCC resources would be required to notify businesses covered by the new rules, because not all employers were knowledgeable about FCC policies. In the years to come, this last prediction would come to haunt the FCC.

In the ensuing months, other companies came forward with similar cost estimates that would purportedly overwhelm their businesses. Moreover, the alleged costs of complying with the new rules seemed to grow with the passage of time. Before long, companies were claiming that, in addition to the \$4.50 to \$5.00 it would cost to replace each handset, \$25 per phone would be needed in labor, transportation, and administrative costs.⁴⁶ Soon these estimates swelled to \$43.75 per phone, and then to \$200 per phone, after taking into account equipment that needed extensive modification or replacement.⁴⁷ By the close of the docket, some companies claimed that the total budget needed to replace all of the designated non-HAC phones (throughout the nation) would run into hundreds of millions of dollars! They argued that it was senseless to impose such a huge burden when the 1988 Act ultimately would require all new phones to be HAC.

Consumers believed the figures to be inflated, but nevertheless feared that the companies' arguments would carry considerable weight at the FCC. GTE, in particular, had previously come forward as a strong advocate for accessibility, not only by supporting legislation to expand HAC phones, but also—on the same day as the ADA signing—by becoming one of the first companies to announce the availability of TTY-accessible payphones. Given GTE's credibility on the issues, the FCC might take seriously GTE's claims that the costs of the new HAC mandates exceeded their benefits. Over the next several months, consumer advocates, assisted by the Institute for Public Representation, submitted extensive pleadings to the FCC challenging industry's assertions.⁴⁸ But this time, consumers need not have feared. On July 26, 1991, the FCC rejected GTE's petition, focusing on the small number of non-HAC phones needing modification or replacement, as compared to the enormous benefits of enabling hearing aid users to respond to emergencies, to travel more easily, and to participate in the marketplace.⁴⁹

HAC standards were inadequate. The Commission also declined to expand its requirements to closed circuit phones in lobbies, stores, and public transportation terminals.

The FCC Moves Ahead with Bold HAC Changes

Nearly another full year passed before the FCC resolved the rest of its HAC proceeding, but when the agency issued its final ruling, on May 14, 1992, it thrilled consumers by following through with its proposals to require HAC phones throughout all workplaces, senior citizen residential health care facilities, hospitals, prisons, hotels and motels, not just their common areas.⁵⁰ The new rules set a new compliance date of May 1, 1993, for establishments with twenty or more employees, and May 1, 1994, for all other establishments. The FCC explained that the HAC Act of 1988 was already causing a decline in the number of non-HAC phones in the United States, and that the cost-benefit balance tipped in favor of the new mandates if the Commission added this additional time for these to take effect.*

With the new decision in place, HAC advocates could call their movement for full accessibility a success. Finally, rules were in place to ensure that the millions of phones that had been produced and installed before the 1988 Act would have to be made compatible. But before consumers could fully bask in their newly won victory, yet another major turn of events took place that set them back several steps.

On February 9, 1993, with the first compliance deadline only three months away, Goodwill of Seattle requested a waiver of the new HAC mandates.⁵¹ As a nonprofit agency that relied on the sales of donated materials for its operating budget, Goodwill said it could not afford the \$2,675 needed to retrofit all eighty-eight of its telephones without taking money away from vocational training, GED preparation, and its other public programs. HAC advocates were not very concerned; even if the FCC granted this request, its limited scope would not have much impact on telephone access.

But when the Commission released the Goodwill petition for feedback from the public, a torrent of comments protesting the upcoming HAC deadlines poured in from organizations representing more than one million businesses, government agencies, and colleges. GTE had been correct—most businesses were not in the habit of monitoring FCC regulations. And because the FCC had *not* followed through with its commitment to educate businesses about the reach of its new HAC rules, most companies still had inaccurate information about their obligations on the eve of the FCC's implementation deadlines. Many employers had not realized until the very last minute that they were even subject to these mandates. When they figured out that they would have to convert all of their own telephones within a matter of months, they panicked.

The result was near-bedlam. Besieged with hundreds of calls from businesses pleading for leniency in the weeks leading up to May 1, 1993, the FCC did not know which way to turn. Some employers reported receiving jarring notices from telephone retrofitters who, due to order-backlogs, were unable to meet demands for HAC phones, but nonetheless warned of stiff FCC fines for noncompliance. Other businesses, including nursing home facilities, threatened the FCC that if it did not lift the

* Back in April, 1990, the FCC had proposed setting a deadline of May 1, 1992 for all of these newly covered establishments. The extension of one to two years now granted did not apply to common areas and credit card phones, which already were required to be compatible since May 1, 1991.

mandates at once, they would remove their phones entirely, just to avoid government penalties.

On April 2, 1993, the Tele-Communications Association (TCA), a group of telecommunications managers representing more than one thousand users of telecommunications services, including government agencies, colleges and universities, health care facilities, and public and private corporations, filed an emergency request for a stay, asking the FCC to suspend the HAC rules immediately.⁵² TCA charged that the new mandates would cost upward of 900 million dollars, and impose “massive hardships” and “irreparable harm” on covered entities. The association insisted that the FCC’s new order exceeded the agency’s authority because it effectively ordered all workplace phones to be retrofitted. TCA also claimed that the FCC had underestimated the number of non-HAC phones remaining in the workplace. While the FCC had estimated this to be around 40 percent, older phones made up as much as 85 to 90 percent of all phones in some companies, including huge corporations like IBM. And although the FCC’s original calculations assumed that attrition would cause non-HAC phones to be replaced rather quickly, an economic recession had caused many companies to retain their old phones much longer than expected. Moreover, TCA claimed that determining which phones were HAC had proven “surprisingly difficult,” and that the job of replacing those phones in remote sites, especially if they were part of hardwired systems, would be very expensive.⁵³

What came next was a jolt to consumers. Fearing legal action against it, by order of April 13, 1993, the FCC responded to the flood of complaints by indefinitely suspending its new, expanded HAC requirements.⁵⁴ The Commission explained that the unexpected recession had once again tipped the cost-benefit analysis, this time against the new HAC mandates: “Given the seriousness of the issues discussed . . . the quantity of comments we have received and the difficulties involved in fairly assessing their accuracy and worth in the time constraints imposed by the impending implementation date, we find the public interest would best be served by suspending enforcement.”⁵⁵

Incensed with having to again defend the need for telephone access, consumers immediately sought the assistance of government officials who might be able to help overturn the FCC’s eleventh hour reversal. In letters to the White House, the DOJ, and the offices of Senators Tom Harkin and John McCain, advocates argued that the impulsive decision to discard the rules negated years of concerted efforts to provide telecommunications access to millions of Americans with hearing loss.⁵⁶

High-level FCC officials responded that the suspension was not intended to undo the rules entirely, but rather only to serve as a short-term response to complaints about the high costs of imminent compliance.⁵⁷ They said that the Commission’s drastic action had been motivated primarily by three concerns: price gouging by the phone retrofitting industry, the consequences of having phones removed from nursing homes, and the need for significant financial outlays during a slow economy. The suspension simply was intended to buy time, to allow the FCC to rethink the issues, and to work out a compromise between industry and consumers.

Though perhaps relieved to learn that the suspension was temporary, consumers felt that the FCC had been given ample opportunity to strike a balance among the competing interests through full-blown rulemaking proceedings that had lasted

over ten years. And so, on May 11, 1993, six national associations—AG Bell, NAD, NCLD, SHHH, TDI, and WID—responded to the stay by filing their own emergency request to reinstate the HAC rules.⁵⁸ The groups argued that the FCC’s unilateral action violated the Administrative Procedure Act (APA), which requires federal agencies to provide notice of and receive comment from the public on proposed rule changes before they are made.⁵⁹ Although the FCC had requested public comment on Goodwill’s waiver request, this was for a mere eighty-eight telephones; the FCC had not alerted the public that it was contemplating a nationwide suspension of its rules. Consumers also charged that the FCC’s suspension violated Congress’s commitment to universal telephone access for people with disabilities, as expressed in the 1982 and 1988 statutes, the Telecommunications Accessibility Enhancement Act, and the ADA. Harvey Goodstein successfully triggered letters of support for the consumer petition from TFA members with an online action alert:

Only 15 days before the rules’ first deadline, the FCC pulled the rug out from under our feet. Without issuing a preliminary notice and getting the consumer viewpoint on this issue, the FCC responded to business interests that had requested the FCC to delay the rule’s enforcement. The FCC did this even though businesses had as much as 3 years notice to comply with the rules’ requirements.*

Unfortunately, when, at the end of May 1993, the FCC asked the public to comment on the consumer’s request to restore the new mandates, industry used the opportunity to unleash a second round of protests.⁶⁰ Associations representing industries worth billions of dollars now complained that the cost of fixing phones throughout their workplaces would cause substantial harm to the American economy in the midst of a recession.⁶¹ Many in the industry maintained that the FCC had had no choice but to pull the rules at the last minute, even if that meant foregoing public notice and comment. They argued that the APA eliminated the need for public input in this case, where there was good cause to find that “notice and public procedure [was] impracticable, unnecessary, or contrary to the public interest.”⁶² They implied that if the FCC had not acted as it did, thousands of employers would have been thrown into instant violation of the FCC’s regulations because the limited availability of HAC equipment would have made compliance impossible.⁶³ And again they blamed the FCC for failing to alert businesses about the impending requirements.

Consumers shot back with charges that the industry had “demonstrate[d] a callousness toward the challenges faced by people with hearing loss.”⁶⁴ According to advocates, the FCC was irresponsibly telling consumers “your needs can wait” based on unreliable cost estimates that now varied by as much as one-half billion dollars across industry commentators. Moreover, the agency was ignoring its own advice. Previously, the FCC had pointed to the ADA as evidence that neither Congress nor the president would want to “roll back the requirements of the [HAC rules] and deprive people with hearing impairments of equal access to the public communications facilities.”⁶⁵

* TFA e-mail alert, May 10, 1993. In response, one irate consumer wrote, “I consider this to be a direct ‘hang-up’ on the millions of Americans who are in need of such equipment in order to access our telephone communication system.” Jay Crouse, executive director, Deaf and Hard of Hearing Services, Volusia/Flagler Counties, Florida, letter to FCC, June 21, 1993.

Despite the Commission's verbal promises that the suspension would be short-lived, nearly a year passed without any movement toward the rules' reinstatement. In the interest of achieving some kind of resolution, consumers asked the FCC to initiate a "negotiated rulemaking"—a dispute resolution process that would bring all of the interested parties together in a nonadversarial setting to achieve a consensus on new HAC deadlines. The goal would be to involve all or most of the parties with a stake in the issues, and thereby minimize the likelihood of a legal challenge to the final rules once they were adopted by the Commission. Indeed, several companies opposing the original HAC deadlines had indicated a willingness to negotiate new timetables.*

Although the Commission expressed considerable interest in using this consensus-based approach, its failure to make the HAC issue an agency priority caused the "temporary" suspension to remain in place for several more months. Finally, on November 7, 1994, more than a year and a half after imposing the suspension, the FCC agreed to the negotiated rulemaking.⁶⁶ Five months later, the FCC chose representatives from eighteen consumer groups, businesses, health care facilities, hotel associations, equipment manufacturers, and federal agencies to sit on the new advisory committee.⁶⁷ The group would be given ten weeks between April and June 1994 to reach a consensus—hardly any time, given the preceding twenty years of HAC conflict.†

By the time the negotiated rulemaking began, two years had passed since the suspension had taken effect. Consumers were excited about the prospect of expressing their concerns directly to industry representatives, without the impersonal and adversarial nature of traditional rulemaking procedures. Company lobbyists may have found it easy to reject HAC access in written pleadings, but it might be harder for them to do so in person, when they were face-to-face with consumers who would be denied that access.

The earliest meetings provided an opportunity for consumers to educate businesses about their laborious quest for universal access, and for industry to provide consumers with a greater understanding of the events leading up to the FCC's suspension. Two of the committee members, the American Health Care Association, representing more than 11,000 nursing facilities, and the American Hotel and Motel Association, representing more than 45,000 lodging properties, told of being suddenly overwhelmed with the costs of hiring outside firms to conduct site surveys for non-HAC phones, refurbishing existing phones, and replacing entire hardwired systems, while confronting unscrupulous telephone vendors and a severe recession.

Nevertheless, nearly all of the committee members seemed open to the prospect of conciliation and corroboration: they agreed that their task was to decide not *whether* there would be HAC requirements for telephones in workplaces, hotels, and health care facilities, but *when* these requirements would take effect. The one exception to

* For example, rather than oppose the rules outright, NATA had asked the Commission to withhold enforcement of the rules for thirty-six months. Southwestern Bell Telephone had requested a mere four-month extension.

† The group's charge was limited to wireline phones. Upon learning that the committee would not evaluate HAC access to wireless phones, HIA withdrew from the negotiations. Although the FCC promised to address wireless HAC issues in a separate proceeding within a few months, it would be eleven more years before the FCC would finally release rules addressing wireless compatibility, in June 2003.



FCC Chairman Reed Hundt conducts a relay call with former Miss America 1995, Heather Whitestone McCallum, who visited the FCC during her reign to discuss telecommunications access issues, while FCC Disabilities Issues Task Force Chair Linda Dubroof looks on. Whitestone McCallum was the first Miss America with a profound hearing loss.

this was the Equal Employment Advisory Council (EEAC), an organization representing employers in approximately 300 major American corporations and several associations. EEAC insisted that the FCC lacked authority to require extensive phone retrofitting, and that the ADA was sufficient to protect the interests of individual employees who needed compatible phones as a reasonable accommodation for their specific job duties. A second committee member that initially resisted compromise was the General Services Administration (GSA), the federal agency that would be charged with discarding and replacing thousands of incompatible government telephones still in inventory. Although later compromises secured GSA's support, EEAC ultimately left the negotiations.

Generally, all industry representatives to the HAC committee were concerned about costs associated with locating and refurbishing non-HAC telephones, verifying compatibility, and installing new compatible handsets. In order to minimize these costs, companies pushed for compliance deadlines that would allow for the gradual replacement of existing phones during the normal course of their business operations. The problem was that the period over which this was expected to occur (seven to ten years) would thrust HAC deadlines so far into the future that this approach would effectively make permanent the FCC's "short-term" suspension.

Consumers decided that the only way they could agree to deadlines so radically different from the FCC's original order was if they could receive something substantial in return. To this end, Joe Gordon of the New York League for the Hard of Hearing and Brenda Battat of SHHH proposed a mandate for *volume control* on all newly acquired or replaced telephones. While the FCC's prior HAC proceedings had never before contemplated an amplification requirement, without question, Congress's decision not to restrict telephone access to inductive coupling in the 1982 and 1988 Acts gave the FCC ample authority to require this type of technology, especially because it would allow greater numbers of people with hearing loss to achieve telephone access.

In the weeks ahead, as the committee went about devising an intricate maze of new

HAC deadlines, consumers successfully used their proposal for volume control as a bargaining chip, agreeing to compliance dates far into the future in exchange for amplification. Dan Bart, representative for TIA, was able to confirm the economic and technical viability of this proposal; indeed, some manufacturers already had begun to routinely incorporate volume control in their telephones at little or no extra cost.

HAC advocates also decided to push for improved telephone labeling. They found it ironic that more than fifteen years after the industry had so adamantly rejected proposals to affix HAC labels directly on telephone equipment, they were now complaining of the expense associated with ascertaining which of their phones needed modification. If this consumer recommendation had been adopted, HAC phones would now be easy to identify, and at least some of the costs of locating incompatible phones might have been eliminated. To rectify this for the future, industry now finally agreed that all telephones manufactured after a certain date should contain a HAC stamp right on the phones themselves.⁶⁸

As the day of the committee's final meeting approached, consensus had been reached on new HAC deadlines for employers and health care facilities, but not for hotels and motels. Understanding that travelers were generally unfamiliar with their surroundings and at the mercy of phones available at temporary lodgings, consumers wanted HAC mandates on these facilities imposed as soon as possible. But the hotel industry, still fearing the impact that expensive HAC mandates would have on smaller facilities (which were more likely to retain older equipment in the middle of the recession) steadfastly resisted a short HAC timeline. Weeks had been spent debating these points, with little resolution.

With this the only issue keeping the committee from completing its mission, committee members decided to sequester two of its members—the hotel spokesperson and me—in a private room, with instructions not to leave until we had ironed out our differences. After sorting the issues, dissecting our disagreements, and dividing our gains and losses, we produced a labyrinth of complicated deadlines that turned on the number of rooms contained in a given hotel, the year in which phones had been installed, and the extent to which hotel rooms were renovated or phones were altered.*

The final agreement reached by the HAC negotiated rulemaking committee represented the balanced and collaborative work of its members who in good faith had diligently and fairly worked to resolve their differences.⁶⁹ By the end of its tenure, the group was able to agree on a compliance schedule that would ultimately expand telephone access for all Americans with very little, if any, burden upon the covered facilities. Generous compliance deadlines built upon typical telephone replacement cycles, a grace period for phones purchased just before the 1988 HAC Act,[†] and a

* A logistical problem also needed to be resolved before the committee could submit its final report: at the beginning of the negotiations, the group had agreed that a full consensus would be defined only as an agreement by *all* the committee's members. Although EEAC had ceased attending meetings, it was still technically considered a participant and its lone dissent could topple the committee's entire consensus. Fortunately, EEAC agreed to abstain from the final agreement, clearing the way for the recommendations to go to the FCC.

[†] Telephones in inventory that had been purchased between 1985 and 1989 were given an extended deadline of 2005, to protect employers who had purchased non-HAC devices during the years immediately preceding the effective date of the 1988 Act.

presumption of compatibility after the compliance deadlines, meant that the rules would require only a gradual conversion to HAC phones over a period that extended as much as eleven to fifteen years past the 1989 deadline for producing HAC phones, with virtually no phone testing, and scarcely any retrofitting. The final recommendations placed slightly tighter HAC deadlines on health care facilities because of the amount of time that people remained captive in these settings.*

The ADA had helped to guide the rationale for many of the committee's decisions. For example, Title I of the ADA exempted employers with fewer than fifteen employees from rules prohibiting discrimination on the basis of disability. Similarly, although the committee recommended HAC mandates for all workplace phones by the year 2000, it proposed exempting employers with less than fifteen employees.† In addition, just as the ADA had drawn a distinction between mandates to eliminate architectural barriers in existing facilities and requirements for newly constructed or altered properties, the committee's final proposals required all newly installed telephones and telephones placed in new or renovated locations to be compatible. If an entity already had expenses associated with acquiring or repairing new phones or facilities, it was assumed that the incremental cost of adding access would be negligible.

On June 22, 1995, the FCC announced that this was its fourth negotiated rulemaking, but only the second that had been fully successful. FCC Chairman Reed Hundt proudly commended the group's achievements:

This is a real success story. The Commission brought these parties together, in one room, around one table, and we avoided a protracted paper process. They worked around that table and through these issues until they reached an agreement, and they did it in record time. This is truly a new way of doing the people's business in the public interest.⁷⁰

Curses, Foiled Again

It was the success of the committee's efforts that made what happened next all the more devastating. As accolades praising the committee's accomplishments continued to stream in, Congressmen Pete Hoekstra (R-Mich.) and Mike Oxley (R-Ohio) introduced H.R. 1892, cosponsored by Congressmen Robert Ehrlich (R-Md.) and Paul Gillmor (R-Ohio), to prohibit the FCC from adopting any of the recommendations that went beyond its original mandates for common area and coin-operated phones.⁷¹ This deliberate attempt to nullify the committee's consensus had been prompted by complaints to Congress from the Food Marketing Institute, an association whose membership of 1,500 food retailers and wholesalers included approximately 19,000 retail food stores, or more than half the grocery stores in America. The powerful group had concerns about the proposals' impact on the food distribution industry,

* The success of the HAC negotiated rulemaking was in part attributable to the leadership of the FCC officials assigned to facilitate its deliberations. With patience, finesse, and determination, William Luther, Greg Lipscomb, and Linda Dubroof helped the committee navigate through a complex set of mandates to maximize access for consumers and minimize burdens for industry. The trio even arranged for one of the meetings to occur at a Greenbelt, Maryland, school populated by a high proportion of students with hearing loss; we conducted our affairs as students watched governmental processes in action.

† These employers would still be subject to other federal requirements to make individual workstations hearing aid compatible for individual employees.

which provided jobs to four million employees in warehouses, supermarkets, offices, and distribution centers.⁷²

On June 21, 1995—only days after the negotiated rulemaking committee’s final meeting—Hoekstra and Oxley circulated a “Dear Colleague” letter to their House colleagues entitled “Another Agency Run Amok: FCC Ignores Congressional Intent.” The letter angrily attacked the FCC for attempting to require retrofitting, and scared recipients into believing that violations of the FCC’s upcoming rules would result in fines up to \$75,000. Around the same time, the National Association of Manufacturers began organizing its own coalition of business interests to fight the proposals.⁷³

The counterattack from consumers was swift and effective. Under the leadership of Pam Ransom, the seven consumer representatives that had served on the HAC committee orchestrated a series of steps both to remind legislators of their past commitments to telephone access and to rebut the outlandish charges.* Immediately, the group dispatched letters to Congress clarifying that businesses had been given an equal opportunity during the negotiations to provide input into the final HAC proposals; the letters charged that H.R. 1892 was an attempt to destroy the carefully crafted product that had been produced through this very democratic process. Next, a letter went to Chairman Hundt, then attending the TDI convention in Cambridge, Massachusetts, a first for any FCC chairman.⁷⁴ Hundt incorporated the letter (thanking him for holding the successful negotiations) into his speech, after which both the letter and the presentation were picked up by *Communications Daily*, a widely disseminated telecommunications trade journal.⁷⁵ Finally, to counter heavy industry lobbying, advocates issued an alert on the TFA network, calling on consumers everywhere to quickly contest the proposed bill with their elected representatives.⁷⁶

In July 1995, disability advocates also decided to go into the lions’ den. In meetings with the staff of Congressmen Hoekstra and Oxley, they learned that misconceptions about the extent to which the HAC recommendations required testing and retrofitting still existed both within the industry and on Capitol Hill. The consumers explained that it was very likely employers would naturally replace their phones long before the recommended deadlines. Advances in telephone technology, lower equipment costs, and improved telephone features all contributed to the probability that employers would acquire new phones within the next seven years.

The HAC committee presented its final report to the Commission on August 3, 1995.⁷⁷ Sadly, only little more than a month later, we learned that David Saks, father of the HAC movement, had died of heart failure at the age of eighty-one.⁷⁸ A *Baltimore Sun* article revealed that after working as a furniture salesman, Saks had been the owner of a furniture store for twenty years. He had retired in 1973, only to spend all of his retirement years crusading for telephone access. Although most of us had lost contact with Saks by the time he fell ill, notice of his death served as a bittersweet reminder of all that he had accomplished during his golden years.

On November 28, 1995, the FCC released the HAC committee’s proposals for public comment.⁷⁹ Apparently not swayed by the advocates that had come to see

* Al Sonnenstrahl of TDI, Tilak Ratnanather of AG Bell, Brenda Battat of SHHH, John Morgan of CWA, Joe Gordon of LHH, Pam Ransom of the NAD, and the author, on behalf of NCLD, were participants in this effort.

When Congressmen Hoekstra and Oxley introduced H.R. 1892 in an attempt to defeat the consensus agreement of the HAC negotiated rulemaking committee, consumers appealed to Chairman Hundt, who was then participating in TDI's Eleventh International Convention in Boston, Massachusetts. Hundt was the first FCC chairman ever to attend a TDI conference. FCC Chairman Kennard and Commissioner Copps spoke at subsequent conventions.

Telecommunications for the Deaf, Inc.

TDI

Eleventh International Convention

June 28 -
July 1, 1995

Hosted by D.E.A.F., Inc.

**Royal Sonesta Hotel
Cambridge, Massachusetts**

them, Hoekstra and Oxley issued yet another Dear Colleague letter: "There They Go Again." This time they compared the HAC proposals to printing *all* books in Braille, or substituting ramps and elevators for *all* sets of stairs.⁸⁰ But while the Food Marketing Institute, the EEAC, and some anxious and confused state hotel associations also opposed the recommended rules,* the vast majority of parties who sent in comments strongly endorsed the consensus proposals.[†] Even the Information Technology and Telecommunications Association (formerly TCA, the organization that had filed

* Because of miscommunication with their national trade association (AHMA), these local hotel associations mistakenly thought that they would have to incur huge expenses to retrofit virtually all of their phones.

[†] For example, comments submitted by the American Health Care Association on January 10, 1996, concluded that the committee's recommendations represented "a fair and equitable compromise among businesses, manufacturers and . . . consumers." Similarly, on January 16, 1996, the Association of College and University Telecommunications Administrators commented that the committee's proposals for employers had "struck a reasonable balance."

the original Stay petition) agreed that the proposals offered “an equitable balance by protecting employees with hearing disabilities while not saddling employers with overwhelming burdens.”⁸¹

On June 27, 1996, the FCC unanimously adopted nearly all of the HAC committee’s recommendations, calling them “the culmination of an innovative approach to rulemaking.”⁸² Through a streamlined process, the FCC boasted, the advisory body had “reached full consensus on all issues in record time, the number of comments in the record was greatly reduced and the public interest [had] been served.”⁸³ The FCC confirmed that the proposed HAC mandates would not duplicate the ADA: although the latter required accommodations for individual employees, that nondiscrimination statute could not, by itself, meet the needs of people who worked in sprawling, multi-levelled office buildings, or professionals who needed phones for emergencies while on travel.⁸⁴ The FCC also explained that the recently enacted Section 255 of the Communications Act had not eliminated the need for the new HAC mandates.* Section 255 required all telephones to be built with accessible features, but exempted manufacturers from incorporating accessible design features where doing so was not “readily achievable.”⁸⁵ In marked contrast, the HAC mandates were absolute and could only be waived if technically infeasible.

To ensure that businesses were sufficiently alerted about their HAC obligations this time around, the Commission also promised to follow up on committee recommendations to widely disseminate information about the new rules.⁸⁶ After the rules were released, SHHH did its part to alert consumers by securing funding from the National Institutes of Health for a “National Telecoil Awareness Project” in conjunction with the Johns Hopkins Center for Hearing and Balance. The project, designed to increase consumer awareness about the benefits of using telecoils, produced a video and other materials that contained information about the new HAC mandates. These were widely distributed to vocational rehabilitation offices, regional, state and national conventions, publication catalogs, and audiologists.

Volume Control

In addition to adopting the HAC committee’s proposal for volume control on all newly acquired and replacement phones in workplaces, hotels, and health care facilities, the FCC went a step further, to require volume control on *all* wireline and cordless telephones manufactured in or imported into the United States. The FCC easily found the authority to address the issue of telephone amplification, both under its general authority to ensure access to telephone service by people with hearing loss, and under the 1988 HAC Act’s very explicit mandate to encourage the use of new technologies.⁸⁷ In adopting this novel requirement, the FCC rejected industry arguments that internal hearing aid compatibility could only be achieved through inductive coupling; throughout the legislative histories of both HAC statutes, Congress had explicitly alluded to multiple ways of achieving compatibility, including amplification.⁸⁸ The FCC also rejected industry arguments that competitive market forces would be enough to supply the necessary number of amplified telephones.⁸⁹ However,

* Section 255 is discussed in detail in chapters 15 and 16.

Chart 13.1**1996 Final FCC Hearing Aid Compatibility Rules
47 C.F.R. §68.112
(Product of HAC Negotiated Rulemaking)****Workplaces**

Throughout workplaces — HAC phones by January 1, 2000, except for the following, to be HAC by January 1, 2005:

- Telephones in workplaces with under 15 employees
- Telephones purchased between January 1, 1985 and December 31, 1989

Safe Harbor — Employers with more than 15 employees required to either provide one coin-operated telephone, a common area telephone, or another designated HAC phone within a reasonable distance for a person needing a phone at any point in the workplace *or* a wireless HAC telephone until above mandates kick in.

Rebuttable presumption — A presumption exists that telephones located in the workplace are in compliance with the above mandates. A person legitimately on the employer's premises may rebut the presumption, after which the employer must provide a HAC phone within 15 days.

(All common areas and individual workstations — HAC phones required, regardless of number of employees in the workplace, since May 1991)

Confined Settings (hospitals, nursing homes, etc.) — to provide HAC phones in patient rooms by November 1, 1998.

Hotels and Motels

- With 80 or more beds — to provide HAC phones by November 1, 1998
- With fewer than 80 beds — to provide HAC phones by November 1, 1999

Except that:

- Guest rooms that are renovated, newly constructed, or substantially and internally repaired before the above dates must be HAC, and
- Phones purchased between January 1, 1985 and December 31, 1989 had a different schedule that stretched between April 1997 to January 2004, incrementally increasing the number of required HAC phones depending on the size of the facility.

Volume Control — All telephones manufactured after January 1, 2000 or purchased for the above locations after this date, to have volume control.

Chart 13.2

**Evolution of Federal Hearing Aid Compatibility Requirements
Wireline Telephones**

January 1983	Telecommunications for the Disabled Act of 1982 (TDA) enacted: requires all “essential telephones” to be HAC, defined as telephones operated with coins, provided for emergency use, and frequently needed by hearing aid users
December 1983	FCC issues rules further delineating the categories of “essential telephones” under the TDA
March 1988	FCC proposes expanding definition of “essential phones” to include common areas of workplaces and credit card-operated telephones
August 1988	Hearing Aid Compatibility Act of 1988 enacted: requires all new telephones to be HAC after August 1989
May 1989	In reversal, FCC withdraws March 1988 proposals to expand categories of essential telephones
April 1990	In second reversal, FCC issues rules requiring common areas in workplaces and credit card phones to have HAC phones by 1991; proposes HAC mandates for phones throughout workplaces, hospitals, nursing homes, hotels, motels and prisons by May 1992.
May 1992	FCC adopts April 1990 proposals to expand HAC phones, but delays implementation until May 1993 for establishments with 20 or more employees and until May 1994 for establishments with under 20 employees.
February 1993	Goodwill Industries requests waiver of expanded HAC rules
April 1993	Tele-Communications Association files Emergency Request for stay of expanded HAC rules
April 1993	FCC indefinitely stays expanded (May 1992) HAC rules
May 1993	Advocates file emergency request to reinstate expanded rules
April–June 1994	HAC negotiated rulemaking committee reaches consensus on new HAC coverage and deadlines
June 1994	Hoekstra-Oxley bill introduced (H.R. 1892) to nullify HAC committee’s work
June 1996	FCC adopts final HAC rules for wireline phones

in response to an appeal filed by the Consumer Electronics Manufacturers Association, the FCC ultimately agreed to move the original implementation deadline for the volume control mandate from November 1, 1998, to January 1, 2000, to give manufacturers ample time to make necessary changes to their production lines.⁹⁰

Implementation of the Final Wireline HAC Rules

Unlike its controversial history, implementation of the final HAC wireline rules progressed relatively smoothly. Over time, Hoekstra and Oxley's legislative challenges receded, and with the exception of an occasional waiver request for specialized phones, not a single legal challenge was brought to uproot the new mandates.⁹¹

By the time the FCC began implementing the final HAC regulations, more than two decades had passed since David Saks and OUT had first started their crusade for universal telephone access. Senator Mathias (D-Md.) had been right: the solution reached midway through this period—requiring only essential telephones to be compatible—had created “years of unnecessary confusion, delay, frustration and expense.”⁹² There is little question that the protracted FCC proceedings, which had consumed such enormous industry and consumer resources, could have been avoided had universal compatibility been required some twenty years earlier. But even the FCC's final wireline HAC rules did not end the HAC controversies. Battles for equal telecommunications access by hearing aid users were about to commence all over again, with America's growing dependence on wireless telephone services.

Notes

1. S. 314, 100th Cong., 1st Sess. (1987); H.R. 2213, 100th Cong., 1st Sess. (1987). Senators Matsunaga, Inouye, Heinz, Dodd, Stafford, Cochran, Simon, and D'Amato cosponsored S. 314 at the time of its introduction. See 133 *Cong. Rec.* 1324 (January 14, 1987). Congressman Mavroules was joined by thirty-nine co-sponsors in introducing the House bill.

2. *Access to Telecommunications Equipment and Services by the Hearing Impaired and other Disabled Persons*, Notice of Inquiry, CC Dkt. 87-124, FCC 87-150, 2 FCC Rcd 2836 (May 15, 1987).

3. Comments of Maryland People's Counsel, Hearing, and Speech Agency of Metropolitan Baltimore, Inc., Maryland Department of Health and Mental Hygiene, Maryland Governor's Office for Handicapped Individuals, NCLD, OUT, and TEDI in CC Dkt. 87-124 (June 29, 1987).

4. On behalf of NCLD, I had the privilege of testifying at the House and later the Senate hearings, along with Saks and other OUT members.

5. Statement of Chairman Markey, Hearings on H.R. 2213 before the Subcommittee on Telecommunications and Finance of the House Committee on Energy and Commerce, 100th Cong., 2d. Sess. 2 (February 24, 1988). Hereinafter cited as H.R. 2213 Hearings.

6. Statement of Freeman E. Robinson, president, GTE Consumer Communications Product Corporation, H.R. 2213 Hearings, 39-45.

7. Interview with Dan Bart, formerly of GTE, May 2, 2003.

8. Statement of Peter Bennett, H.R. 2213 Hearings, 30; see also H.R. 2213 Hearings, 93.

9. H.R. 2213 Hearings, 96.

10. H.R. 2213 Hearings, 94, 98 (emphasis added).

11. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Notice of Proposed Rulemaking and Further Notice of Inquiry, CC Dkt. 87-124, FCC 88-123, 3 FCC Rcd 1982 (March 29, 1988).

12. *Ibid.*, ¶23, citing H. Rep. No. 888, 97th Cong., 2d Sess. 10 (1982).

13. Comments of NCLD, OUT, TDI, TEDI, LHH, Minnesota Telecommunications Access for Communicatively Impaired Persons, and five Maryland government agencies in CC Dkt. 87-124 (July 26, 1988).

14. See H. Rep. No. 888, 97th Cong. 2d Sess. 10 (1982): “Regulations must be sufficiently specific to enable employers to comply without undue risk of an unexpectedly adverse interpretation in a subsequent proceeding for compliance.”

15. This became the Telecommunications Accessibility Enhancement Act, discussed in detail in chapter 4.

16. Statement of Karen Peltz Strauss on behalf of Gallaudet University and NCLD, Hearings on S. 314 before the Subcommittee on Communications of the Senate Committee on Commerce, Science, and Transportation, 100th Cong., 2d. Sess. 41 (March 31, 1988). Hereinafter cited as S. 314 Hearings.

17. Statement of Gerald Brock, chief, Common Carrier Bureau, FCC, S. 314 Hearings, 20, 28.

18. *Ibid.*, 25.

19. Statement of Karen Peltz Strauss, S. 314 Hearings, 41. In his opening statement, Congressman Nicholas Mavroulos similarly noted that, having witnessed the struggle for equal rights at Gallaudet University, federal legislators now had the “perfect opportunity to responsibly assist in that struggle by working to give all people the chance for equal telephone access.” Statement of Congressman Mavroulos, S. 314 Hearings, 60.

20. See, for example, Statement of David Saks, director, OUT, S. 314 Hearings, 35.

21. H. Rep. No. 674, 100th Cong. 2d Sess. 14 (1988) (emphasis added). Hereinafter cited as H. Rep. No. 674. See also S. Rep. No. 391, 100th Cong. 2d Sess. 7 (1988). Hereinafter cited as S. Rep. No. 391.

22. 47 U.S.C. §610(b)(3); H. Rep. No. 674, 14. Congress also implemented consumer suggestions to require the FCC to periodically review any waivers granted.

23. H. Rep. No. 674, 9. The wireless phone and other exemptions were codified at 47 U.S.C. §610(b)(2).

24. David Saks, “OUT Members and Friends Ensured Enactment,” *The OUT-line*, 14 (August 1988): 2.

25. The House Subcommittee had approved H.R. 2213 on April 28, 1988. See also, David Saks, letter to the author, May 8, 1988, wherein Saks commented, “It is not the perfect bill that we started with but the best that we could do. . . . We fought the exemptions until the day before the mark up session and got them softened in many respects but not eliminated.”

26. 134 *Cong. Rec.* 13802 (June 8, 1988); 134 *Cong. Rec.* S9288–9290 (daily ed. July 11, 1988).

27. P.L. 100-394, 102 Stat. 976 (1988), codified at 47 U.S.C. §610.

28. P. L. 100-394, Sec. 2(1) (emphasis added); H. Rep. No. 674, 3,7; See Karen Peltz Strauss and Robert E. Richardson, “Breaking Down the Telephone Barrier—Relay Services on the Line,” *Temple Law Review* 64 no. 2 (Summer 1991): 583–607, 592.

29. H. Rep. No. 674, 6, referring to 47 U.S.C. §151.

30. S. Rep. No. 391, 4 (1988); H. Rep. No. 674, 7.

31. S. Rep. No. 391, 3.

32. H. Rep. No. 674, 5.

33. S. Rep. No. 391, 6; H. Rep. No. 674, 8–9.

34. 47 U.S.C. §610(e).

35. H. Rep. No. 674, 8. See also H. Rep. No. 674, 12–13; S. Rep. No. 391, 2.

36. The names of this individual and the other correspondents who sent letters (received by OUT and LHH between September 1986 and June 1988) have been withheld.

37. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Further Notice of Proposed Rulemaking, CC Dkt. 87-124, FCC 89-55, 4 FCC Rcd 2250 (February 16, 1989).

38. In all, ten organizations sent in comments to the FCC expressing their outrage: Joint Comments of NCLD, OUT, TDI, Maryland Office of People’s Counsel, LHH, TEDI, the Hearing and Speech Agency of Metropolitan Baltimore, Inc., the Maryland Governor’s Commission on Hearing Impairments, the Maryland Governor’s Office for Handicapped Individuals, and Minnesota

Telecommunications Access for Communicatively Impaired Persons in CC Dkt. 87-124 (March 14, 1989).

39. USTA and GTE had shared concerns about these unsold phones with the Commission. Although AT&T had come out in support of the original proposals, USTA and GTE claimed that AT&T only did so because it had an interest in selling new phones.

40. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, First Report and Order, CC Dkt. 87-124, FCC 89-137, 4 FCC Rcd 4596 (May 11, 1989). Among other things, the FCC now claimed that it had no evidence on the extent to which the absence of credit card compatibility would cause consumers inconvenience—despite the agency's earlier assertions to the contrary: “The perceived unavailability of HAC credit card telephones does not appear to be as acute as NCLD-OUT implies” (¶11). The Commission's final order also adopted a suggestion by AT&T to require labeling only on the packaging of non-HAC phones now that all new phones were required to be HAC.

41. Petition for Partial Reconsideration in CC Dkt. 87-124, submitted by OUT, NCLD, TDI, LHH, TEDI, the Maryland Office of People's Counsel, the Hearing and Speech Agency of Metropolitan Baltimore, the Maryland Governor's Office for Handicapped Individuals, and Minnesota Telecommunications Access for Communicatively Impaired Persons (June 16, 1989).

42. See, for example, GTE Opposition to Petition for Partial Reconsideration in CC Dkt. 87-124 (August 7, 1989). Opposing comments were also filed by TIA and Bell Atlantic.

43. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, CC Dkt. 87-124, FCC 90-133, 5 FCC Rcd 3434 (adopted April 12, 1990, released June 7, 1990).

44. *Ibid.*, ¶¶15, 26.

45. GTE Service Corporation, Petition for Reconsideration in CC Dkt. 87-124 (August 15, 1990).

46. Comments of Southern New England Telephone Company in CC Dkt. 87-124 (August 27, 1990).

47. Reply Comments of North American Telecommunications Association in CC Dkt. 87-124 (October 24, 1990).

48. Most of the national and Maryland consumer groups that submitted comments earlier did so again on August 27, 1990, September 24, 1990, and October 19, 1990. New commenters included ASHA, NAD, SHHH, the Arizona Council for the Hearing Impaired, and the California Center for Law and the Deaf. Among other things, advocates urged expansion of the rules to closed circuit phones, citing to legislative history that stated that “in the absence of extraordinary costs of implementation, persons with impaired hearing should be confident that they can effectively use any telephone made generally available to invitees in a place of business or in a public building, including phones restricted to local calling areas or to internal extensions.” Joint Consumer Comments (August 27, 1990), 6, citing H. Rep. No. 888, 10.

49. *Access by Persons with Hearing Impairments or Other Disabilities to Telecommunications Equipment and Services*, Memorandum Opinion and Order, CC Dkt. 87-124, FCC 91-236, 6 FCC Rcd 4799 (adopted July 26, 1991, released August 7, 1991). Hereinafter cited as MO&O 1991.

50. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Report and Order, CC Dkt. 87-124, FCC 92-217, 7 FCC Rcd. 3472 (June 4, 1992).

51. Amelia M. Walker, Seattle Goodwill Industries, letter to James Keegan, chief, Domestic Facilities Division, FCC Common Carrier Bureau, February 9, 1993.

52. TCA Emergency Request for Stay (April 2, 1993).

53. *Ibid.*, 11.

54. The fear of litigation may have been justified. A *New York Times* article referenced a threatened suit by the Credit Union National Association just prior to the suspension. The article explained that the FCC was “bowing to a wave of protest from businesses and trade associations.” Barbara Presley Noble, “Hearing-Aid Phone Rules Are Delayed,” *New York Times*, April 16, 1993, D1, 16.

55. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, Order, CC Dkt. 87-124, FCC 93-191, 8 FCC Rcd 4958 (April 15, 1993), ¶8.

56. Karen Peltz Strauss, NCLD, letter to Paul Miller, White House liaison on disability issues,

April 19, 1993. Other correspondence was sent to Liz Savage of DOJ, Bobby Silverstein of Senator Harkin's office, and Mark Buse of Senator McCain's office.

57. FCC officials took this position at a meeting held on June 23, 1993. In attendance were consumers Donna Dickman of AG Bell, Brenda Battat of SHHH, Al Sonnenstrahl of TDI, Angela Campbell of IPR, and the author of NCLD; the FCC's general counsel's office; Kathleen Abernathy and Brian Fontes of the office of Acting FCC Commissioner Quello; and employees from the offices of Commissioners Ervin Duggen and Andrew Barrett.

58. AG Bell, NAD, NCLD, SHHH, TDI, and WID, "Emergency Request to Reinstate Enforcement of the Hearing Aid Compatibility Rules" (May 11, 1993).

59. 5 U.S.C. §§553(b)(3); (c).

60. *Emergency Request to Reinstate Enforcement of the Hearing Aid Compatibility Rules*, FCC Public Notice, DA 93-590 (May 25, 1993).

61. Comments of the Utilities Telecommunications Council, a national association that performed communications work for thousands of the nation's electric, gas, water, and steam utilities. See also Comments of the International Communications Association, claiming to be the largest association of telecommunications users in America, with more than 720 members and annual acquisitions of telecommunications equipment and services approximating twenty-two billion dollars. Others continued to question the Commission's authority to require retrofitting beyond that which was specifically authorized in the 1982 Act. See Ad Hoc Telecommunications Users Committee Opposition to Emergency Request to Reinstate Enforcement of Hearing Aid Compatibility Rules and Petition for Rulemaking; Joint Comments of Dow, Lohnes, and Albertson. All of these comments were filed in CC Dkt. 87-124 on June 10, 1993.

62. TCA Opposition to Emergency Request to Reinstate Enforcement of the Hearing Aid Compatibility Rules in CC Dkt. 87-124 (June 10, 1993), 9, citing 5 U.S.C. 553(b)(B).

63. *Ibid.*, 10.

64. Reply Comments of AG Bell, the California Center for Law and the Deaf, the NAD, NCLD, SHHH, TDI, and WID (June 30, 1993), 10.

65. *Ibid.*, 19, citing MO&O 1991, quoting the Commission, 6 FCC at 4799 n. 4.

66. *FCC Asks for Comments and Nominations for Membership Regarding the Establishment of an Advisory Committee to Negotiate Regulations*, FCC Public Notice, CC Dkt. 87-124, FCC 94-280 (November 7, 1994). The negotiated rulemaking committee would be developed under the Federal Advisory Committee Act, 5 U.S.C. App. 2 and the Negotiated Rulemaking Act of 1990, P.L. 101-648 (1990).

67. *FCC Establishes Hearing Aid Compatibility Negotiated Rulemaking Committee, and Sets Meeting Dates*, FCC Public Notice, CC Dkt. 87-124, FCC 95-791 (April 12, 1995). Consumers were to be represented by AG Bell, ASHA, CWA, LHH, NAD, NCLD, SHHH, and TDI. The Aeronautical Radio, Inc., American Health Care Association, American Hotel and Motel Association, Equal Employment Advisory Council, IBM, TCA, TIA, and USTA would represent industry interests. The FCC and GSA were to represent federal agencies, and the Hearing Industries Association was designated to represent hearing aid manufacturers. I had the privilege of representing NCLD on the committee.

68. See 47 C.F.R. §68.300.

69. TIA abstained from most of the final recommendations because as a standards-setting body, it considered itself a neutral committee member. Unlike telephone equipment owners, TIA would not bear expenses associated with the final proposals. Similarly, IBM submitted a separate statement—but not a dissent—complaining that the proposals would still result in the FCC's exceeding its statutory authority. IBM wrote that it "would have preferred that each company be given a chance to look at its employee population and evaluate how HAC telephones could best be placed and used." HAC Negotiated Rulemaking Committee, Final Report, CC Dkt. 87-124 (August 1995), 64. Hereinafter cited as HAC NegReg Final Report.

70. *Negotiated Rulemaking Committee Reaches Full Consensus on Proposed FCC Rules for Wireline Telephone Hearing Aid Compatibility and Volume Control*, FCC Report No. DC 95-90 (June 22, 1995).

71. H.R. 1892, 104th Cong., 1st Sess. (1995).

72. See, for example, Comments of Food Marketing Institute in CC Dkt. 87-124 (January 11, 1996).

73. Larry Fineran, National Association of Manufacturers (NAM), letter to Former Electronic Monitoring Coalition, June 28, 1995. NAM condemned the committee's recommendations as unacceptable.

74. AG Bell, TDI, SHHH, NCLD, CWA, LHH, and NAD, letter to Chairman Reed Hundt, June 28, 1995.

75. Committee that Negotiated Rules," *Communications Daily*, June 29, 1995.

76. TFA, e-mail alert, "Opposition to H.R. 1892 Needed!" (undated).

77. HAC NegReg Final Report.

78. DeWitt Bliss, "David Saks, Led Efforts to Make Phones Work with Hearing Aids," *Baltimore Sun*, September 22, 1995. Saks died on September 20, 1995.

79. *Access to Telecommunications Equipment and Services by Persons with Disabilities*, Notice of Proposed Rulemaking, CC Dkt. 87-124, FCC 95-474, 11 FCC Rcd 4338 (November 28, 1995).

80. Congressmen Pete Hoekstra and Mike Oxley, "There They Go Again," Dear Colleague letter, April 8, 1996.

81. Comments of the Information Technology and Telecommunications Association in CC Dkt. 87-124 (January 16, 1995), 4.

82. *Access to Telecommunications Equipment and Services by Persons with Disabilities*, Report and Order, CC Dkt. 87-124, FCC 96-285, 11 FCC Rcd 8249 (July 3, 1996), ¶20. Hereinafter cited as Final HAC Report and Order. The order amended 47 C.F.R. §68.112.

83. "Commission Adopts New Rules to Ensure Telephone Access by Persons with Hearing Disabilities," FCC News Release, June 27, 1996; Final HAC Report and Order, ¶106: The rules represent the culmination of "an extraordinary effort among organizations representing government, business, industry and individuals with hearing disabilities on the Committee."

84. Conversely the ADA was not intended to invalidate other federal laws, such as the HAC rules, if those other provisions offered greater or equal disability protections than the ADA. 42 U.S.C. §12201 (b); *ADA Handbook, EEOC and DOJ Interpretive Guidelines* (October 19, 1991), I-22.

85. 47 U.S.C. §255 (enacted February 8, 1996). Nor could the more general Section 255 be construed to supercede the more specific HAC law. Section 601(c) of the Telecommunications Act of 1996, P.L. 104-104, stated that the provisions of the 1996 Act should "not be construed to modify, impair or supersede Federal, State or local law unless expressly so provided in such Act or amendments."

86. Final HAC Report and Order. ¶105. The Commission did, in fact, prepare consumer fact sheets for this purpose.

87. 47 U.S.C. §610(a); Final HAC Report and Order, ¶65. The FCC's technical standards for providing volume control can be found at 47 C.F.R. §68.317.

88. The findings of the 1988 Act itself refer to inductive coupling as "present technology," and "anticipated improvements in both telephone and hearing aid technologies." P.L. 100-394§§2, 3. In addition, the House report unequivocally stated that this statute did "not require induction as the sole method of telephone/hearing aid coupling. It is flexible and allows for other methods of compatibility." H. Rep. No. 674, 12. Similarly, the Senate report explained that the Act was "intended to avoid impeding the development of new technology which can provide benefits similar to those currently achieved through inductive means." S. Rep. No. 391, 10.

89. Final HAC Report and Order, ¶69.

90. Consumer Electronics Manufacturers Association (CEMA), Petition for Reconsideration (September 13, 1996). *Access to Telecommunications Equipment and Services by Persons with Disabilities*, Order on Reconsideration, CC Dkt. 87-124, FCC 97-242, 12 FCC Rcd 10077 (July 11, 1997). The FCC rejected CEMA's recommendation that the rule be revised to apply to only new, and not existing, telephone models. The Commission was concerned that CEMA had not offered any assurances that manufacturers would ever phase out production of existing telephone models; it wanted consumers to have the comfort of knowing that after a date certain, any phone they purchased would have the volume control feature. The Commission later waived a requirement for telephones with amplification greater than 18 dB to have to automatically reset to a volume control

level no greater than this every time the phone was hung up. The FCC decided that it would be far easier for senior citizens and other consumers not to have to reset the volume control every time they made a call. *Tandy Corporation, Walker Equipment Company, Ameriphone, Inc., and Ultratec, Inc., Request for Waiver of Volume Control Reset*, 47 C.F.R. §68.317(f), Memorandum Opinion and Order, NSD-L-00-17, NSD-00-L-22, NSD-L-00-63, NSD-L-00-193, DA 01-578 (March 5, 2001). See also Clarity, A Division of Plantronics, Inc., Request for Waiver of Volume Control Reset, Order, DA 04-622 (March 8, 2004).

91. For example, in 1999, Lucent Technologies applied for and was granted, a HAC exemption for telephones designed to be used in explosive atmospheres. *Lucent Technologies, Inc., Petition for Waiver of the Volume Control Requirement Contained in 47 C.F.R. §68.6*, Order, File No. NSD-L-99-49, DA 99-2982 (December 23, 1999). Incorporating volume control into these phones permitted gases to enter through the volume control button, making the handsets unsafe for use where there were explosive or combustible vapors. In addition, when, in 2000, the FCC eliminated rules requiring its involvement in processes for approving telephone equipment under Part 68 of its rules, the HAC and volume control rules were among the very few that the agency maintained because these were deemed to be a “critical component” in continuing to ensure telecommunications access by people with disabilities. *2000 Biennial Regulatory Review of Part 68 of the Commission’s Rules and Regulations*, Report and Order, CC Dkt. 99-216, FCC 00-400, 15 FCC Rcd 24944 (December 21, 2000), ¶66. The Part 68 certification process had begun twenty-five years earlier to encourage competition, but the Commission decided that its involvement was no longer needed to either establish technical criteria for terminal equipment or to approve that equipment.

92. Statement of Senator Mathias, 128 *Cong. Rec.* S10725 (daily ed. August 18, 1982).

14

A Wireless World

The key here is to move quickly to find the solutions before we go any further in the communications revolution. We're here because we want to move as fast as possible to address the impacts of new wireless communications technologies on the hearing aid community.

—FCC Chairman Reed Hundt

IN THE LATE 1980s, Americans began to break free of the restrictions imposed by a wired telecommunications network. No longer tethered to their homes and offices, hearing people were finding that they could use wireless telecommunications services to make and receive calls anywhere, at any time. But disability advocates feared that deaf and hard of hearing consumers would not be able to do the same. If history was any indication, these innovations would be designed and deployed without consideration for their ability to work in conjunction with TTYs, hearing aids, and cochlear implants.*

Fortunately, the earliest wireless technologies in the United States did not create major accessibility problems. These technologies used analog transmissions which, like their wireline counterparts, were typically TTY or hearing aid compatible. However, a new generation of *digital* wireless technologies, also called personal communication services (PCS), presented a different story. Although these advanced innovations promised wider availability, improved spectrum efficiency, enhanced sound quality, better pricing plans, and more versatile features, including voice mail, caller ID, and web access, they did not necessarily promise access by people with hearing loss.

When Congress passed the Hearing Aid Compatibility Act of 1988 requiring all wireline phones to be usable with hearing aids after August 1989, it temporarily exempted wireless handsets because these telephones were then considered complementary, not essential, to telephone communication.¹ Aware that this situation might change, Congress directed the FCC to revoke or modify the wireless exemption, if four criteria were met:

Epigraph. FCC Chairman Reed Hundt, Hearing Aid Compatibility and Accessibility to Digital Wireless Telecommunications Summit Meeting (Opening Remarks, Washington, D.C., January 3, 1996).

* An increasing number of children and adults now receiving cochlear implants needed access to the latest telecommunications technologies.

- removal or limitation of the exemption was in the public interest;
- providing HAC wireless phones was technologically feasible;
- continuation of the exemption would adversely affect people with hearing loss; and
- adding compatibility to phones would not make them so costly that they could not be marketed successfully.²

In May of 1989, the FCC made a commitment to review this exemption at least once every *five* years.³

In 1992, I was contacted by Dan Bart, an industry veteran of the twenty-year-old battles to make wireline telephones hearing aid compatible. Bart was calling to alert consumers about industry's imminent plans to deploy digital wireless services in the United States, and of the consequences that this could have for hearing aid users. If the HAC rules were not swiftly revised to include wireless services (i.e., by eliminating their exemption), he suggested that the window of opportunity to incorporate access might be closed. Once digital wireless services were fully designed and put into circulation across America, retrofitting these technologies for compatibility might be difficult, if not impossible.

In the *wireline* context, making phones compatible typically had required providing an internal means for the telephone to inductively couple with the hearing aid user's telecoil, so that the user could hear speech without ambient noise and feedback otherwise heard through the hearing aid's microphone. But "hearing aid compatibility" in the context of digital wireless devices, in addition to requiring inductive coupling for telecoil users, raised some very different issues.

Digital wireless technologies convert communications into ones and zeros of a computer code, which are sent over wireless networks in a series of rapid electronic pulses. When the circuitry contained in hearing aids picks up these pulsing signals, individuals wearing the aids can hear extraneous buzzing, clicking, or high-pitched noises, which can make communication difficult, if not impossible. The extent to which a user can experience this electromagnetic interference depends on a number of factors, including the operating power of the telephone, the telephone's antenna design and placement, the type of hearing aid, the user's level and type of hearing loss, and the specific type of digital technology being used.

In the early 1990s, reports began trickling in from Europe that hearing aid users were experiencing significant electromagnetic interference from a certain type of digital wireless technology called "GSM" or Global System for Mobile Communications. In addition to "user" interference, which occurred when hearing aid users held GSM phones to their ears, some Europeans were reporting bystander interference, which occurred when a hearing aid wearer was not using a phone, but was merely standing near a GSM phone user.

Around this same time, the FCC was beginning to define procedures for allocating digital spectrum for wireless communications in the United States.⁴ Fearing that the needs of hearing aid users would get lost in the Commission's rush to deploy these services, HAC advocates urged the FCC not to grant licenses to companies interested in providing digital services, without first ascertaining how those companies would meet the needs of people with disabilities.⁵ But the FCC rejected this suggestion, opting instead for a minimal regulatory approach that was, indeed, designed to expedite the digital roll-out.⁶ The agency concluded that in a highly competitive wireless market,

providers would be sufficiently self-motivated to offer consumers high-quality service and appealing prices without heavy regulatory constraints.

During the summer of 1994, the FCC went ahead and set up what it called “the largest auction of public assets in American history” to receive bids for over 2000 digital wireless licenses.⁷ Giddy with the billions of dollars that would be retrieved as payment for these new permits, the Commission boasted of a glorious future of lightweight, multifunctional telephonic devices that would facilitate America’s entrance into a technology-driven twenty-first century. The new generation of mobile services promised to perform a host of services that would create thousands of new jobs, “fuel our nation’s economic growth and revolutionize the way in which Americans communicate.”⁸

However, SHHH’s executive and associate directors, Donna Sorkin and Brenda Battat, were not prepared to share the FCC’s enthusiasm for the new technologies. The two were growing increasingly alarmed that the expedited licensing process would have devastating effects for people with hearing loss. The problems that hearing aid users were having in Europe prompted these advocates to initiate national education and advocacy efforts to raise awareness among consumers, the wireless industry, and the FCC about the problems that could be caused by the new digital technologies here in America.⁹

Unfortunately, it was not long before Sorkin, Battat, and other HAC advocates became frustrated in their attempts to get digital wireless manufacturers to take their concerns seriously. Although the wireless industry did agree to provide seed money for independent studies that would evaluate the interactions between digital wireless devices and electronic equipment, the results of this research, to be performed at the newly developed University of Oklahoma Center for the Study of Wireless Electromagnetic Compatibility, would not be released until late 1996, *after* the scheduled roll-out of digital wireless technologies in the United States.

An FCC Petition for Wireless Hearing Aid Compatibility

SHHH was presented with a novel opportunity to make itself heard on the wireless HAC issue during the winter of 1995, when a group calling itself the Wireless Communications Council approached it and other advocacy groups about petitioning the FCC to lift the wireless HAC exemption.¹⁰ The council’s interests in this issue stemmed from its investments in North American Wireless, Inc., a company that planned to build digital wireless networks in America using CDMA or Code Division Multiple Access technology—a competitor to GSM. The council was aware of the problems that GSM had been causing European hearing aid users, and was equally aware that these problems did not occur as much with CDMA. In an attempt to capitalize on their mutual objection to GSM, the council approached the hard of hearing community about working together to prevent its national deployment in the United States. Both SHHH and AG Bell were aware that the council was using the hearing aid interference issue to its own business advantage, and rejected its initial suggestion that consumers support one digital technology over another. Fortunately, the groups were eventually able to agree on a strategy to ask the FCC to make *all* “PSC” or digital technologies hearing aid compatible, and working under



SHHH's former Executive Director Donna Sorkin (left) and current Associate Executive Director Brenda Battat (right) organized nationwide efforts to convince the wireless industry to make wireless telephones internally compatible with hearing aids and cochlear implants.

the collective name, Helping Equalize Access Rights in Telecommunications Now, or the HEAR-IT NOW Coalition, they jointly filed an FCC petition to achieve that result on June 5, 1995.¹¹

As soon as it was filed, the wireless HAC petition became the target of attacks by others in the wireless industry. The Cellular Telecommunications Industry Association (CTIA), an international trade association serving as one of the leading spokesmen for this industry,* dismissed the coalition's action as a veiled, anti-competitive attempt to discredit GSM in the "fierce battle" over which technology would be selected to provide the next generation of wireless devices.¹² Others feared that the petition would stop digital technologies "dead in their tracks," thereby threatening the billions of dollars already invested in digital technologies, and causing substantial harm to the economic growth of our nation.¹³ Many companies also claimed that a proceeding on the wireless HAC issue was premature because the University of Oklahoma research efforts had just begun.¹⁴

Beyond these declarations, however, was a general refusal by the wireless industry to even acknowledge the existence of a problem with digital interference. Companies argued that interactions between hearing aids and GSM technology in Europe were irrelevant because the power levels used for these services would be much lower in America.¹⁵ In addition, they alleged that the petition's claims were "speculative," and the petitioners, unnecessarily "alarmist," because few hearing aid users living abroad had actually filed complaints about wireless interference.¹⁶

"It is astounding that the wireless communications community would prefer to face the unknown risks of future regulation rather than address a known problem at the earliest possible stage," declared the HEAR-IT NOW Coalition in replies to the

* CTIA has since changed its name to the Cellular Telecommunications and Internet Association.

industry's comments.¹⁷ The coalition and other advocates rejected industry's alleged solutions to the HAC problem, including the recommendation that hearing aid users continue to rely on analog wireless services.¹⁸ Advocates complained this would relegate hearing aid users to a telecommunications underclass that would be denied the more attractive pricing packages and broad array of enhanced features available to digital wireless users. Hearing aid users found a second suggestion—that they simply use digital handsets on the ear without a hearing aid—both erroneous and insensitive to their needs.¹⁹ Not only did this fail to take into account that considerable sensorineural loss (hearing loss in both ears) was the most common type of hearing loss, it failed to consider that many individuals with more severe hearing loss specifically relied on telecoil coupling to communicate by phone.²⁰

Consumer opposition to a third alternative proposed by the industry—the use of external devices—dated back to the earliest battles for HAC access in the 1970s.* Then, as now, consumers considered add-on equipment to be costly, ineffective, inconvenient, and unwieldy. Congress had already expressed its preference for *internal* compatibility for wireline telephones in both the 1982 and 1988 HAC statutes. Consumers had the same needs with respect to wireless phones; they did not want to have to purchase or carry around extra accessories.

Another age-old dispute between industry and consumers that resurfaced in the new battles for wireless accessibility concerned the extent to which the hearing aid industry needed to share in the responsibility of making telephones usable by hearing aid wearers. Wireless companies insisted that hearing aid manufacturers had a responsibility to better shield hearing aids with a metallic electrostatic coating that would create greater immunity to interference from digital transmissions. They pointed out that in Australia, the government had directed the nation's hearing aid manufacturers to take measures to mitigate interference, instead of ordering telephone manufacturers to redesign their phones.

Consumers did not dispute that increased hearing aid shielding was needed to help block interference from digital phones along with a plethora of other electronic devices, including pacemakers, fluorescent lights, microwave ovens, and even TVs. Indeed, there was little question that the hearing aid industry had its own motivation to improve immunity to these widely popular pieces of equipment. But hearing aids often cost thousands of dollars, and were typically not reimbursable through health care plans. If consumers had to purchase new aids, or have their existing aids retrofitted with additional shielding, it was unclear who would be expected to bear that expense.† Moreover, it was not at all clear that the situation in Australia was analogous to what was happening in America. In Australia, the government had directed increased hearing aid immunity to reduce bystander, not user, interference. The latter presented

* Two external devices for wireless use were the Hearing Aid Telephone Interconnect System (HATIS), which fit behind the ear, and when plugged into the headphone jack of wireless phones provided inductive coupling with a telecoil-equipped hearing aid, and JABRA, which used an ear mold fitted into the ear canal and plugged into the headphone jack to amplify the phone volume. The former was intended for moderate to severe hearing loss, the latter for mild to moderate loss.

† Though hearing aids then had an average life expectancy of five years, consumers often held on to their aids for much longer. In addition, new advances in sophisticated digital hearing aid technologies were enabling more hearing aid users to have their devices adjusted, rather than replaced, as their hearing needs changed over time.

greater difficulties because the energy radiating from the phone was harder to shield against when the phone was held in close proximity to the hearing aid. Additionally, in Australia, the digital infrastructure had already been in place when consumers first realized that the new GSM phones were inaccessible; at that late stage, there was little choice but for the government to look to the hearing aid industry for a solution. In America, where digital technologies were still being developed, it made far more sense to require the telephone industry to design these technologies to be compatible with hearing aids from the outset.

FCC Chairman Reed Hundt was frequently praised for his ongoing efforts to expand telecommunications access. However, early on in the battle for wireless HAC access, it became apparent that Hundt's allegiance was torn. The chairman was clearly taken with the size of the wireless industry's investments and the impact that its new services were expected to have on the American economy. This became most evident when, in an August 25, 1995, luncheon address to business executives, Hundt called the new wireless technologies "the biggest single investment boom ever made in a single technology" in the same breath that he noted the need to make these technologies accessible.²¹ Hundt's announcement, that a single eight-billion-dollar check raised by the first digital wireless auction for the U.S. Treasury had made the Guinness Book of Records, sent a strong message that the FCC was unlikely to take any action that might hold up wireless deployment.

Notwithstanding his enthusiasm for the new innovations, on October 2, 1995, the FCC chairman issued a stern warning to wireless industry leaders gathered in his office. After listening to FCC staff demonstrations of buzzing caused by the interaction between wireless handsets and hearing aids, Hundt instructed the companies to work cooperatively with consumers, the hearing aid industry, and hearing health professionals to find mutually agreeable solutions to the compatibility problem, or else be subject to FCC regulation. A memo subsequently prepared by CTIA President Thomas Wheeler described the chairman's edict: "It was a clear message—the first responsibility for finding a solution lies with the industry, but if the industry fails to move with dispatch to develop a solution which the FCC and the hearing impaired community find acceptable, a solution will be imposed."²²

Shortly thereafter, advocates also secured congressional support from Senators Daniel Inouye (D-Hawaii), Tom Daschle (D-S.D.) and Ernest Hollings (D-S.C.). On November 2, 1995, the three legislators alerted Hundt about a Senate colloquy between Daschle and Hollings that had highlighted the problems that digital technologies were creating in Europe. They urged an expeditious investigation into the impact that these technologies were having on hearing aids and other equipment.²³

The HAC Summit . . . and a California Story

The wireless industry responded swiftly to the FCC's warning with promises of continued research, improved consumer outreach, and a wireless HAC conference that would provide a catalyst for addressing wireless accessibility.²⁴ Holding true to its word, over the next few months, wireless companies worked with other HAC stakeholders to put on the Hearing Aid Compatibility and Accessibility to Digital Wireless Telecommunications Summit, an international conference held in Washington, D.C.,

on January 3–4, 1996, which attracted more than 150 consumers, hearing health care professionals, hearing aid manufacturers, and wireless providers and manufacturers from around the world.²⁵

However, though outwardly appearing collaborative, a pre-summit media relations proposal prepared for one of the industry's associations, the PCS Group, may have revealed the industry's true state of mind. For \$100,000, the firm of Hill and Knowlton proposed to "manage the information flow" at the wireless summit in an apparent attempt to control any negative publicity.²⁶ The proposal urged wireless companies to have enough industry representation to "counterbalance" the commentary of consumer advocates, but to do so "without fueling the advocates." Industry was to focus its efforts on reaching the "large numbers of hearing impaired who are coping with interference and who have no axe to grind," as well as those who had "patience to wait for the technology to catch up with the demand." At the same time, wireless interests were cautioned to be ready to be on alert for pickets, floor demonstrations, and other summit disruptions!*

There were no protests at the summit. Consumers had not come to engage in angry confrontations; they were there because they wanted the same level of independence, public safety, job security, and social integration that wireless services were promising to other Americans. But while Chairman Hundt's opening address extolled this "spirit of cooperation," he again peppered his speech with references to the astounding success of the wireless auctions, noting that the FCC had now earned the title of "*Federal Cash Cow*," with receipts that had climbed to *ten* billion dollars.[†] By expediting the licensing process, Hundt bragged that the Commission had mobilized remarkable technological innovations and jump-started huge investments in this competitive industry. Though outwardly applauding the wireless industry's efforts to begin its journey for accessibility solutions, everything in Hundt's speech still told of an FCC that had no plans to derail the digital revolution from its lightning-speed course.

The willingness of consumers to collaborate on mutually agreeable solutions was perhaps best illustrated by events that next took place in California. At the time, Pacific Bell Mobile Services (Pac Bell) was finalizing preparations to initiate GSM digital wireless service in the San Diego area so that these services would be available at the upcoming Republican convention. But the company's efforts were halted when a group known as the California Communications Council, together with a local chapter of SHHH, demanded that an environmental impact statement on hearing aid interference be prepared before the company erected twelve communications towers for these services. The group was successful in elevating their concerns: Not only did the San Diego City Council convene hearings on the issue, but San Diego's Mayor Susan Golding even wrote to Chairman Hundt to see if her city had sufficient authority to delay the towers' construction; in that letter she also asked for explicit feedback on the FCC's plans to address the HAC issue.²⁷

* Although there is no confirmation that the public relations proposal was ever accepted by the wireless industry, all press releases regarding the summit did need to be approved by the joint industry-consumer steering committee, so that the group could present a unified voice to the public.

[†] Hundt also noted that he had personally delivered the eight-billion check referenced in his earlier speech to a very grateful president and vice president of the United States.

On March 15, 1996, Hundt replied that local governments were prohibited from regulating the placement or construction of wireless facilities based on alleged radio frequency (RF) interference or any other environmental effects, so long as those facilities complied with FCC-designated emissions levels.²⁸ The chairman then reiterated the FCC's commitment to mandate wireless HAC access if joint efforts by industry and consumers were unsuccessful. But after again referencing the "multi-billion dollar investment" that digital technologies had brought to the American economy, he confirmed that the FCC would "not delay deployment of PCS services while [working] to solve the interference and compatibility issues."²⁹

SHHH had not waited for the chairman's response to begin negotiations with PacBell. By the time Hundt's letter arrived, SHHH had been successful in securing a joint commitment from PacBell and Swedish GSM phone manufacturer Ericsson to work with the consumer group on interim HAC solutions that were expected for completion around January 1997.³⁰ SHHH relied on these promises to withdraw its opposition to the towers' construction and allow the permits to go through.* But the organization would later face disappointment when the companies' promises failed to bring about the needed access.

Aftermath of the HAC Summit

The HAC summit succeeded in establishing various working groups that spent the next several years conducting research and analyses of short- and long-term solutions to reduce interference and achieve inductive and acoustic coupling between hearing aids and digital phones.[†] Virtually all of the studies performed during this period put to rest any industry doubts that hearing aid wearers experienced user interference when they used digital wireless technologies.[‡] It was during this time as well that extensive efforts began on the development of a new industry standard intended to allow hearing aid users to assess the usability of wireless communication devices with certain hearing aids. Research was beginning to reveal that the ability of hearing aid users to understand speech over wireless phones varied considerably with the type of aid worn and the digital technology used. The proposed standard, known as ANSI C63.19, would assign all types of hearing aids—behind the ear, in the ear, or in the canal—ratings for their immunity in both the telecoil and microphone modes.³¹ It would also give all wireless telephones ratings for their magnetic signal strength (to achieve inductive telecoil coupling), their magnetic field emissions, and their radio

* During the summer of 1996, to encourage collaboration, SHHH even presented an award to PacBell and Ericsson for their work on attempting to make GSM phones accessible to people who were hard of hearing.

[†] One working group was devoted to achieving telecoil coupling with wireless devices, the second to short-term solutions for user and bystander interference, and the third to long-term solutions for user and bystander interference. In addition to the studies being conducted by the University of Oklahoma, Mead C. Killion of Etymotic Research, and Harry Levitt and Judy Harkins of the RERC on Telecommunications Access at Gallaudet University conducted extensive testing on the interference caused by wireless devices.

[‡] The studies revealed fewer problems with bystander interference. At this time, two of the three wireless technologies were ready for deployment in the United States: GSM and TDMA (Time Division Multiple Access).

frequency emissions. Hearing aid wearers would then add up the ratings for each phone and hearing aid to predict the ability of these devices to provide access when used together.

Throughout 1996, while these standards-setting processes and studies were being conducted by engineers and researchers, a steering committee composed of consumer, wireless industry, and hearing aid industry interests took on the corresponding task of deciding various policy matters, including appropriate deadlines by which telephone compatibility and increased hearing aid immunity would be required, the extent to which accessibility had to be internal to wireless handsets, and the need for consumer outreach.³² With so much at stake, Hundt jokingly dubbed this group's attempts at consensus "the Great Compromise of 1996."³³ But acrimony and discord seeped into the committee's negotiations from the outset, preventing this compromise from ever being realized.

The primary reason for the friction was that, as had been the case for wireline phones, consumers wanted industry to commit to achieving internal "universal design" solutions that ultimately would make *all* wireless digital phones accessible. They believed this necessary to provide hearing aid users with the full selection of phone size, type, and features that were available to the general public. Various solutions—including telecoil connectivity, acoustic coupling, plug-in capability for TTYs and other assistive listening devices, volume control, and vibratory phone alerts—would need to be incorporated into each phone to achieve this result. Consumers felt that universal access was especially important in the employment setting, where employees often did not have the option of selecting their own wireless phones or technologies.

From the start and throughout the discussions, wireless companies refused to make the requested long-term commitment. They insisted that they would *never* be in a position to guarantee that every single digital wireless phone made by every single manufacturer would contain built-in features to ensure both telecoil compatibility and minimal digital interference. And although HAC standards for telecoil coupling now existed for *wireline* phones, companies maintained that technical constraints would prevent the transfer of these standards to *wireless* technologies. Instead, these companies desired a policy that would allow for a range of solutions, including the use of external HAC devices, to address various kinds of hearing loss. They also wanted FCC mandates for telephone accessibility to be accompanied by Food and Drug Administration (FDA) rules for increased hearing aid immunity.

Consumers acknowledged both the need for an *interim* period when only a cross section of wireless phones would be accessible,* and the need to augment hearing aid immunity. But they maintained that the wireless industry, not hearing aid manufacturers, bore primary responsibility for resolving compatibility problems with digital wireless phones.† In addition, Sorkin, Battat, and other advocates consistently rejected the use of external devices as a means of achieving accessibility, insisting—like

* Even during such an interim period, however, consumers wanted industry to ensure that a full range of phones were accessible, so that they would not be limited to only the most costly, feature-rich phones, or the most basic, low-end handsets.

† Because consumers did not want hearing aid users to be saddled with the heavy costs of having to replace their hearing aids, they also recommended the establishment of a wireless industry fund to replace and retrofit these aids. This idea was promptly rejected by the wireless industry.



As founding director of Gallaudet University's Technology Access Program and the principal investigator on two Rehabilitation Engineering Research Centers, Judy Harkins, left, has been a lifelong advocate for telecommunications access by people with hearing loss, and in particular hearing aid compatibility for wireless telephones. After the HAC summit, Linda Kozma-Spytek, right, was one of several researchers at Gallaudet to conduct testing on the interaction between hearing aids and digital wireless phones.

the wireline HAC crusaders before them—that reliance on these devices constituted a denial of equal access. Special products for a select group of people cut against Congress's goals of achieving universal access.

In May of 1996, negotiations within the steering committee broke down when consumers would not retreat from, and industry would not commit to, a future date by which all new digital phones would have to be fully accessible.* Each side then returned to the FCC with their own HAC proposals. Once again, advocates urged the FCC to swiftly promulgate mandates for wireless HAC access, because the “longer formal action is postponed . . . the more difficult it will become to reverse the consequences of failing to address the accessibility and interference issues.”³⁴ The FCC, however, rejected both this and the industry's counterproposals, and directed everyone to return to the negotiating table and work harder at achieving a consensus.

Unfortunately, over the next several months, renewed efforts to reach an agreement again failed, and in November 1996, the wireless industry withdrew completely from the discussions. In a November 15, 1996, letter to the FCC, the industry opined that it would be more productive to focus future efforts on research and development of the ANSI standard—which were proving to be more complicated and time-consuming

* Consumers and industry could not even agree on the extent to which various phone components—for example, the earphone, microphone, and transceiver—comprised the internal workings of a handset for the purposes of defining a rule that required accessibility to be built into, and not external to, wireless handsets.

than originally expected—than to “wordsmith” proposals on deadlines for certain actions.³⁵ Although consumers made a final attempt to renew negotiations in March 1997, the wireless industry rejected their invitation, affirming only its commitment to pursue research efforts, and to meet periodically with consumers and hearing aid manufacturers to review progress on accessibility solutions.³⁶

The breakdown in negotiations, together with the ongoing refusal of the FCC to take regulatory action, left consumers with little recourse but to wait until the research and standards processes were complete. In the meantime, however, other advocacy efforts had not stood still. A year earlier, disability advocates had succeeded in getting Congress to pass Section 255 of the Communications Act, requiring telecommunications equipment and service providers to make all of their products and services accessible, where “readily achievable.”³⁷ But while the new law might have played a role in compelling wireless telephone access, the FCC’s final rules implementing its provisions were not scheduled to go into effect until the early part of 2000. As a consequence, by the turn of the century, hearing aid and cochlear implant users still found themselves without the ability to use the vast majority of digital phones. By then there was little question that the FCC’s reliance on marketplace pressures and stakeholder collaboration had failed to achieve its goals.

The Wireless HAC Petition: Take II

As predicted, during the intervening years, the growth of digital wireless services had been explosive: at the close of 1996, 92 percent of the U.S. population still used analog services, but by the end of 2000, more than 40 percent, or approximately 106 million people, had switched to digital telephone technologies, with growth now occurring at a sustained rate of at least 20 percent each year.³⁸ No longer a luxury service for high-end users, Americans now depended on digital technologies for their daily communications needs—in the workplace, as a lifeline to emergency assistance, and as a replacement for wireline service. But while the expanding importance that digital technologies were taking on in American society made the need for access to these digital cell phones all the more compelling, the FCC still did nothing to review or modify the wireless HAC exemption, despite the promise that it made over a decade earlier to do so at least once every five years. In September 2000, I received a call (in my new capacity as deputy bureau chief of the FCC’s Consumer Information Bureau) from disability rights advocate Jackie Brand to do something about this.

At a meeting with Brand and other members of the California Wireless Access Task Force, I was informed of industry’s dismal progress on the HAC wireless issue in their home state. As it turned out, pursuant to the agreement with SHHH, PacBell had made efforts to acquire accessible phones for customers to use with its wireless services. But the company had been unable to fulfill this promise when wireless phone manufacturers failed to provide the needed options.³⁹ The advocates expressed fears of now being left with obsolete analog technologies that offered fewer enhanced features, often suffered from poorer network connections and battery life, and cost more money to use. Even worse, the gradual phase-out of these technologies meant that these consumers might soon be left with no wireless access at all.

Shortly after the meeting, the task force put out a call for action, which prompted

a torrent of letters and e-mails to the FCC from angry consumers frustrated with the agency's failure to require digital wireless accessibility.⁴⁰ Soon thereafter, the California group teamed with national consumer groups and hearing assistance professionals in a new "Wireless Access Coalition" to request the FCC to re-open the 1995 petition to lift the wireless HAC exemption. Unlike the first time around, this request, submitted on October 7, 2000, had not been spearheaded by any segment of the wireless industry.⁴¹

Over the next year, the FCC considered its options. By now, under the leadership of Steve Berger of Siemens and Tom Victorian of Starkey Laboratories, well over 100 engineers, researchers, and consumers, representing more than sixty wireless, hearing aid, and consumer organizations, had spent hundreds of hours over a four-year period perfecting the ANSI matrix that would allow consumers to select wireless devices that would be usable with their hearing aids.⁴² Some insisted that reliance on this standard alone negated the need for an FCC wireless HAC mandate, especially given recent reports of improved hearing aid immunity and reduced mobile phone emissions (accomplished through the collaborative efforts of the ANSI standards-setting process). Consumers disagreed.

Although the ANSI standard *measured* the extent to which certain phones would work with certain hearing aids; it did not *mandate* specific levels of access. Without an explicit requirement for wireless manufacturers to adopt technical solutions that would resolve the compatibility and interference problems, consumers feared they would not be able to find many matches between the two devices. Moreover, members of both the wireless and the hearing aid industries had begun to raise concerns about the reliability of the ANSI matrix.⁴³ Testing had revealed that identical hearing aids responded differently to identical digital phones, depending on who was wearing the hearing aid. With such unreliable results, the hearing aid industry began to fear that the proposed matrix could mislead consumers into purchasing hearing aid devices that were supposed to, but did not, work with certain mobile phones.* This triggered the wireless industry's own concerns about the standard's validity, which led to *that* industry's subsequent refusal to test wireless phones for their placement on the matrix. Specifically, companies were unwilling to make the expenditures for such testing absent a corresponding commitment that the standard would be used by the hearing aid industry.⁴⁴

Yet a third problem with the pairing scheme was that it could only succeed if consumers were sufficiently educated about its use. This would require consumers to not only learn the ratings for their hearing devices and for the telephones they wished to purchase, but also to become familiar with how to use the matrix when making purchasing decisions. Advocates doubted that telephone retail personnel would have sufficient information to provide purchasers with this type of assistance.⁴⁵

At a July 2001 meeting of consumers and the wireless and hearing aid industries, consumers revealed their frustrations. They claimed that wireless manufacturers had been less than forthcoming in disclosing the specific steps that they were taking to

* The flip side of this was that even if a telephone match with a particular hearing aid could be found, the *hearing aid* in question still might not be the one best suited for that individual. Hearing aid selection hinged on multiple factors, not only wireless digital phone use.

make technical changes to the internal workings of their phones.⁴⁶ According to these advocates, no manufacturer or wireless carrier had been willing to provide consumers with even minimal guidance on which of their handsets might work best with hearing aids. Moreover, advocates were irritated with industry's unrelenting attempts to convince consumers to settle for neck-loops and other external devices. In 1998, Nokia had developed a neck-loop that successfully eliminated interference by physically removing the location of the phone from the hearing aid. Although this and other adaptors were useful for some individuals, their small parts often made them difficult to use for senior citizens and others with limitations in manual dexterity, and their wires were often misplaced. In addition, the neck-loops were only beneficial to hearing aid wearers who used telecoils, not necessarily others with hearing loss.

Finally . . . a Wireless HAC Proceeding

On November 14, 2001, six-and-a-half years after the first wireless HAC petition was filed and thirteen years after passage of the 1988 HAC Act, the FCC finally released proposals tentatively concluding that it would be in the public interest to partially lift the wireless HAC exemption. Rejecting claims by the wireless industry that a rule-making was still premature, the FCC noted that mobile phones had now become "indispensable communications tools for many Americans," and that the continued denial of digital access would have an adverse effect on people with hearing loss in their quest to live independently and find gainful employment.⁴⁷

Although virtually all of the wireless industry remained steadfast in its opposition to regulatory action, its responses to this petition were now clearly tempered by the events that had taken place since the 1995 petition had first been filed. For example, companies could no longer argue that lifting the wireless exemption would postpone the deployment of digital technologies; these technologies were now ubiquitous. Nor, as before, could the wireless industry deny the existence of an electromagnetic interference problem for hearing aid users; research had proven otherwise.* And while companies had pushed continued consumer reliance on analog technologies in 1995, recent FCC proposals to phase out analog services had eliminated this as a viable option.⁴⁸

Perhaps most significantly, many companies now seemed more willing to acknowledge the need for wireless access than ever before—likely because of the greater attention brought to telecommunications access issues by Section 255. For example, in FCC comments responding to the new petition, Matsushita, the corporate parent of Panasonic, boasted of its efforts to adhere to universal design principles to enable all of its customers, regardless of their abilities, to use its consumer electronic products.⁴⁹ Similarly, TIA stated that it was "in the public interest for *all* consumers to have access to cellular phones." The association made a point of noting the businesses value of being able to add people with hearing loss to their networks, and of making wireless products easier to use for people temporarily unable to see, hear, or touch their telephones—for example, in noisy places or where hands were needed for other

* Wireless companies also could no longer blame efforts to secure HAC access on anti-competitive motives because there were no industry interests supporting the Wireless Access Coalition's request.

tasks.⁵⁰ TIA also listed a host of accessibility features that the wireless industry had already developed to facilitate cell phone use: “vibrating alerts, neck loops, earpieces, headphones, speakerphones, phones that coupled with telecoil hearing aids, increased font size on displays, volume control, use of standardized icons, text messaging, voice recognition capabilities, one-button dialing, and auto-dialing.”⁵¹ While access was incidental to the design purpose of some of these features, others had come about directly as a result of attempts to achieve compliance with Section 255.

Despite these concessions, and even an acknowledgment on the part of some companies of the appropriateness of regulatory action at some point in the future, most of the wireless industry still questioned the technical feasibility of producing a digital wireless telephone that sufficiently reduced interference to hearing aids.⁵² Companies explained that wireless devices were required to emit radio frequency signals that operated within certain FCC authorized frequencies, in accordance with specific air interface technical standards. They insisted that significant variation from these prescribed boundaries that might be necessary to reduce interference would adversely affect a phone’s operations.⁵³

During the three decades during which hearing aid advocates had tried to secure HAC access to wireline and wireless telephones, consumers consistently had been caught in the middle of a feud between the telephone and hearing aid industries. This proceeding proved to be no exception. In the same breath that wireless companies denied responsibility for finding a HAC solution, they continued to insist that the FCC work with the FDA to secure greater cooperation by the hearing aid industry to improve its immunity levels. The hearing aid industry responded that it had done more than its part to shield hearing aid devices during the intervening years, and insisted the wireless industry had failed to meet its commitment to develop handset solutions.⁵⁴ Consumers, long since tired of this industry sparring, simply wanted the FCC to step in—once and for all—and direct the wireless industry to make its phones accessible.⁵⁵ Other than the creation of the ANSI measurement standard—which had not yet been fully implemented by either industry, the past six years had shown little visible progress toward voluntarily designed access solutions, with only isolated instances of phones that could be used by hearing aid wearers.⁵⁶

Notwithstanding their differences, there were a few matters on which consumers and industry were finally able to agree. First, both sides concurred that the Commission’s previous HAC definitions, focusing only on telecoil compatibility, were far too restrictive in the digital environment. A “practical and contemporary” HAC definition that considered the extent to which digital phones were “usable” by people with hearing aids and cochlear implants, and which addressed various alternatives for reducing interference and achieving inductive and acoustic coupling, was now appropriate.⁵⁷

The legislative history of federal HAC legislation supported this flexible approach. Even though inductive coupling had been the only effective HAC solution for wireline phones in 1982, the Telecommunications for the Disabled Act had established Congress’s desire not to “entrench this technology, but rather to promote new, compatible technologies that [could] provide improved service to all persons. . . .”⁵⁸ Again in 1988, Congress affirmed that the HAC Act’s requirement for telephones to be compatible did not “mandate any particular type of technology.”⁵⁹ All parties to the

FCC's proceeding agreed that a multifaceted approach, or combination of solutions, would best accommodate variations in hearing loss and wireless technologies, and respond to rapidly occurring technological advances.⁶⁰

Consumers and industry also agreed on the need for education and outreach to audiologists, industry call centers, and hearing aid users.⁶¹ Unfortunately, even those manufacturers whose phones had recently achieved a modicum of access seemed reluctant to publicize the existence of those devices, perhaps fearing that once the FCC realized their technical feasibility, they would be bound to continue manufacturing those models. But consumers sorely needed information on the ways that each digital technology—GSM, CDMA, TDMA, and now iDEN*—interacted with hearing aids, in order to select the phones that were right for them.

Another Long Wait for FCC Action

When more than a year passed without FCC action finalizing its wireless HAC proposals, consumers tried, unsuccessfully, to get the FCC to establish a wireless HAC negotiated rulemaking—a collaborative process like the one that had already been used by the government to reach consensus between consumers and industry on HAC rules for wireline phones. During the spring of 2002, advocates also tried to re-open wireless HAC negotiations directly with the affected industries. But while companies had emphasized the importance of continued collaboration among the various stakeholders in their comments to the FCC, these last-ditch attempts at reconciliation were unsuccessful.⁶² The idea of new discussions sparked little interest within either the wireless industry or the hearing aid industry, especially with each now believing it had unilaterally done more than its share to improve the usability of hearing aids with wireless devices during the intervening years.⁶³

Out with the Analog . . . In with the Digital

Nearly two years after the request to reopen the wireless HAC petition had been filed, an FCC resolution of this issue still seemed in the distant and unforeseeable future when, during the summer of 2002, the FCC issued a ruling that would forever change the landscape of wireless communications in America, and finally force the HAC issue to the forefront of the regulators' agenda. In the early 1980s, the Commission had adopted a rule requiring all mobile service carriers to provide service in accordance with analog cellular standards, to promote competition and achieve a seamless nationwide wireless service. By the year 2000, however, the swift deployment of digital wireless services had caused the FCC to reconsider whether this "analog rule" was still needed to ensure the widespread availability of wireless communications. After much deliberation, on August 8, 2002, the FCC concluded that the existence of ubiquitous wireless access no longer justified its analog mandate.⁶⁴ Rather than fostering competition and innovation, the Commission explained that the rule was now unnecessarily forcing wireless carriers to incur the expense of operating both analog and digital services, thereby impeding the efficient use of spectrum and delaying innovation.

* iDEN is a type of TDMA network technology that is proprietary to Motorola.

But at the same time that the FCC wished to free the wireless industry of its analog burden, it feared that the immediate termination of these services would be “extremely disruptive” to hearing aid users and “emergency-only” callers who still relied on analog transmissions for their wireless communications.⁶⁵ In order to balance these competing considerations, the FCC decided to phase out analog services gradually, over five years (by February 18, 2008). During this time, the wireless industry would have to submit periodic progress reports on the availability of digital HAC phones, and if compatible wireless devices were not available at the end of this period, the FCC would extend the analog requirement beyond that deadline. The FCC explained that the failure of market forces to respond to accessibility needs had caused it to reach this decision: “the same economic incentives do not exist that would ensure that persons with hearing disabilities have adequate access to digital wireless service because they account for only a small percentage of mobile telephony users.”⁶⁶

Consumers knew that the threat of having the analog rule extended past the FCC’s deadline would put pressure on the wireless industry to expedite efforts to find HAC solutions for digital handsets. However, they remained concerned that without an actual mandate *requiring* digital access by a certain date, there was no guarantee that the needed access would be in place before analog services completely disappeared. Accordingly, advocates again stepped up their lobbying efforts to convince the FCC to lift the wireless HAC exemption, this time threatening to bring their case to Congress or the courts if the agency continued to refuse to take action.⁶⁷

Responding to these concerns, at long last, the FCC spent the next year working to complete rules that would finally lift part of the HAC exemption for wireless handsets. On July 10, 2003, *thirty* years after David Saks first began the quest for full hearing aid compatibility, and more than a *decade* after consumers first brought problems with digital mobile phones to the FCC’s attention—a unanimous Commission approved a schedule of deadlines for certain digital wireless phones to be hearing aid compatible, starting in September, 2005.⁶⁸ By the time the FCC issued its rules, 125 million Americans, or *88 percent* of all wireless customers had become subscribers of digital wireless communications.

The FCC’s wireless rules broadened the HAC definition beyond inductive coupling, to include acoustic coupling and mandates for lower levels of interference; indeed, the goal was to reach all six million people in America who used hearing aids, rather than only those who used telecoil-equipped devices. Because the rules applied to only some digital phones, the FCC also encouraged companies to incorporate access in at least one lower-priced phone and one phone with higher end features, as a way of providing consumers with “a variety of technology and feature choices.”⁶⁹ In addition, as was true for telecoil compatibility, compliance could only be achieved with solutions integral to the phone handsets, rather than external adapters.

The FCC’s wireless HAC order directed digital telephone manufacturers to use the ANSI standard as a guide for producing phones that would be usable with hearing aids that had certain levels of immunity. In addition, companies were directed to label their phones to aid consumers in their phone selections. Though not within the FCC’s jurisdiction, hearing aid manufacturers were also encouraged to provide labeling on the immunity levels of their devices, and to provide written material about the expected performance of those aids when used with digital phones.

Wireless companies are now required to engage in their best efforts to provide compatible phones within forty-eight hours after orders are placed for those phones.* In addition, they are strongly encouraged to conduct outreach on the availability of HAC phones by posting information on Internet sites, training retail staff, and distributing written materials to consumer groups, audiologists, and hearing aid dispensers. Since issuance of the FCC's order, the Commission itself has conducted significant outreach through thousands of media outlets, including publications that are targeted to consumers who are deaf and hard of hearing, wireless companies and hearing aid manufacturers.⁷⁰

An Incomplete Conclusion

Unfortunately, refusing to retreat from its eight-year push for a market-driven HAC wireless solution, CTIA petitioned the FCC on October 20, 2003, to reconsider the new wireless HAC mandates.⁷¹ Even after all this time, the association's president, Thomas Wheeler, charged that the rules would "constrain innovative solutions" and "unnecessarily complicate" cooperative efforts with the hearing aid industry to achieve compatibility."⁷² Despite this and other industry petitions, a forum of wireless providers and manufacturers, hearing aid companies, audiologists, the FCC's Office of Engineering and Technology, and consumers began meeting regularly under the auspices of the Alliance for Telecommunications Industry Solutions (ATIS)[†] to achieve compliance with the FCC's initial wireless HAC deadlines shortly after the order's release.

On June 9, 2005, the FCC rejected CTIA's attempts to overturn its new mandates, in a unanimous vote that preserved most of its original order and modified only slightly the number of phones that would need to be compatible.⁷³ Around the same time, negotiations between SHHH and CTIA also produced a commitment by CTIA first, to ensure that both low- and high-end phones would be made compatible and second, to provide consumer information about HAC phones on product displays in wireless phone retail stores. At long last, it appeared that hearing aid users would see accessible digital wireless handsets.

However, the road to wireless HAC implementation has proven to be just as turbulent as the path to the FCC's wireless HAC ruling. During the summer of 2005, industry asked the FCC to relax its requirements for wireless phones that operated in a certain frequency, after research showed that the immunity of microphones in hearing aids had improved over the previous ten years. The industry's effort to change this requirement, which primarily affected users of hearing aids in the microphone mode (those with more moderate degrees of hearing loss), may have diverted its attention from researching compatibility in the telecoil mode, which is key to accessibility for people with more significant degrees of hearing loss.⁷⁴ As a consequence, by the winter of 2006, although the wireless industry was able to report that more than sixty

* Although hearing aid manufacturers do not fall within the rules' jurisdiction, they have voluntarily committed to allowing a thirty-day trial period for hearing aids and to provide a full refund if the aids do not meet the user's telecommunications needs.

[†] ATIS's mission is to assist in coordinating standards, guidelines, and operating procedures for telecommunications products and services.

Chart 14.1**Hearing Aid Compatibility Rules for Wireless Telephones
47 C.F.R. §20.19**

All access to be integral to the digital wireless handsets (years determined from effective date of rules):

- 2 years (by September 16, 2005): Each digital phone manufacturer and carrier must make available 2 handset models with reduced RF emissions for each air interface (CDMA, TDMA, GSM, iDEN): to achieve acoustic coupling without interference
- 2 years (by September 16, 2005): Each of the 5 largest digital wireless carriers (Verizon, T-Mobile, Cingular, Sprint, Nextel) must make available, per air interface, either 4 handset models with reduced RF emissions or 25% of the total number of its handset models
- 3 years (by September 16, 2006): Each of the 5 largest digital wireless carriers must make available, per air interface, either 5 handset models with reduced RF emissions or 25% of the total number of its handset models
- 3 years (by September 16, 2006): Each digital manufacturer and carrier must provide 2 handset models with telecoil coupling for each air interface: to achieve inductive coupling.
- 5 years (by February 18, 2008): 50% of all digital phones must have reduced RF emissions for acoustic coupling.
- After 2008, the FCC may require 100% acoustic coupling, depending on information received through industry reports over the years.

De Minimis Exemptions

- Digital manufacturers, carriers or service providers that offer 2 or fewer digital wireless handset models (applicable on a per air interface basis) are exempt. (As this book goes to print, the FCC is considering narrowing this exemption to only 1 digital wireless handset model per air interface.)
- Digital manufacturers or carriers that offer 3 digital wireless handset models must make 1 compliant model within 2 years.

Labeling:

- Conspicuous labeling of interference rating must appear on outside of phone box.
- Detailed information on ASNI rating system must be put in a product manual.
- The FCC encourages hearing aid labeling on immunity levels by hearing aid manufacturers.

continued

Chart 14.1 *Continued*

In-Store Testing: All retail stores owned or operated by wireless service providers or carriers must allow live, in-store consumer testing of their wireless phones. (The FCC is considering whether to extend this requirement to retail outlets not owned or operated by wireless service providers or carriers.)

Reporting requirements: Wireless industry must regularly report on testing, outreach activities, availability of compliant models, standards setting activities, and the feasibility of reaching 100% compatibility after 5 years.

wireless phones met FCC requirements for acoustic coupling with hearing aids in the microphone mode, it proposed changes to the way that telecoil (inductive) coupling should be assessed under the ANSI C63.19 standard.⁷⁵ Consumers feared that industry's proposals were simply designed to maximize the number of handsets that would pass the FCC's thresholds for compliance, and that if adopted by the FCC, they could potentially weaken the new hearing aid compatibility mandates for telecoil users. As this book goes to print, new research is being conducted under severe time pressure, to investigate whether industry's proposals, submitted only months before the telecoil mandates are set to go into effect, are merited. In addition, recent concerns about hearing aid interference created by a new generation of *cordless wireline* phones (operating at 5.8 GHz) has prompted new testing by the industry and researchers at Gallaudet University. As a consequence, the battle for hearing aid compatibility—one of the longest, and perhaps most intense battles for telecommunications access fought in this country—remains without final resolution.

Notes

1. 47 U.S.C. §610(b)(2)(A), implemented at 47 C.F.R. §68.4(a); H. Rep. No. 674, 100th Cong., 2d Sess. 9 (1988).

2. 47 U.S.C. §610(b)(2)(C); 47 C.F.R. §68.4(a)(4).

3. *Access to Telecommunications Equipment and Services by the Hearing Impaired and Other Disabled Persons*, First Report and Order, CC Dkt. 87-124, FCC 89-137, 4 FCC Rcd 4596, 4600 (May 11, 1989), 27. The Commission had denied a request by NCLD to review these exemptions every two years, insisting there would be no purpose in conducting such reviews unless they were warranted by changes in technology.

4. See *Amendment of the Commission's Rules to Establish New Personal Communications Services*, Notice of Proposed Rulemaking and Tentative Decision, GEN Dkt. 90-314, ET Dkt. 92-100, FCC 92-333 (August 14, 1992). Hereinafter cited as PSC Tentative Decision.

5. Joint Reply Comments of NCLD, TDI, WID, SHHH, and ASHA in GEN Dkt. 90-314, ET Dkt. 92-100 (January 8, 1993), 6.

6. PCS Tentative Decision, ¶164. The Commission said, "to facilitate the development and implementation of these services as quickly as possible, we are proposing a flexible regulatory approach with as few restrictions as possible." It feared that the comparative hearings requested by mainstream and disability consumer groups would be slower than competitive bidding for licenses.

7. *Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, Fifth Report and Order, PP Dkt. 93-253, FCC 94-178, 9 FCC Rcd 5532 (July 15, 1994), 59 *Fed. Reg.* 37566

(July 22, 1994), amending 47 C.F.R. Part 24. Hereinafter cited as PCS Fifth Report and Order. The previous August, Congress enacted a law to expressly grant the FCC authority to auction digital licenses. 47 U.S.C 309(j)); See also *Amendment of the Commission's Rules to Establish New Personal Communications Services*, Memorandum Opinion and Order, GEN Dkt. 90-314, 9 FCC Rcd 4957 (1994).

8. PCS Fifth Report and Order, ¶1.

9. See Donna Sorkin, letter to FCC Chairman Reed Hundt urging the FCC to ensure the compatibility of digital wireless services before their American deployment, February 13, 1995.

10. See, for example, Michael Ruger, Baker & Hostetler (law firm representing this council), letter to the author, NCLD, January 24, 1995; see also "Group Fears Hearing Aid 'Buzz' from GSM Phones," *Telecommunications Reports Daily*, June 2, 1995.

11. HEAR-IT NOW Coalition, Section 68.4 of the Commission's Rules, Hearing Aid-Compatible Telephones, Petition for Rulemaking, RM 8658 (June 5, 1995).

12. Thomas Wheeler, president of CTIA, mass mailing to reporters, July 10, 1995; see also Comments of Ericsson Corporation in RM 8658 (July 17, 1995), 2; Comments of Personal Communications Industry Association (PCIA) in RM 8658 (July 17, 1995) (charging that the petition was filed in a "counterproductive, transparently anticompetitive and divisive manner"), 2.

13. Comments of American Personal Communications (APC), 2. See also Comments of CTIA, 27; See generally Comments of BellSouth, 4; Comments of PCIA, 2-3 (all filed on July 17, 1995 in RM 8658).

14. Comments of TIA, 2; Comments of USTA, 2; Comments of Nokia Mobile Phones, Inc., 2, which stated that "unprecedented cooperative efforts" were being undertaken to resolve the problem. (all filed on July 17, 1995 in RM 8658.)

15. Comments of CTIA in RM 8658 (July 17, 1995), 23; Comments of APC in RM 8658 (July 17, 1995), 3-4. (PCS 1900 operates at one-eighth the power level and at a different frequency band than the GSM technology studied in Europe.)

16. Comments of PCIA, 2, 3; Comments of Siemens Stromberg-Carlson, 1; Comments of APC, 7; Comments of GSM MoU Association, 5 (all filed on July 17, 1995 in RM 8658).

17. Reply Comments of HEAR-IT NOW Coalition in RM 8658 (August 1, 1995), 11.

18. See Comments of BellSouth, 8; Comments of CTIA, 16 (both filed on July 17, 1995 in RM 8658).

19. See Comments of CTIA in RM 8658 (July 17, 1995), 16, which contained this suggestion.

20. Brenda Battat, SHHH, letter to Thomas E. Wheeler, July 13, 1995.

21. Chairman Reed E. Hundt, remarks at a VIP luncheon of Phillips Business Information, Inc., (August 25, 1995), 1.

22. Thomas Wheeler, memorandum to CTIA's Board of Directors, Joint Review Committee, and PCS Licensees, October 2, 1995.

23. Senators Daniel Inouye, Tom Daschle, and Ernest Hollings, letter to FCC Chairman Reed Hundt, November 2, 1995. See also "Democratic Sens. Daschle (S.D.), Hollings," *Communications Daily*, November 8, 1995, 5.

24. AT&T, CTIA, Northern Telecom, PCS 1900 Group, PCIA, Omnipoint Communications, letter to Richard M. Smith, chief, FCC Office of Engineering and Technology, October 16, 1995.

25. The steering committee that facilitated the conference included Donna Sorkin of SHHH, Susan Coffman of AG Bell, David Woodbury of HIA, Carol Flexer of the American Academy of Audiology, Mark Golden of PCIA, Charles Spann and Gary Jones of the PCS 1900 Group, Elizabeth Maxfield of CTIA, and Pam Ransom of Issues Dynamics.

26. Hill and Knowlton, "Public Relations Program on Hearing Aid Compatibility," submitted to PCS 1900 Group (December 19, 1995).

27. San Diego Mayor Susan Golding, letter to FCC Chairman Hundt, February 28, 1996.

28. FCC Chairman Reed Hundt, letter to the Honorable Susan Golding, March 15, 1996, citing Section 704 of the Communications Act, codified at 47 U.S.C. §332(c)(7)(B).

29. *Ibid.*, 7.

30. Pacific Bell, "Pacific Bell and Ericsson Announce Prototype Solutions Enabling Hearing Aid

Wearers to Use Digital Phones,” press release, February 21, 1996; Pacific Bell, “Pacific Bell Details Plan for Resolving Interference from Wireless Digital Phones,” press release, March 15, 1996. Pac-Bell outlined prototypes developed by Ericsson to modify their wireless phones, including having antennas direct the source of interference away from the ear and incorporating special circuitry into the handset. These were to be tested at the upcoming Republican convention. See also, Erik Millstone, “SHHH Attendees Nonplused by Digital—Hearing-Impaired Try Out Pacific Bell, Ericsson Phone,” *Wireless Week* (July 1, 1996). Elizabeth Douglas, “Phone Interference Issue is Back,” *San Diego Union-Tribune*, March 19, 1996, business section, 2.

31. ANSI C63.19, “American National Standard for Methods of Measurement of Compatibility Between Wireless Communication Devices and Hearing Aids.” The American National Standards Institute (ANSI) committee overseeing its approval was the Standards Committee 63 on Electromagnetic Compatibility.

32. Individuals comprising this policy group at various points in time included Donna Sorkin and Brenda Battat of SHHH, Susan Coffman of AG Bell, Betsy Bayha of the World Institute on Disability, Carol Flexer and Alfonso Fuller of the American Academy of Audiology, David Woodbury and Carol Rogin of HIA, Mark Golden and Robert Hoggarth of PCIA, Gary Jones, Chris Wallace, and Charles Spann of PCS 1900, Andrea Williams, Elizabeth Maxfield, Mike Altschul, and JoAnne Basile of CTIA. I joined these negotiations in March of 1996 on behalf of the NAD. Teresa Baer, an attorney with Latham and Watkins, represented the industry interests, and Pam Ransom of Issues Dynamics mediated our discussions. Liaisons at the FCC included Elizabeth Lyle and Stan Wiggins of the Wireless Bureau and Meryl Icove of the Disabilities Issues Task Force.

33. Hundt cautioned that if this compromise was not reached, the FCC “may decide to impose our own solutions . . . I don’t have all the time in the world.” Albert R. Karr and Gautam Naik, “Digital Phones Cause Problems in Hearing Aids,” *Wall Street Journal*, March 12, 1996, B1, B6.

34. Pamela J. Ransom, summit facilitator, *Report of the Steering Committee of the Hearing Aid Compatibility and Accessibility to Digital Wireless Telecommunications Summit Meeting*, to FCC Chairman Reed Hundt, May 16, 1996.

35. CTIA, PCIA, and PCS 1900 Group, “Digital Wireless Industry Action Plan on Hearing Aid Interference and Accessibility” (November 15, 1996).

36. JoAnne Basile, Mark Golden, and Gary Jones, on behalf of CTIA, PCIA, and the PCS 1900 Group, respectively, letter to Susan Coffman and Brenda Battat, April 22, 1997.

37. P.L. 104-104, 110 Stat. 56, codified at 47 U.S.C. § 255 (1996).

38. Comments of SHHH on Request to Reopen the Petition for Rulemaking, 5 (undated). See n. 41 *infra*.

39. This information was conveyed to the author during a meeting held with the advocates in Washington, D.C., on September 22, 2000. Consumer participants at the meeting included Jackie Brand, John Darby, Patricia Yeager, Larry Eng, and Dale Young.

40. Pat Yaeger, e-mail, “Action before October 7: Hearing Aids and Digital Telephones Importance: High,” to suppressed recipient list, September 26, 2000.

41. Wireless Access Coalition, Request to Reopen the Petition for Rulemaking, RM 8658 (October 7, 2000). The request was prepared by Brenda Battat, and submitted on behalf of SHHH, the Alliance for Technology Access, AG Bell, the Hearing Society of the Bay Area, the California Foundation for Independent Living Centers, Golden Gate Hearing Services, and Hearing Impaired Professionals.

42. Comments of ANSI Accredited Standards Committee 63 in Dkt. WT 01-309, RM 8658 (December 18, 2000), 3. These efforts were mostly focused on designing measurement methods and estimating usability levels for the matrix.

43. Andrea Williams, CTIA, summary, Hearing Aid and Digital Wireless Phones Compatibility meeting, Washington, D.C., July 2, 2001.

44. Jeffrey Silva, “Wireless Distances Itself from Hearing-Aid Compatibility Standard,” *RCR Wireless* (April 7, 2003), 12.

45. Comments of Cochlear Americas (January 10, 2002), 5.

46. Attendees of the “Hearing Aid and Digital Wireless Phones Compatibility” meeting were

Donna Sorkin and John Flanders of AG Bell, Beth Wilson and Tim Creagan of SHHH, Linda Kozma-Spytek of Gallaudet University, Ron Barnes and Andrea Williams of CTIA, Steve Berger of ANSI C63.19 Working Group, David Woodbury of HIA, and Pam Ransom of Common Ground Solutions.

47. *Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones*, Notice of Proposed Rulemaking, WT Dkt. 01-309, RM 8658, FCC 01-320, 16 FCC Rcd 20558 (November 14, 2001), ¶15, citing Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services, Sixth Report, FCC 01-192, 16 FCC Rcd 13350 (2001).

48. *Year 2000 Biennial Regulatory Review—Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and other Commercial Mobile Radio Services*, Notice of Proposed Rulemaking, WT Dkt. 01-108, FCC 01-153, 16 FCC Rcd 11169 (May 17, 2001). This proceeding was conducted as part of the Commission's obligation to periodically conduct a review of all of its telecommunications rules to see whether they were still in the public interest.

49. Comments of Matsushita in WT Dkt. 01-309, RM 8658 (January 11, 2002), 2–3; See also Comments of CTIA in WT Dkt. 01-309, RM 8658 (January 11, 2002), 1.

50. Comments of TIA in WT Dkt. 01-309, RM 8658 (January 11, 2002), 2.

51. *Ibid.*, 3.

52. See Comments of Cingular Wireless in WT Dkt. 01-309, RM 8658 (January 11, 2002).

53. Comments of Sprint PCS, 1, 8, 11; Comments of CTIA, 2, 10–13; Comments of AT&T Wireless, 3–4 (all filed on January 11, 2002 in Dkt. WT 01-309, RM 8658).

54. Comments of HIA in Dkt. WT 01-309, RM 8658 (January 11, 2002), 1.

55. See separately filed Comments of TDI, SHHH, Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA), Cochlear Americas, CAN, AG Bell, NAD, COR (all filed on or around January 11, 2002, in Dkt. WT 01-309, RM 8658).

56. The RERC-TA noted that some measure of accessibility in these phones may have been due to their use of flip-up covers. These covers helped block the antenna (emanating RF emissions), and distanced the antenna and handset circuitry from the hearing aid. Comments of RERC-TA in Dkt. WT 01-309, RM 8658 (January 11, 2002), 17–18.

57. See separately filed Comments of CTIA, 14; Sprint PCS, 3; RERC-TA, 23, AG Bell, 13–14; Association of Access Engineering Specialists (AAES), 19 (all filed on January 11, 2002 in Dkt. WT 01-309, RM 8658).

58. H. Rep. No. 888, 97th Cong., 2d Sess. 6 (1982). Elsewhere, the House committee explained that it chose not to specify a specific telephone design such as inductive coupling and that the Commission could “expeditiously accept any new design which is compatible with existing technologies that provides results which are equivalent or superior to these.” H. Rep. No. 888, 11.

59. H. Rep. No. 674, 100th Cong., 2d Sess. 8 (1988).

60. For example, several commenters suggested that a new generation of “Bluetooth” technologies could use wireless connections to link hearing aids to digital handsets. See Comments of TIA in Dkt. WT 01-309, RM 8658 (January 11, 2002), 22–23.

61. See Comments of CTIA, 24; AG Bell, 14; RERC-TA, 30; Cingular, 10; AAES, 15 (all filed January 11, 2002, in WT Dkt. 01-309, RM 8658). Noting its own lack of expertise with hearing loss, Sprint stated, “other than trial and error and word of mouth, there is no readily available information that hearing aid users can consult in order to determine which handsets might work best for them.” Comments of Sprint PCS (January 11, 2002), 14, 19.

62. Several commenters had proposed a consumer-industry forum for this purpose. See Comments of Matsushita, 9–10; RERC-TA, 28; Sprint PCS, 21 (all filed January 11, 2002, in WT Dkt. 01-309, RM 8658). Pointing to the work of the Australian Communications Authority, Sprint also insisted that the global nature of the compatibility issue and the progress made in other nations demanded coordination with regulators in other nations.

63. Between 1997 and 2002, the hearing aid industry did, in fact, improve its product “immunity to interference” by over 30 dB, according to Tom Victorian of Starkey Laboratories. Tom

Victorian, "Hearing Aid Compatibility: Technical Update," *AudiologyOnline* (December 6, 2004), http://www.audiologyonline.com/articles/arc_disp.asp?id=1263.

64. *Year 2000 Biennial Regulatory Review—Amendment of Part 22 of the Commission's Rules to Modify or Eliminate Outdated Rules Affecting the Cellular Radiotelephone Service and other Commercial Mobile Radio Services*, Report and Order, Dkt. 01-108, 17 FCC Rcd 18401 (September 24, 2002). Order on Reconsideration, FCC 04-22 (February 12, 2004) (five-year sunset period for analog rule affirmed), codified at 47 C.F.R. §68.4.

65. *Ibid.*, ¶8. In addition, many rural communities still depended on analog wireless services.

66. *Ibid.*, ¶28, citing Reply Comments of the NAD.

67. Jeffrey Silva, "Hearing Impaired Community Seeks Stronger Stance on Compatibility Issue," *RCR Wireless*, October 21, 2002, 4: "The FCC, which has resisted imposing the hearing-aid compatibility requirement on wireless carriers and has waited for an elusive market solution in the seven years since the issue jumped on the agency's radar screen, is under heavy pressure from disability organizations to take the next step." See also Jeffrey Silva, "Disabilities Groups to Push Industry on Access Problems," *RCR Wireless*, March 24, 2003, 3.

68. *Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones*, Report and Order, WT Dkt. 01-309, FCC 03-168, 18 FCC Rcd 16753, (August 14, 2003), erratum, 18 FCC Rcd 18047 (2003), codified at 47 C.F.R. §20.19. FCC employees assisting on this issue included Mindy Littell, Pat Forster, Jerry Stanshine, Pam Gregory, Blaise Scinto, Kris Monteith, Janet Sievert, Michele Farquhar, Karen Brinkman, Ruth Milkman, Elizabeth Lyle, Greg Guice, Julie Knapp, Martin Perrine, and Joel Taubenblatt.

69. *Ibid.*, ¶70.

70. See *FCC Acts to Promote Accessibility of Digital Wireless Phones to Individuals with Hearing Disabilities*, FCC News Release (July 10, 2003); Kathleen Q. Abernathy, "How the FCC Helps You Find a Wireless Phone that Works with Your Hearing Aid," *Hearing Loss* (SHHH publication) (November/December 2003): 12–14.

71. CTIA Petition for Reconsideration and Clarification (October 16, 2003). Although other petitions for partial reconsideration were filed by various parties, including a coalition of TDMA Carriers and the Rural Telecommunications Group, Verizon Wireless, and Research in Motion, these were on more narrow issues.

72. Yuki Noguchi, "Hearing Aids Require New Cell Phones," *Washington Post*, July 11, 2003, E5. See also Jeffrey Silva, "FCC Requires 50% of Phones be Hearing-Aid Compatible," *RCR Wireless*, July 14, 2003, 1. CTIA's petition claimed that industry should not be expected to rely on the ANSI standard to measure reduced emissions required by the rules because the standard needed additional testing. As so many times before, CTIA complained that, unlike the European and Australian governments, the FCC had failed to give sufficient consideration to requiring increased hearing aid immunity as an alternative to phone regulation.

73. *Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones*, Order on Reconsideration and Further Notice of Proposed Rulemaking, WT Dkt. 01-309, FCC 05-122, 18 FCC Rcd 11208 (June 21, 2005). The FCC's original mandate had required each Tier 1 carrier to reduce emissions on at least two handset models or 25 percent of its total number of handsets, whichever was greater. The reconsideration order now gave these carriers the option of providing reduced emissions on a fixed number of phones (four by September 16, 2005 and five by September 16, 2006) or 25 percent of their phones, so that these providers would have more certainty, and not be required to modify their number of accessible phones every time they added new products. In addition, the Commission gave carriers who are replacing TDMA networks with a different technology until September 18, 2006, to complete those transitions, and indicated these carriers would be in compliance so long as they provided HAC phones that were capable of receiving service from the new interface replacing their TDMA network.

74. Industry's problem was with achieving compatibility in the 850 MHz band, in dual-band GSM wireless handsets that could operate in either the 850 or 1900 MHz band. On September 8, 2005, the FCC issued a ruling allowing companies that offered handsets capable of operating in both the 850 and 1900 MHz bands to meet the HAC compliance rating for 1900 MHz operation

until August 1, 2006. *Section 68.4 (a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones; Cingular Wireless LLC Petition for Waiver of Section 20.19 (c)(3)(i)(A) of the Commission's Rules*, Memorandum Opinion and Order, WT Dkt. 01-309, FCC 05-166 (September 8, 2005).

75. ATIS, "ATIS Files Hearing Aid Compatibility Status Report on Behalf of Industry," news release, November 21, 2005 (reporting on the many handsets capable of working with hearing aids in the microphone mode).

15

Section 255: A Federal Law for Universal Design

The past several years have witnessed rapid, sweeping, and comprehensive change in the ways we utilize telecommunications. Never before in our history have Americans had access to such a wide array of telecommunications products and services. . . . Today, new and innovative technologies such as cellular phones, fiber optics, facsimile transmission, and satellite systems have enabled us to communicate almost instantaneously with any person, at any time, and at any place in our wide world. It is unconscionable, however, that for many persons with disabilities, these new technologies offer little promise.

—Congressman Edward Markey (D-Mass.)

IN 1982, WHEN the Modified Final Judgment (MFJ) divested AT&T of its local operating companies, it dramatically altered the structure of America's telecommunications industry, and set up an elaborate regulatory scheme under which long distance and local telephone companies could enter certain businesses, but not others. For example, the consent decree prohibited the seven new regional Bell telephone companies (RBOCs or Baby Bells) created by the AT&T break-up from manufacturing equipment and providing either information or long distance services. However, by the end of the 1980s, major changes in the nation's telecommunications infrastructure, including the convergence of telephone, computer, and television applications as well as the introduction of mobile communications, advanced transmission services, and miniaturized software and hardware, began making many of the MFJ restrictions obsolete. When the RBOCs began complaining that the original prohibitions were stifling their ability to develop innovative technologies, Congress introduced federal legislation to ease the limitations that had been placed upon their business operations.¹

Epigraph. Congressman Edward Markey (D-Mass.), Foreword in *Telecommunications and Persons with Disabilities, Laying the Foundation, A Report of the First Year of the Blue Ribbon Panel on National Telecommunications Policy* (1991).

The 1980s also witnessed some improvements in telecommunications access for people with disabilities, including new federal laws requiring hearing aid compatible telephones and federal relay services, and new state programs for the distribution of TTYs and other specialized telephone equipment. Toward the end of the decade, proposed language in the ADA also promised to bring about federal mandates for nationwide relay services, accessible public telephones, and greater TTY access by employers, public accommodations, and local government programs. But despite these various advances, when Congress began contemplating changes to the Communications Act, access by persons with disabilities to mainstream telecommunications products and services still lagged far behind the general public.

The extent and impact of these access barriers was the subject of a February 1986 symposium organized through the Annenberg Washington Program and the Galaudet Research Institute by Katherine Seelman and Judy Harkins.² White papers submitted for the forum revealed the extent to which telephone manufacturers and service providers had been ignoring the need to make their equipment and services accessible. The fact was that disability segments of the telephone market were small, fragmented, and populated with consumers who had below-average incomes; these simply could not compete with mainstream consumer markets that promised far greater profits. For example, a study conducted by NARUC revealed that telephone companies in as many as half the states still failed to provide TTY access to operator assistance, directory assistance, recorded messages, and telephone company business offices.³ In addition, discounts for TTY calls still varied widely from state to state, and disability access to payphones was virtually nonexistent.

In the spring of 1990, the RBOCs helped fund a survey that asked hundreds of consumers with hearing loss and older Americans to document their dissatisfaction with existing telecommunications choices.⁴ After the survey elicited responses that confirmed the need for more accessible products and services, the companies sought to link the growing discontent among consumers with the limitations that had been placed upon the RBOCs by the MFJ restrictions. Specifically, in an effort to win the support of the disability community for their legislative proposals, the companies told consumers that the nation's telecommunications policies had been preventing the RBOCs from manufacturing advanced telecommunications devices that were needed to break down telecommunications accessibility barriers. Only if the restrictions were lifted, the companies claimed, would they be free to develop the innovative solutions needed to finally provide this access.

In May of 1990, the RBOCs also convened a Blue Ribbon Panel on National Telecommunications Policy. Composed of national disability leaders and telecommunications policy experts, and chaired by Deborah Kaplan of the World Institute on Disability, the panel's task was to create a national telecommunications agenda for people with disabilities that would complement the civil rights protections of the ADA and ensure that the statute's mandates were not defeated by the nation's telecommunications barriers.⁵ The panel's first report emphasized the importance of following principles of "universal design," that is, the process of making mainstream telecommunications products accessible to and usable by the widest range of individuals, "off the shelf," without the need for additional adaptation.⁶

For decades, people with disabilities had needed adaptive equipment—TTYs, light signalers, artificial larynxes and other specialized equipment—to access the telephone network. However, because developments in telecommunications technologies consistently outpaced access solutions, sometimes as soon as an assistive technology was created to make a mainstream technology accessible, the latter was modified or enhanced, and the former became obsolete. Assistive devices were also costly and often hard to find in retail stores where conventional telephone equipment was sold. The Blue Ribbon panel pointed out that if access features were considered and incorporated while a product was being designed, the associated costs would become a mere fraction of the overall costs of producing that product for the general public, and the resulting access would be far more effective. By contrast, if a product was designed without addressing access needs, it would be both expensive and burdensome to later retrofit that device with accessibility features. In a sense, even the provision of relay services had been a giant retrofit to the nation's telephone network, costing millions of dollars, but not providing the same level of access that was available to the general public.*

Another reason to make products accessible at their point of design was to avoid the protracted and burdensome regulatory proceedings that often came with rectifying a lack of access. Huge resources had already been spent, over nearly three decades, to remedy the industry's failure to make their wireline phones hearing aid compatible. In the 1990s and early 2000s, laws designed to repair the failure of the wireless industry to make its digital products and services accessible to TTY and hearing aid users would similarly consume vast amounts of industry and consumer resources.

Principles of universal design offered to make the telecommunications environment more accessible to everyone, at a lower cost and in a more effective manner than had the specialized, reactive solutions of the past. In addition, universal design solutions were already proving their effectiveness for people who did not have disabilities. In the physical environment, sidewalk curb cuts were making it easier for parents with strollers and delivery personnel to navigate city streets. Decoder-equipped television sets were now standard equipment in health spas, restaurants, and other noisy locations. And telephones with volume control were making it easier for everyone to hear telephone conversations.

Disability advocates believed that it was critical to incorporate principles of universal design in Congress's revision of the nation's telecommunications policies.⁷ And, while earlier battles for telephone access had focused almost exclusively on people who could not hear, people with various types of functional limitations now perceived the need to safeguard their communication access. For example, people who were blind faced new threats from technologies that were accessible only through visual displays and flat buttons. Just as people with limited mobility needed ramps to enter buildings, it now became apparent that people with limited hearing, sight, speech, or

* In fact, once designed without accessibility, some mainstream services could never fully be retrofitted. As an example, in 2004, the FCC would rule that using coins to make relay calls at payphones was not technically feasible and would no longer be required. An overview of the many years that the FCC grappled with this issue is contained in chapter 6.

cognitive functioning required various—or redundant—ways to access the nation's advanced communication networks.

In order to effectively address these issues as the burgeoning information superhighway was being developed, Michael Morris and Jenifer Simpson of the United Cerebral Palsy Associations (UCPA) created the Consortium of Citizens with Disabilities Task Force on Telecommunications and Communications Accessibility (CCD Task Force).⁸ With so many changes underway, they realized that an organized effort was needed to ensure that the needs of people with disabilities were properly addressed before Congress.

In May 1991, the RBOCs accelerated their campaign to win the disability community's backing for their legislative proposals, at an annual conference of the President's Committee on Employment of People with Disabilities (PCEPD). In a grand display, the companies showcased exciting new services, which they all but guaranteed would become available once the MFJ restrictions were lifted. These included a "Prescription Phone Service" that used digital signal processing to fine-tune a telephone line's frequency to compensate for specific hearing losses, a "Clean Sound" strip to eliminate background telephone noise, and improved speech recognition technologies to turn voice into text right within the telephone network.⁹ Both here and at other demonstrations held on Capitol Hill, the companies threatened consumers and legislators that if the MFJ restrictions were *not* lifted, the RBOCs would continue to be prevented "from developing and manufacturing the kinds of telecommunications equipment that will aid disabled Americans in the workplace and at home."¹⁰

Although all disability advocates agreed on the need for improved telecommunications access, some of us were skeptical of the industry's assertions. It was unclear whether the MFJ restrictions were truly preventing the RBOCs from offering access, or whether the companies were making this claim merely to secure the support of the disability community for their legislative relief. For decades, these companies had underserved the disability community in the provision of their basic services; more recently, they were doing little to provide access to voice mail and other advanced services. Moreover, although the companies had easily secured a waiver from the MFJ court in 1989 to provide relay services—claiming this to be necessary to serve the public interest—none of the RBOCs had since sought waivers for any of the access features they claimed to now have on their drawing boards.¹¹ We feared that this was because, unlike relay services, the companies did not envision a profit from these innovative access features. Concerned that the RBOCs would not push these innovations once they received legislative relief, we wanted strict federal mandates requiring the companies to address the needs of people with disabilities before agreeing to support their legislative efforts.¹²

We were not alone in questioning the merits of the proposed policy changes. Since the break up of AT&T's monopoly, several small and medium-sized companies, such as Ultratec, had begun manufacturing TTYs and other specialized devices to fill the void created by mainstream manufacturers. These companies now feared that lifting the MFJ restrictions would allow the Bell companies to build networks that were incompatible with their accessible products. They alleged that if this occurred, progress for people with disabilities would actually be reversed.¹³

Disability Mandates Take a Step Forward . . . and Back

In March 1991, Congressmen Jim Slattery (D-Kans.) and Billy Tauzin (D-La.) introduced H.R. 1527, a bill that would allow the regional Bell companies to enter the manufacturing business. In response to the concerns of the disability community, Slattery agreed to add a requirement for telecommunications manufacturers to engage in research and development on access solutions, and to consider the needs of people with disabilities in designing products to the extent it was “economically feasible” to do so.¹⁴ While Slattery’s proposal may have looked like progress to some, having witnessed the persistent failure of companies to address access needs in the past, others feared it would be counterproductive to accede to these vague promises that appeared to be so far removed from principles of universal design.

UCPA openly protested the Slattery proposal at a press conference introducing the bill, distributing statements to the event’s attendees that challenged the “economically feasible” language. According to UCPA, telecommunications access was a “critical ingredient” in the struggle for civil rights, and the proposed amendments offered few guarantees that such access would ever become a reality.¹⁵ The NAD similarly questioned whether they would ever see the “utopia” promised once the MFJ restrictions were lifted. NAD President Charles Estes observed that although the NAD had adopted a resolution supporting congressional removal of the MFJ restrictions two years earlier, since that time the organization had yet to receive specific Bell proposals to benefit deaf people.¹⁶ Concerned that his bill had left a critical consumer issue unresolved, Slattery directed the RBOCs to work with disability advocates on developing new text that would better meet the needs of the disability community.

During the spring of 1992, long-distance telephone companies—who were opposed to the telecommunications reform measures because they had no interest in sharing their markets with the RBOCs—made their own move to win the disability community’s allegiance.¹⁷ Their “Unity Coalition” urged support of H.R. 5096, Texas Congressman Jack Brooks’s (D.-Tex.) Antitrust Reform Act of 1992, a bill that would require the regional Bells to apply to the attorney general each time they wanted to enter a new business.¹⁸ The bill contained no specific disability mandates, though its legislative history made passing mention of the importance of providing disability access.

The Unity Coalition insisted that if left to their own devices, regional Bell companies would try to exclude competitors from using their networks, which, in turn, would harm the disability community by creating bottlenecks to those networks. The coalition later provided consumers with the results of a study commissioned by several public service authorities, that they believed had exposed the true colors of the “Baby Bells.” Although the Bells had informed government agencies of their intentions to make network investments for consumers with disabilities, the study showed that they had poured their surplus revenues back into their parent companies and distributed them to shareholders and unregulated subsidiaries, rather than use the funds for accessibility upgrades.¹⁹

Yet others who opposed the reform proposals were national mainstream consumer groups, including AARP and the Consumer Federation of America (CFA). These

groups feared the adverse effects that lifting the MFJ restrictions would have on affordable telephone service and fair competition. Indeed, CFA was visibly upset with the disability community for being “laughably naïve” to believe that the Bells would ever help consumers with disabilities. These organizations also objected to the manner in which these telephone companies were courting the disability community to lobby for them on Capitol Hill. Their sense of outrage was captured in a March 1992 *Washington Post* article that suggested that blind, deaf, and other disabled advocates were “pathetic puppets” that were being “used, wined, dined, and coopted” by the Bells.²⁰

Disturbed by CFA’s portrayal of the disability community, I began a dialogue with CFA Legislative Director Gene Kimmelman. He explained that CFA was not opposed to inclusion of disability safeguards in the telecommunications legislation per se, but believed that the disability community could secure a far greater commitment from the telephone companies than we had gotten thus far. He asked us to challenge the RBOCs to incorporate more stringent language; their response would reveal how committed they truly were to the needs of Americans with disabilities.

In early June 1992, Simpson, UCPA’s Bob Williams, Paul Schroeder of the American Foundation for the Blind (AFB), and I met with Kimmelman to discuss new proposals that he had drafted to strengthen the access mandates. After this meeting, our CCD Task Force put together a new draft of accessibility mandates that would require the regional telephone companies to design and fabricate accessible equipment and network capabilities and services, unless doing so would fundamentally alter the nature of those offerings or result in an “undue burden” on the company’s business operations. Whether or not a particular access feature imposed an undue burden would be determined by criteria contained in previously enacted disability statutes. Generally, this would require a balancing of the nature and cost of an access feature with the overall resources of the covered business, as well as its size and type of operations. Less than a week after sending our new draft to Congressman Edward Markey’s office, members of the disability community received a letter from Ameritech’s vice president of federal relations, John Connarn, who reported that the Bell companies could agree “in principle,” to our new “undue burden” proposal, although the companies still had some reservations, and wished to meet with us to achieve a consensus on the final language.²¹

The companies’ hesitancy to completely agree to our revised language soon became clear. The disability mandates were being added to the reform bills as part of the price that the Bells had to pay in order to enter previously prohibited telecommunications businesses. As such, our draft only imposed obligations on the RBOCs, and not their industry competitors. While the RBOCs were willing to agree to an accessibility mandate, they wanted to be able to get out of providing an access feature—under the undue burden standard—if that feature put their companies “at a competitive disadvantage” relative to other companies not covered by the mandates.

Although the RBOCs’ request seemed reasonable, we were concerned about tampering with the undue burden standard, which was already being used for the implementation of both the ADA and the Rehabilitation Act of 1973.* Previous interpre-

* For example, under the ADA, places of public accommodation had to provide auxiliary aids, such as sign language interpreters, unless they could prove that doing so would impose an undue burden on their businesses.

Chart 15.1**CCD Task Force Principles of Telecommunications Access
(abridged)**

Nondiscrimination — People with functional differences in speech, hearing, vision, movement, manipulation, and interpretation of information across the age spectrum must have access to communications networks, services, and equipment that is equivalent to that provided to people without disabilities.

Comprehensiveness — All forms of expression, transmission and reception of electronic communications must be accessible to persons with disabilities; every individual is capable of choosing the method, medium and content of communication most appropriate for him or herself.

Effectiveness — The same basic courtesies that are extended to the general public when receiving goods, services, facilities, privileges, advantages, or accommodations via the electronic information infrastructure must be extended to people with disabilities.

Equity — Individuals with functional differences must not be subject to discrimination or otherwise denied access to networks, products and services through unfair policies or practices.

Affordability — Individuals with disabilities shall pay rates no greater than the rates paid for functionally equivalent products and services. With respect to telephone communications, this shall apply to such factors as the duration of the call, the time of day and geographical distance.

Employment — Because the new information and electronic communications technologies will transform the nature of work locally, regionally, nationally and globally, the communications accessibility needs of individuals with disabilities must be considered in employment situations. Persons with disabilities must have enhanced opportunities for employment and productivity made possible by these technologies.

tations of the standard had never included consideration of the adverse competitive impact that a company might experience in providing an accommodation, and we feared that adding this new criteria might impede the ability to secure access under these other laws. We questioned whether it would be more sensible simply to extend the requirements for accessibility beyond the RBOCs, to the entire telecommunications industry.²² That would level the playing field, eliminate any need for an assessment of the competitive impact of access features, and take the next logical step

in fulfilling the goals of two statutes—the Communications Act’s universal service promise of telephone service for all Americans and the ADA’s goal of fully integrating people with disabilities into the mainstream of society. Alternatively, if the Bells were unwilling to expand the reach of the provisions, we would consider adding the “adverse competitive impact” language, but only so long as it was kept separate from the criteria used to determine an undue burden.

Throughout the fall of 1992 and the winter of 1993, several rounds of negotiations took place between the CCD Task Force and the RBOCs to iron out our differences.* Sam Simon of Issues Dynamics, a Washington, D.C. consulting firm, arranged for the discussions to be facilitated by Pam Ransom, who in 1990, had successfully brought together consumers and industry on matters concerning the FCC’s implementation of a national relay system.† During this time, the RBOCs rejected our recommendation to extend the disability obligations to other companies, claiming that other telecommunications manufacturers then supporting their efforts to lift the MFJ ban would withdraw that support if forced to abide by these mandates.²³

Nevertheless, on March 24, 1993, consumers and industry finally reached a consensus that they could jointly send to Congress.²⁴ Under the agreement, local telephone companies would have to make telecommunications equipment, customer premises equipment, and network services accessible to and usable by individuals with disabilities, unless the costs of providing such accessibility would result in an undue burden *or* an adverse competitive impact. The second defense could only be entertained so long as competing manufacturers and network service providers were not held to the same obligation. While not the best of resolutions, the CCD Task Force perceived this as an improvement over the starting point of its negotiations.

A New Telecommunications Landscape Begins to Develop

By the fall of 1993, approximately three years had passed since the start of the Bells’ initial efforts to secure legislative reform, and already the telecommunications landscape had begun to change radically. The nation was abuzz with talk of interconnected and intelligent networks of cable, telephone, cellular, paging, and electronic services that would carry voice, data, text, and video transmissions to our homes, offices, schools, libraries, and hospitals in ways that would revolutionize our lives. Throughout Washington, D.C., ad hoc consumer and governmental advisory committees sprang up to ensure that the new regulatory infrastructure designed to address these innovative technologies would not exacerbate the disparity that already existed between the information rich and the information poor.‡ Disability advocates rushed

* In the meantime, we rejected another version of the mandates proposed by Markey’s office that would have allowed the FCC to prescribe standards for accessibility only to the extent that the Commission determined these to “be necessary or desirable in the public interest.” History suggested that the Commission might use its discretion to impose few, if any requirements under so flexible a standard.

† The regional telephone companies were initially represented by John Connarn, who later retired and was replaced by Ron Stowe of Pacific Telesis. Initial rounds of negotiations included several CCD Task Force Members; Williams and Schroeder became the group’s primary negotiators during the final rounds.

‡ These included the Telecommunications Policy Roundtable, a cross-consumer coalition of more than seventy consumer, civil liberties, education, library, and several national deaf and hard of hearing orga-

to have representation in these various groups, understanding the need to establish a firm stake in the debates taking place as the American communications industry hurtled full speed into the information age.

To assist in these efforts, Simpson and others in the CCD Task Force authored a set of principles that were designed to serve as a road map for ensuring telecommunications accessibility (chart 15.1).²⁵ Divided into six parts—nondiscrimination, comprehensiveness, effectiveness, equity, affordability, and employment—the principles had the nationwide support of disability advocates, and facilitated our efforts to educate Congress, federal agencies, and the White House about our disability agenda.²⁶ In the fall of 1993, the CCD Task Force used these principles to prepare recommendations given to the Clinton administration, to ensure that disability issues obtained a prominent place in the development of the administration's blueprint for the burgeoning national information infrastructure.²⁷

The House Proposals Move Forward

In November of 1993, H.R. 3626, the Antitrust Reform Act of 1993 introduced by Congressmen Brooks and John Dingell (D-Mich.), became the first of a series of new telecommunications reform bills to include the revised legislative proposals agreed upon by the Baby Bells and the disability community. While this bill applied the mandates to network services and equipment manufactured by the RBOCs and their affiliates, a similar bill, H.R. 3636, the National Communications Competition and Information Infrastructure Act, introduced around this same time by Congressmen Markey (D-Mass.), Jack Fields (R-Tex.), and Rick Boucher (D-Va.), applied similar disability access requirements to advances in network services.²⁸ Both pieces of legislation gave the FCC responsibility for promulgating regulations to implement the accessibility provisions.

Over the next several months, the CCD Task Force worked toward strengthening the accessibility provisions, urging an expansion of the mandates to advanced telecommunications services and information services. When, in February 1994, Schroeder testified on the legislation at hearings held before the House Subcommittee on Telecommunications and Finance, he shared the vision of universal design, and requested Congress to reject a "separate but unequal" system that relied on expensive adaptive equipment to obtain access to mainstream products and services.²⁹ Schroeder reminded the legislators that it had taken more than 100 years for deaf and hard of hearing people to acquire access to basic telephone service, and that the communications and information revolution now offered Americans with disabilities "unparalleled opportunities for equality and advancement. . . . Those who have the ability to obtain and use information have the power to make choices and enhance our opportunities for independence, productivity, and self-sufficiency."³⁰ It was time,

nizations dedicated to developing public interest principles of telecommunications policy; the National Information Infrastructure (NII) Advisory Committee, a federal advisory committee convened by Vice President Al Gore, whose membership included disability advocate Deborah Kaplan; and the Electronic Frontier Foundation, which held a conference on the disability impact of the legislative proposals in March 1993. In addition, the NAD had formed its own Telecommunications Committee, chaired by the NAD's Vice President Roz Rosen.

he said, to “systematically” dismantle the barriers that could curtail these freedoms and to put an end to the second-class access afforded the disability community for so many years.

While the new disability proposals were an improvement over earlier drafts, some disability advocates still believed that more needed to be done to ensure that the RBOCs would keep their promises after they were permitted to enter the manufacturing business. For example, Harvey Goodstein of the NAD’s Telecommunications Committee complained that deaf people still had to pay as much as \$400 for a TTY, even though hearing people could purchase a phone for as little as \$10.³¹ Goodstein feared that despite the RBOCs’ media blitzes boasting commitments to universal access, the companies still had revealed no specific plans to change this state of affairs.

To address these concerns, Markey agreed to add two more provisions to the bill: a requirement for the FCC to consult with representatives of people with disabilities in developing its accessibility rules, and a mandate for the FCC to gather public input on the effectiveness of those rules at least once every three years.³² When the House subcommittee marked up H.R. 3636 on March 1, 1994, the bill contained both of these amendments.

A Disappointing Senate

Unfortunately, the legislative success that disability advocates achieved in the House was not matched in the Senate. Although S. 1086, the Telecommunications Infrastructure Act of 1993, introduced by Senators John Danforth (R-Ore.) and Daniel Inouye (D-Hawaii) in June 1993, referenced the need for disability access to advances in network capabilities and telecommunications services, its contents provided little in the way of specific guidance for achieving such accessibility.³³ A second bill, S. 1822, the Telecommunications Act of 1994, was not much of an improvement.³⁴ As late as May of 1994, members of the Senate Commerce Committee charged with overseeing telecommunications reform showed little interest in disability access issues; some even expressed fears that adding accessibility burdens would delay the development of the new information infrastructure.

On May 24, 1994, when the Senate Committee on Commerce, Science, and Transportation Hearings held hearings on S. 1822, Mark Goldfarb, director of Gallaudet University’s International Center, joined Schroeder in presenting powerful testimony on behalf of the disability community.* Just ten days earlier, President Clinton had spoken at Gallaudet University’s commencement ceremony, pledging the administration’s support for full disability access to the information superhighway. Goldfarb now urged a similar commitment from the Senate, noting that FCC Chairman Reed Hundt had called the information highway “the gateway to our future prosperity.”³⁵ He warned the senators that if these new “technological marvels” relied on sound- or voice-activated prompts, the deaf community again would be left behind. It was only

* In addition, written statements for the hearing record were submitted by UCPA and CAN, then chaired by Al Sonnenstrahl. In his testimony, Sonnenstrahl recommended the establishment of a new FCC division that could review all FCC rules for their disability impact, and could work with businesses to promote universal design in technological product and service development. A year later, the FCC created the Disabilities Issues Task Force for this very purpose.

after these hearings that the Senate committee finally agreed to incorporate disability safeguards into its telecommunications reform proposals.

By the time the disability amendments were ready to be added to the Senate bills, the legislative drafts contained other mandates requiring universal service to advanced telecommunications services by schools, health care institutions, and libraries.³⁶ When the CCD Task Force saw that these new provisions applied to *all* telephone companies, it began to reconsider the wisdom of limiting the disability access proposals to only the regional Bells. However, on June 28, 1994, before disability advocates even had a chance to modify the House or Senate proposals to apply the mandates industry-wide, the House moved ahead with passage of H.R. 3626 by a vote of 423 to 5, and H.R. 3636 by a vote of 423 to 4, with the more restrictive “RBOCs-only” language.³⁷

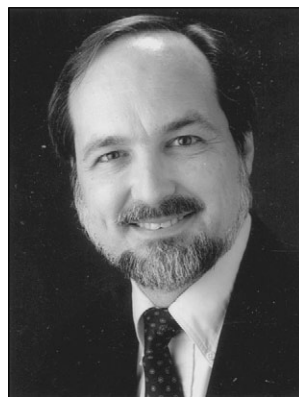
On August 4, 1994, the White House convened a policy forum of prominent disability leaders, government officials, and members of the telecommunications industry to explore the disability access issues that—despite the CCD Task Force’s best efforts—were still taking a backseat to many of the other telecommunications reform issues being addressed by Congress. Keynoted by Larry Irving, head of the National Telecommunications and Information Administration (NTIA), the event provided an opportunity to emphasize that principles of universal telecommunications service needed to go beyond offerings that were affordable and available to all geographic regions, to service that was accessible by people with disabilities.³⁸ The forum succeeded in highlighting the importance of requiring accessibility in the information age, and likely contributed to the ability of the CCD Task Force to finally secure a promise from the Senate to extend the accessibility mandates to *all* telecommunications companies (local and long distance) in the fall of 1994. However, before the legislators could fulfill this promise, S. 1822 was pulled from the Senate’s consideration. Senate proponents of the legislation had decided that outstanding conflicts in the bill (unrelated to the disability provisions) were too great to resolve before the close of the 103rd Congress. Though advocates would have to start anew when the 104th Congress convened in January of 1995, the recent progress led us to believe that we would be able to complete our accessibility agenda swiftly and successfully at that time. We could not have known that the legislative world was about to be turned upside down.

Congress Takes a Turn

Although disability issues have always had a bipartisan following, the Democratic and Republican parties have differed appreciably in their general approaches to telecommunications policy. Both parties favor competition to improve the affordability and effectiveness of consumer offerings, but while Democratic lawmakers more readily accept regulatory safeguards as one of the means to achieving this end, Republican legislators put far greater emphasis on the free marketplace.

From 1992 to 1994, both houses of Congress, as well as the White House, had been controlled by the Democrats. This changed after the 1994 congressional elections transferred the House and Senate to Republican leadership. Shortly after the start of the new session, on January 19 and 20, 1995, closed-door meetings on

Gregg Vanderheiden, director of the Trace Research and Development Center at the University of Wisconsin, Madison, has spent decades devising solutions to make computer, telecommunications, and information technologies accessible, and was one of the disability leaders who helped highlight the need for accessibility at a White House Forum held in August 1994.



telecommunications reform took place between the new Republican-controlled House Energy and Commerce Committee and leaders of the telephone, cable, broadcasting, and computer industries. Congressman Dingell, prior chair of that committee, quickly joined other Democratic congressional leaders in sharply criticizing this event as a break in the bipartisan efforts that had been taking place during the prior Congress. In early February 1995, more than forty-five consumer, civil rights, labor, religious, and disability rights organizations similarly conveyed their concerns—to House Energy and Commerce Committee Chairman Thomas Bliley (R-Va.)—about having been excluded from this secretive process.³⁹

Exclusive meetings between legislative staff and the telecommunications industry similarly took place in the Senate. As a result, when S. 652, the Senate's new proposal for telecommunications reform, finally emerged from these private discussions, it looked appreciably different than the proposals circulating at the close of the prior Congress. Even the bill's title, the Telecommunications Competition and *Deregulation* Act of 1995, told a tale. A policy paper accompanying the new draft cast aside prior approaches as "regulatory apartheid," promising to rely on free enterprise and open markets, rather than governmental "micromanaging," to make new telecommunications services widely available.⁴⁰ To the dismay of the CCD Task Force, a set of "deregulatory principles" that accompanied the policy paper also contained no mention of disability access.

It was clear that much work needed to be done. First and foremost, the newcomers—and especially Senator Robert Dole (R-Kans.), who had taken on Senate leadership of these issues—needed to be educated about the failure of competitive markets to respond to disability needs and the industry's general reluctance to invest in access features. CCD Task Force members spent much of January on Capitol Hill providing this historical backdrop. Fortunately, advocates soon learned that the 1994 federal elections had not altered the RBOCs' commitment to the disability text agreed upon in the prior year's draft. In addition, the companies were now even willing to have the access obligations applied to the entire telecommunications industry, and to bring these proposals to the Republican leadership.

In March of 1995, Senator Dole finally agreed to add disability protections to his legislative draft.⁴¹ But any relief advocates might have felt at having overcome this

first hurdle disappeared upon reading the new Senate proposals. Although the new bill did, for the first time, extend the accessibility mandates to the entire telecommunications industry, it only required members of that industry to incorporate access where it was “readily achievable” to do so. This standard, defined as being easily accomplished and carried out without much difficulty or expense, had originated in the ADA as a way of relieving places of public accommodation that had already been built, especially small “mom and pop” establishments, from having to go through the difficulty and expense of installing an elevator, building wider aisles, or making other expensive structural changes to retrofit their buildings.⁴² It made no sense to apply the standard to products and services that had not yet been built, because incorporating access features at this early stage could be achieved with far less burden and expense. Under the ADA, construction that was either new or altered was held to a much higher standard: It had to be “readily accessible and usable by” people with disabilities.⁴³

We were also concerned about a second change in the Senate’s proposals. Rather than require the FCC to promulgate accessibility regulations, the new draft directed telecommunications access standards to be developed by the Access Board in conjunction with NTIA and the National Institute of Standards and Technology. Unlike the FCC, none of these other agencies had much experience in regulating telecommunications, nor the enforcement authority to oversee compliance.* Advocates also feared that standards promulgated by the Access Board would be taken less seriously by the telephone industry, which was primarily accustomed to responding to FCC directives.⁴⁴

It was disconcerting to see how little resemblance the Senate’s new proposals bore to those of the prior Congress, not only because the prior disability language had been years in the making, but because it had already won the support of major segments of the telecommunications industry. That the new Congress had made these changes behind closed doors, without the knowledge of or input from the disability community, advocates felt, intensified the egregiousness of their actions.

The CCD Task Force immediately fought to restore the original proposals, quickly and successfully convincing senators of the need to reestablish a role for the FCC.⁴⁵ We secured a compromise that would still give the Access Board responsibility for developing accessibility standards for telecommunications equipment, but would make these standards “the starting point” for final accessibility regulations to be drafted by the FCC.⁴⁶ Previously, the Access Board had assumed a very similar role in preparing accessibility guidelines for private buildings and facilities covered by the ADA; those standards were enforced by DOJ.⁴⁷ Over time, the task force decided that the Access Board’s long history of developing accessibility guidelines through a consensus approach that brought together industry, consumers and federal governmental agencies, might even be to the advantage of consumer efforts to secure comprehensive disability access.⁴⁸

* A later correspondence from Kathy Roy who worked at the Access Board (dated May 23, 1995, and addressed to the author) acknowledged the Board’s limited authority in this area: “Having the Board develop rules for telecommunications services would exceed past responsibilities and would be inconsistent with the divisions of responsibilities.”

Disability advocates were not as successful in getting the Senate to relinquish its hold on the “readily achievable” standard. And although House legislators did agree to retain the undue burden standard in their revisions of the telecommunications legislation, when the new House bill, H.R. 1555, the Communications Act of 1995, was introduced, it unleashed a whole new set of problems: Not only did that bill still limit the accessibility mandates to local telephone companies, but it contained no accessibility obligations for manufacturers at all, and still allowed relief from the access mandates for companies able to prove they would suffer an adverse competitive impact.⁴⁹

The CCD Task Force now needed to choose between two very different pieces of legislation. The House’s *undue burden* standard might make it more difficult for companies to be relieved of their accessibility obligations than the Senate’s *readily achievable* standard, but if the House version was adopted, long distance companies and other competitors to the regional Bells would not be covered at all by the accessibility mandates. On the other hand, although the Senate’s coverage of the entire telecommunications industry stood a far better chance of complementing the ADA’s efforts at achieving universal access, we wondered whether the readily achievable standard was so weak that it might defeat these very protections. The task force eventually concluded—though quite reluctantly—that the broader coverage contained in the Senate’s version might have greater advantages for consumers, but only after carefully reviewing the way that the readily achievable defense had been applied under the ADA.⁵⁰

Although the undue burden standard had always been considered more stringent than the readily achievable standard, the actual criteria set out in the ADA for each of these defenses was nearly identical: Both required weighing the nature and cost of accessibility solutions against the overall financial resources, size, and type of a business’s operation. Using this as their guide, a few resource-rich businesses covered by the ADA’s readily achievable standard had already been required to expend huge sums of money to retrofit existing structures. For example, owners of San Francisco’s Candlestick Park had spent millions of dollars to rip out seats, install elevators, and provide accessible restrooms, payphone TTYs, and other disability accommodations as part of a settlement agreement with the California-based Disability Rights Education and Defense Fund (DREDF).⁵¹ Similarly, United Artist Theaters paid considerable sums of money to modify seats, restrooms, and parking spaces for its movie theaters to comply with a second DREDF settlement.⁵² It was clear that with their greater resources, telecommunications companies would similarly have a hard time proving that it was not readily achievable for them to incorporate accessibility features. Moreover, because the accessibility mandates would require access features to be incorporated during the design phases of a product or service’s development, arguments for the inclusion of these features would, more often than not, easily defeat a readily achievable defense.

After hearings on the new telecommunications proposals were held by the House Subcommittee on Telecommunications and Finance on May 11, 1995, the CCD Task Force spent several agonizing months trying to get the House to bring its version of the accessibility provisions in line with the Senate’s bill.⁵³ We had already secured

support for these changes from the RBOCs, through their new Alliance for Competitive Communications. But while we continually received verbal promises from House legislative aides that our changes would be made, repeatedly drafts were released that were either missing these amendments or confusing the two conflicting versions of the law.*

When, in the middle of July, the House committee approved and reported out a final draft that still contained erroneous language—despite a multitude of faxes, letters, and phone calls from consumer advocates urging corrections in the text—we began to worry that the mistakes that were being made were more than inadvertent drafting errors. Only a few weeks remained before the full House would take a final vote on the law; if the bill's access provisions were not amended prior to that time, the Senate and House versions of the accessibility mandates would go to a Conference Committee, where the mandates would be at the mercy of yet additional editors. At the last minute, however, disability advocate Pamela Holmes and I were able to enlist the aid of her congressman, Scott Klug (R-Wisc.), who, on August 4, 1995, introduced and successfully passed a manager's amendment to revise the House accessibility provisions.⁵⁴ When H.R. 1555 passed the House (by a vote of 305 to 117), coverage was extended to the entire telecommunications industry, the undue burden/adverse competitive impact sections were gone, and the Access Board was directed to produce accessibility guidelines that would later be used by the FCC in the promulgation of binding regulations.[†]

During the last months of Congress's deliberation of the reform legislation, members of the CCD Task Force were also successful in pushing Congress to add a provision prohibiting telecommunications carriers from installing "network features, functions, or capabilities that do not comply with the [disability] guidelines and standards."⁵⁵ The goal of this section was to foster an interconnected telecommunications environment that seamlessly provided disability access across communications networks.

Unfortunately, just as we were about to celebrate, we noticed yet another change in the House bill that took us completely by surprise. Unbeknownst to anyone in the disability community, House legislators had added a clause that prohibited anyone from suing to enforce the bill's accessibility requirements. In place of this "private right of action" (the right to sue), the House had included a provision that would give the FCC sole jurisdiction over telecommunications access complaints. This marked a significant departure from other federal protections under both the Communications Act of 1934 and the ADA, the latter of which permitted lawsuits against noncompliant employers, local governments, and places of public accommodation. Moreover, the last-minute addition contravened the very purpose of the new accessibility safe-

* One or two of these drafts even included *both* the readily achievable and undue burden standards, providing multiple defenses to the new accessibility safeguards.

[†] As enacted by the House, the bill also required the FCC to make periodic determinations on the extent to which its disabilities access rules achieved access to telecommunications and information services. Although we hoped this provision would enable us to return to Congress at a later date if the readily achievable defense offered too much leeway in relieving companies of their accessibility obligations, this passage was removed from the final version of the bill by the Conference Committee.

guards: to treat people with disabilities equally in the advancement of telecommunications services.⁵⁶ Though we were never given any explanation for this disparate treatment, in the end we proved powerless to defeat it.

Though the accessibility provisions contained in the House and Senate drafts were now largely consistent with one another, the mammoth telecommunications reform bills produced by each of the chambers still contained enough inconsistencies to send them to a House–Senate Conference Committee. Among other things, agreement still needed to be reached on matters concerning the entry of long distance, cable, and local companies into each others’ businesses, new universal service mechanisms, the deregulation of the cable industry, media ownership, and Internet censorship. Failure to achieve consensus on any one of these issues could cause the entire bill to collapse, bringing with it our accessibility provisions. To preserve at least the disability safeguards, CCD Task Force members spent the months of October and November educating the joint committee about their constituents’ accessibility needs.⁵⁷ Fortunately, in the end, compromises on all matters were struck and a final bill was sent back to each of the Congressional chambers.

On February 1, 1996, the Telecommunications Act of 1996 passed the House by a vote of 414 to 16. Less than one hour later, the Senate approved the new legislation by a vote of 91 to 5.⁵⁸ Exactly one week later, on behalf of the NAD, I joined Ransom, Schroeder, and Simpson at the bill’s presidential signing ceremony at the Library of Congress, attended by approximately 100 industry and governmental representatives. In a symbolic gesture, when President Clinton signed the new “information highway” bill, he used the very same pen that had been given to Vice President Gore’s father when, as a U.S. senator, he had attended a signing ceremony for “interstate highway” legislation some four decades earlier.

The 1996 telecommunications reform legislation was the largest overhaul of the Communications Act in its sixty-two years, and promised to change forever the way that Americans communicated and received their information and entertainment. Though (for reasons unrelated to the disability provisions) many of the statute’s directives have since come under fire, for the first time in our nation’s history, requirements for the universal design of telecommunications products and services had finally become a reality.⁵⁹

Notes

1. For example, Representatives Al Swift (D-Wash.) and Tom Tauke (R-Iowa) introduced the Consumer Telecommunications Services Act of 1989, H.R. 2140, 101st Cong., 2d Sess. 1989. In the Senate, Senator Ernest Hollings (D-S.C.) introduced the Telecommunications Equipment Research and Manufacturing Competition Act of 1989, S. 1981, 101st Cong., 2d Sess. (1989), to authorize the RBOCs to manufacture phone equipment. In October of 1991, the prohibition against information services was lifted by the MFJ court, eliminating the need for Congress to act on that issue.

2. The Joint Forum on Marketplace Problems in Communications Technology for Disabled People was held February 20–21, 1986, in Washington, D.C.

3. Genevieve Morelli, “State Telecommunications Policy and Disabled Persons” (presentation by Edward B. Hipp, commissioner, N.C. Utilities Commission, Marketplace Problems in Communications Technology for Disabled People Forum, Washington, D.C., February 20, 1986); Drew Erickson, “Report on Telecommunications Services for the Deaf and Physically Disabled” (presentation, NARUC Communications Committee, San Diego, July 29, 1986).

4. Frank G. Bowe, "National Survey of Telephone Products and Services: The Views of Deaf and Hard-of-Hearing Americans," *American Annals of the Deaf* 136 no. 3 (1991): 278–283.

5. The Blue Ribbon panel consisted of Lars Augustsson, June Kailes (mid-way replacement for Anita Baldwin), Frank Bowe, Jackie Brand, Dale Brown, Judy Harkins, Oral Miller, Michael Morris, Tom Shworles, Al Sonnenstrahl, Max Starkloff, and Rocky Stone.

6. Deborah Kaplan, John DeWitt, and Maud Steyaert, *Telecommunications and Persons with Disabilities, Laying the Foundation: A Report of the First Year of the Blue Ribbon Panel on National Telecommunications Policy* (November 1992), available at <http://park.org/Guests/Trace/pavilion/foundatn.htm>. The panel later produced a second report, *Telecommunications and Persons with Disabilities: Building the Framework* (1994), available at <http://trace.wisc.edu/docs/framework/frame wrk.htm>, again confirming telecommunications to be a civil right.

7. See, for example, Frank Bowe, letter to Congressman Markey, March 21, 1990; Scott Marshall of the American Foundation for the Blind, letter to Congressman Markey, May 31, 1990.

8. Advocates who played a role in the CCD Task Force or otherwise contributed to its efforts to secure telecommunications access safeguards included Jenifer Simpson, Bob Williams, Paul Schroeder, Deborah Kaplan, Alan Dinsmore, Mary Fox Grimm, Judy Harkins, Frank Bowe, Oral Miller, Jay Brill, and the author.

9. The telephone companies' campaign was titled "America's Future: Too Important to Leave on Hold." In 1991, US West distributed a pamphlet called *American Innovations Denied. . . . There Ought to Be a Law*, listing many of the technologies that could assist Americans, including Americans with disabilities, were it not for the MFJ restrictions.

10. MFJ Task Force (the seven RBOCs), letter to PCEPD conference attendees, May 22, 1991.

11. For more information about relay waiver request, see pp. 99–100.

12. Karen Peltz Strauss and Judy Harkins, memorandum to Jack Gannon, special assistant to Gallaudet University President I. King Jordan, September 12, 1990.

13. Robert M. Engleke, president, Ultratec, letter to Senator Herbert Kohl (R-Wisc.), June 3, 1991; John De Witt, president, De Witt, Mendelsohn & Associates, letter to Senator Bill Bradley (D-N.J.), June 3, 1991.

14. The Telecommunications Equipment Research and Manufacturing Competition Act of 1991, H.R. 1527, 102nd Cong., 1st Sess (1991); See Congressman Jim Slattery (D-Kans.), letter to Thomas L. Robinson, president, Western Kansas Association on Concerns of the Disabled, August 5, 1991. A companion bill in the Senate, S. 173, 102nd Cong., 1st Sess. (1991), introduced by Senator Ernest Hollings on January 14, 1991, would similarly lift these manufacturing restrictions.

15. Jenifer Simpson and Bob Williams, policy associates, UCPA, letter to Congressman Slattery, January 23, 1992. On April 6, 1992, Williams and Simpson sent a similar letter to Representatives Jack Brooks and Edward Markey.

16. Charles Estes, "Bestest from Estes," *NAD Broadcaster* (April 1992).

17. The Wexler Group, facsimile to Judy Harkins on "Upholding the AT&T Consent Decree, Involvement of the Disabilities Community," April 27, 1992.

18. H.R. 5096, 102nd Cong., 2d Sess. (1992). Another bill under consideration at this time, H.R. 3515, 102nd Cong., 1st Sess. (1991), introduced by Congressman Jim Cooper (D.-Tenn.), would have similarly allowed the regional bells to enter the information services market, but again only subject to various conditions.

19. The study was presented by AT&T and other members of the Unity Coalition to members of the disability community, including Nancy Bloch, Brenda Battat, Judy Harkins, Lola Montgomery, Al Sonnenstrahl, and the author, on November 1, 1993.

20. John Mintz, "Taking Sides in the Baby Bells' Battle, Advocacy Groups, Consumer Activists Split Over Phone Firms' Effort to Get into New Lines of Business," *Washington Post*, March 29, 1992, H1, H7. Notwithstanding this dismal portrayal of the disability community as "pathetic puppets," the *Post's* article acknowledged that the Bell companies did not have the universal support of the disability community, and provided an opportunity for advocates to publicly question the limitations of the "economically feasible" provisions.

21. John Connarn, Ameritech, letter to the author, June 17, 1992; see also Karen Peltz Strauss, NCLD, facsimile to Gerry Waldron of Congressman Markey's office, June 12, 1992.

22. Karen Peltz Strauss, NCLD, on behalf of the CCD Task Force, letter to John Connarn, August 19, 1992.

23. John Connarn, Ameritech, letter to Bob Williams, UCPA, and Paul Schroeder, governmental affairs director, ACB, December 23, 1992.

24. Ronald F. Stowe, vice-president, Washington Operations, Pacific Telesis, letter to Paul W. Schroeder, ACB, and Bob Williams, UCPA, March 24, 1993, with agreed-upon draft legislative proposals.

25. Members of the task force that signed on to these principles included ACB, AFB, ASHA, NAD, NCLD, PCEPD, SHHH, UCPA, WID, Hear Our Voices, National Cued Speech Association, National Head Injury Association, and the National Rehabilitation Hospital/Interdisciplinary Association for the Advancement of Rehabilitation and Assistive Technologies.

26. See, for example, Paul W. Schroeder, ACB, and Jenifer Simpson, UCPA on behalf of CCD, letter to Congressman Markey, June 24, 1993. On July 26, 1993, a letter discussing these principles was also sent to FCC Chairman Reed Hundt and NTIA Director Larry Irving by representatives of AFB, NAD, NVRC, SHHH, UCPA, WID, and Gallaudet University, as well as advocates Justin Dart and Frank Bowe.

27. We also offered specific case studies revealing the influence that electronic information was having on the lives of people with disabilities. See Karen Peltz Strauss, memorandum to Emily Littleton, Center for Media Education, October 14, 1993, in response to a request from Dr. Elizabeth Cohen of the White House's National Economic Council.

28. H.R. 3626, 103rd Cong., 1st Sess (1993); H.R. 3636, 103rd Cong., 1st Sess. (1993), the National Communications Competition and Information Infrastructure Act of 1993, superseded a similar bill, H.R. 1504, introduced on June 23, 1993. Other related bills introduced around this period included H.R. 3609, introduced by Congressman Slattery on November 22, 1993 (to lift the MFJ restrictions on manufacturing), and H.R. 1757, introduced by Congressman Boucher to address high-speed networking issues. Some of these newer bills addressed other consumer issues, including stronger guarantees of affordable and universal telephone service for all Americans.

29. Statement of Paul Schroeder, on behalf of ACB, NCLD, WID, and the Association for Education and Rehabilitation of the Blind and Visually Impaired, Hearings on H.R. 3636 and H.R. 3626 before the Subcommittee on Telecommunications and Finance of the House Committee on Energy and Commerce, 103rd Cong., 2d Sess. 3 (February 8, 1994).

30. *Ibid.*, 5–6.

31. Harvey Goodstein, memorandum to Paul Schroeder and Al Sonnenstrahl, co-chairs, CCD Task Force, February 14, 1994.

32. See Karen Peltz Strauss, NCLD, letter to Congressman Markey, February 17, 1994, which explains these added mandates. Though we had also asked Markey to require the FCC to submit a triennial report to Congress identifying both problems incurred in achieving access and plans to correct those problems, this was not included in the subcommittee's mark up.

33. Telecommunications Infrastructure Act of 1986, S. 1086, 103rd Cong., 1st Sess. (1993). The bill also contained two findings, first, that "a clear national mandate is needed for full participation in access to telecommunications networks and services by individuals with disabilities," and second, that "the obligations of telecommunications carriers include the duty to furnish telecommunications services which are designed to be fully accessible to individuals with disabilities in accordance with such standards as the Federal Communications Commission may prescribe."

34. S. 1822, 103rd Cong., 2d Sess. (1994).

35. Statement of Mark L. Goldfarb, Gallaudet University, Hearings on S. 1822 before the Senate Committee on Commerce, Science, and Transportation, 103rd Cong., 2d Sess. 3 (May 24, 1994).

36. H.R. 3636 also contained provisions for televised closed captioning, discussed in chapter 11.

37. The House Report accompanying the passage of H.R. 3626 was H. Rep. No. 559, 103rd Cong., 2d Sess (1994). Section 229(g) contained the disability language and Part 2 of the Report (at 118) discusses this section. The House Report on H.R. 3636 was H. Rep. No. 560, 103rd Cong., 2d sess. (1994).

38. Jenifer Simpson, "Telecommunications: White House Holds Disability Access Policy Forum,"

Word from Washington (UCPA Newsletter) (July/August 1994). Government officials who attended the forum included Dr. Katherine Seelman, director of the National Institute on Disability Research and Rehabilitation at the U.S. Department of Education, Larry Scadden of the National Science Foundation, and Sally Katzen, director of Information and Regulatory Affairs in the Office of Management and Budget. Several years later, Katzen would later be charged with approving the accessibility guidelines produced by the Access Board. Consumer leaders included Gregg Vanderheiden, Judy Harkins, Larry Goldberg, Jim Tobias, Deborah Kaplan, Jenifer Simpson, Paul Schroeder, Alan Dinsmore, Toby Silver, Donna Sorkin, Al Sonnenstrahl, and Frank Bowe. Larry Irving, the event's keynote speaker, had been a staunch supporter of the decoder circuitry legislation in his previous role on Capitol Hill.

39. Various consumer and disability organizations, letter to Congressman Bliley, February 7, 1995.

40. "New Senate Republican Policy Paper on Telecommunications" (released January, 1995).

41. On March 9 and 10, 1995, we faxed over the specific proposals for the disability access safeguards. Jenifer Simpson, UCPA, Alan Dinsmore, AFB, and Karen Peltz Strauss, NCLD, memorandum by facsimile to Katie King of Senator Pressler's office, March 9, 1995; Karen Peltz Strauss, NCLD, facsimile to Alex Vachon of Senator Dole's office, March 10, 1995.

42. 42 U.S.C. §12182(b)(2)(A)(iv); 28 C.F.R. §36.304. This Title III standard requires entities to remove architectural barriers where such removal is readily achievable.

43. 42 U.S.C. 12183(a) (Title III, applicable to public accommodations and commercial facilities).

44. At the time, the shift in federal roles proposed by the committee remained a mystery to us. We later learned that the change had been proposed by the late Paul Hearne, head of the Dole Foundation and a disability advocate who was familiar with prior successes of the Access Board to develop accessibility standards for buildings under other federal laws.

45. See Jenifer Simpson, UCPA, letter to Senator Dole, March 22, 1995.

46. S. Rep. No. 23, 104th Cong., 1st Sess. 53 (March 30, 1995). The report also mentioned the need to foster "the design, development, and inclusion of new features in communications technologies that permit more ready accessibility of communications technology by individuals with disabilities" (52).

47. 36 C.F.R. Part 1191, Appendix A.

48. See David Capozzi, director, Access Board Office of Technical and Information Services and Kathy Roy Johnson, Access Board legislation analyst, memorandum to Pam Holmes, Access Board member, November 8, 1995. In addition to the ADA's guidelines, the Board had used this approach to successfully promulgate Uniform Federal Accessibility Standards for federal buildings under the Architectural Barriers Act of 1968.

49. The Communications Act of 1995, H.R. 1555, 104th Cong., 1st Sess. (1995) was introduced by Congressmen Bliley and Fields.

50. See Karen Peltz Strauss, NCLD, memorandum to Cathy Reid and Mike Regan, House Committee staff, May 9, 1995, proposing to adopt the Senate language.

51. Settlement agreement among the United States, the Disability Rights Education and Defense Fund, the city and county of San Francisco, the San Francisco Forty Niners Limited, and the San Francisco Baseball Associates L.P, summary available at <http://www.usdoj.gov/crt/foia/ca7.txt>.

52. See "United Artists to Make Theaters Accessible to Moviegoers with Disabilities under Agreement with Justice Department," news release, April 16, 1996, <http://www.usdoj.gov/opa/pr/1996/April96/176.cr.htm>.

53. This time, Julie Carroll presented testimony on behalf of ACB, AFB, UCPA, and the American Rehabilitation Association. Statement of Julie H. Carroll, Hearings on H.R. 1555 before the Subcommittee on Telecommunications and Finance of the House Committee on Energy and Commerce, 104th Cong., 1st Sess. (May 11, 1995).

54. Pam Holmes, Ultratec, memorandum to Pat Browne, Office of Congressman Klug, July 21, 1995. This was followed up with various phone calls to Klug's office by the author.

55. 47 U.S.C. §251(a)(2).

56. See Karen Peltz Strauss, NCLD, memorandum on "Deletion of Prohibition against Private

Right of Action,” to Mike Regan and Cathy Reid, House legislative aides, November 30, 1995, with copies to legislative aides Katie King, David Leach, Colin Crowell, John Windhausen, and Pat Browne.

57. See, for example, Jenifer Simpson and Karen Peltz Strauss, CCD Task Force, letter to House-Senate Conference Committee, November 3, 1995.

58. P.L. 104-104 (1996), 110 Stat. 56, codified at 47 U.S.C. §255 (1996). See Conf. Rep. No. 458, 104th Cong., 2d Sess. (1996). The disability section was codified as 47 U.S.C. 255.

59. A number of legislative aides contributed to the success of the accessibility provisions, including David Leach, Gerry Waldron, Colin Crowell, Mike Regan, Catherine Reid, Lewis Roth, and Pat Browne in the House and John Windhausen, Kevin Joseph, Mark Buse, Donald McClellan, and Laura Tomash in the Senate.

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Section 255: The Access Law Takes on Meaning

Some reporters . . . want to know how much it will cost the economy to make sure that telecommunications is accessible to Americans with disabilities. . . . I say, if you want to talk about cost, think about the cost to our economy if we don't take steps to make sure that all members of our society can access telecommunications. . . . Think about the costs to our productivity. Think about the wasted potential. Think about the loss to our society. . . . I say, think for a moment about the cost of not making telecommunications accessible. And then I tell them we can't afford not to do this. . . . Accessibility has to become . . . second nature to the people who design these products.

—FCC Chairman William E. Kennard

CONGRESS GAVE the Access Board until August 8, 1997, or eighteen months after passage of Section 255 of the Telecommunications Act, to develop accessibility guidelines for telecommunications equipment. To assist with this task, the Board convened a thirty-five member advisory panel, representing telecommunications manufacturers and service providers, disability organizations, software developers, and assistive technology companies.¹

On June 12, 1996, members of the new Telecommunications Access Advisory Committee (TAAC) arrived at the group's first meeting with trepidation, even, some might say, with a sense of impending doom. Consumers feared that industry participants would have little interest in responding to their accessibility needs, and would be focused exclusively on protecting their bottom line profits. Companies, on the other hand, were concerned that consumers would place unreasonable demands on their product design processes that could delay the release of new and innovative products

Epigraph. FCC Chairman William E. Kennard, "Defining Vision" (speech, 13th Biennial TDI International Conference: "Every time, Everywhere, Everyone: Expanding Telecommunications Access into the Next Millennium," Seattle, Wash., July 15, 1999).

and impose huge expenditures. The preconceived notions that each side brought to the table created an acrimonious start.*

In an attempt to soften some of the resistance that each side felt, disability advocates devoted considerable time at TAAC's earliest meetings educating industry representatives about their decades-long struggles for telecommunications access, the consistent failure of the market to respond to disability needs, the string of laws that had provided a regulatory response, and the ways that universal design had made products more useful not only for people with disabilities, but for the general public. Industry participants similarly offered instruction on their product design processes and the importance of not stifling innovation with the new access requirements. Companies also revealed their fears of being put at a competitive disadvantage and having to market products that would be unappealing to mainstream consumers.

Over time, however, the divergent views of each of the stakeholders found some common ground. In order for people with disabilities to keep up with the extraordinary pace of technological developments, most TAAC members agreed that accessibility needed to be considered at the beginning and throughout the processes that each company used to design its products. At the same time, both consumers and industry recognized that accessibility safeguards needed to be sufficiently flexible to respond to the evolving nature of new technologies. To achieve these goals, TAAC focused more on the development of general guidelines that could ensure consideration of disability access needs throughout a product's development, rather than the specific design features needed for each telecommunications product to be accessible. For example, companies that conducted research, testing and marketing for their products would be expected to include people with disabilities in these operations. Manufacturers would also have to provide disability access training for employees, including engineers, human resources staff and technical support personnel, who might be involved in the production or distribution of products to the public. In order for a product to achieve its accessibility objectives, companies would also need to have ongoing consultation with consumers with disabilities.† One of the biggest mistakes made by companies attempting to develop products for people with disabilities in the past had been to presume to know how best to meet those customers' needs. For example, after the ADA was enacted, movie theaters across America rushed to install assistive listening systems without first seeking the input of people who were hard of hearing. Only later did the theaters learn that the technologies they had unilaterally chosen were ineffective for much of their clientele.

TAAC also recommended guidelines to ensure accessible input, output, display, and other control functions on telecommunications products. For example, products requiring users to send and receive information by voice would need to be operable through a mode that did not require the user to speak or hear, for example, via text

* Roberta Breden of the Telecommunications Industry Association (TIA) and Paul Schroeder of AFB were given the challenging task of serving as chairs of the new committee. Fortunately, their poise, fortitude, and patience fostered a collaborative environment that, over time, helped shed some—though not all—of the feelings of mistrust and skepticism.

† Companies could seek this input by hiring people with disabilities and creating disability advisory groups. Industry could also monitor the success of products through surveys, focus groups, and customer service lines.

or video.* Similarly, products conveying information through beeps, tones, or other types of auditory cues would have to provide the same information in a visual, and where appropriate, tactile format.† Aural information would also have to be available with amplification, and be compatible with hearing assistive technologies, including hearing aids, cochlear implants, and assistive listening devices. Finally, in order to meet Section 255's requirement for products to be *usable* (as well as *accessible*) by people with disabilities, the advisory group agreed that informational materials, including customer bills, user guides, and websites would have to be available in alternative formats, and that company service centers that handled orders, billing, technical support, and repairs would have to be fully functional for people with disabilities.

Though fairly successful in achieving resolution of the above matters, TAAC was less able to reach consensus on other significant issues concerning the implementation of Section 255. First, consumers and industry vehemently disagreed on whether manufacturers should have an obligation to evaluate each and every product for accessibility (a “product by product” approach) or whether they should be permitted to evaluate where and how to incorporate accessibility across an entire line of products (a “product line” approach). The latter, for example, would require a manufacturer to provide access to only certain cell phones within a full “product line” of cell phones, each of which might have different functions and features.

Manufacturers insisted that it would be futile to review each and every product for accessibility because it would be impossible to incorporate access for all types of disabilities in every single product. However, consumers argued that Section 255 imposed on industry the responsibility to evaluate and incorporate access in all products where it was “readily achievable” to do so. The whole point of universal design was to provide people with disabilities the same ability to choose from the same selection of products—with their varied features, functions, and prices—as was available to people who were not disabled. If companies were permitted to choose which products within a product line were appropriate for the inclusion of access features, consumers feared they might incorporate access in some products and not consider access at all in others. This would produce a separate tier of “specialized” accessible products that were likely to be more expensive and harder to find.²

A second point on which TAAC could not agree was the extent to which companies should be safe from enforcement actions when they were *unable* to produce accessible products, but *were able* to demonstrate that they had made a good faith effort to follow the Section 255 guidelines. For this purpose, companies proposed executing a “Declaration of Conformity” for each product, which would attest to the company's good faith efforts in evaluating the product for accessibility. The declaration would create a presumption, or a “safe harbor,” that would automatically protect the company from FCC penalties. While consumers acknowledged that good faith efforts needed to be given considerable weight, they preferred that any accessibility documentation instead take the form of an “Accessibility Impact Statement” (AIS), which

* By way of illustration, voice mail and other interactive voice response telephone menus could be made accessible to people who were deaf by adding TTY prompts.

† One example might be a paging device that provides a vibratory alert for people who are hard of hearing.



From June to December 1996, the Telecommunications Access Advisory Committee, convened by the Access Board and comprised of disability, industry, and government representatives, was able to reach consensus on some, but not all of the guidelines needed to implement Section 255's accessibility mandates for telecommunications products.

would document the steps that a company had taken to achieve access, including information about the company's efforts to consult and perform product testing with people with disabilities and descriptions of the product's accessible features, as well as the extent to which the product was compatible with assistive devices. If the product was not accessible, the AIS could also include an explanation for why accessibility was not readily achievable, as well as plans for achieving accessibility in the future.³ Though unlike the Declaration of Conformity, the production of an AIS would not automatically create a presumption of compliance, it could provide a paper trail that would speed the resolution of Section 255 complaints. Some companies (though not enough to create a consensus) also believed that this type of documentation could provide a means by which manufacturers would be able to gauge the effectiveness of their various approaches to achieving accessibility.*

On January 15, 1997, TAAC presented its final recommendations to the Access Board, after six months of laborious meetings.⁴ The Board swiftly turned the recommendations into proposed guidelines and issued them for public comment.⁵ However, action stalled after that, and it was not until September 1997, a month past the statutory deadline, that the Access Board finally shared the guidelines with the Office of Management and Budget (OMB) for approval. Unfortunately, once at OMB, the guidelines again sat idle, until consumers began protesting and Senator Ron Wyden (D-Ore.), concerned that the delay was preventing the FCC from being able to enforce Section 255's mandates, formally urged OMB's director to move the rules along.⁶

* Pacific Telesis, NYNEX, and Siemens were among the companies who supported the creation of an AIS, in comments later submitted to the FCC.

By the time that the Access Board finally released its guidelines on February 3, 1998, more than a year had passed since TAAC had submitted its recommendations.⁷ Nevertheless, many consumers felt it had been worth the wait. The guidelines effectively fulfilled Congress's intent to achieve universal design, adopting nearly all of TAAC's recommendations, and requiring individual accessibility evaluations for each and every product. Rejecting industry's "product line" approach, the Access Board explained that the very reason that manufacturers offered multiple products within a product line was to give the public a range of options. It found no evidence that Congress intended for people with disabilities to have any fewer choices than the general public in making their product selections.*

In addition to adopting the many TAAC proposals on product design, marketing, training, consumer consultation, and usability, the Access Board agreed to require the development of periodic "Market Monitoring Reports," to identify existing barriers faced by people with disabilities, as well as a snapshot of accessible products available in the telecommunications marketplace to overcome those barriers. The reports would be intended to provide a clear picture of the market's successes and failures, and allow consumers, industry, and the federal government to identify research, technical, and regulatory solutions needed to improve accessibility. Unfortunately, only one of these reports, released in January 2000, was ever conducted.[†]

Over to the Commission

While Section 255 directed the Access Board to provide accessibility guidelines for telecommunications products, the board lacked authority to either enforce these guidelines or to issue rules for telecommunications *services*; it was assumed that the FCC would fulfill these responsibilities. To this end, in September 1996, while TAAC was still meeting, the FCC initiated its own Section 255 proceeding with the release of a notice of inquiry.⁸ But at that time, the Commission questioned the need for it to adopt enforceable regulations, and asked whether it might not be sufficient to simply issue policy guidelines, or rely on consumer complaints to enforce Section 255. Companies, quite pleased with the prospect of having to follow only *voluntary* guidelines rather than stringent *mandates*, jumped at the chance to tell the FCC that inflexible rules would freeze technological development at a time when innovation was most needed. Voluntary guidelines, they insisted, would do just fine.[‡]

Consumer advocates had spent decades fighting hard for telecommunications access and they believed that history had shown that nonbinding guidelines would not

* The only disappointment was the Access Board's decision not to require manufacturers to provide documentation on their accessibility processes. While the Access Board did not dispute the many benefits of an AIS, it concluded that the FCC, as the agency responsible for enforcing Section 255, should determine whether this type of record-keeping was needed.

[†] The report, performed by Jim Tobias of Inclusive Technologies, can be found at www.inclusive.com/mmr/mmr_topmost.htm.

[‡] Two of the industry's largest trade associations, TIA and CTIA, adopted this position. Lucent Technologies also questioned whether the FCC had sufficient experience to issue rules, and U.S. West wanted the agency to rely exclusively on complaints to enforce the new law.

be sufficient to achieve industry compliance. To help convince the FCC of the urgent need for regulatory mandates, the NAD provided the agency with first-hand accounts from individuals who had been denied various forms of telecommunications access. In October 1996, Harvey Goodstein and Pam Holmes solicited from the NAD's members a laundry list of new technologies that remained inaccessible to deaf and hard of hearing consumers: voice mail, call waiting, recorded voice messages, call forwarding, caller ID, digital wireless services, automated voice response systems, and telephone alarm systems.⁹ Rather than stifle innovation, consumers insisted that Section 255 would jump-start the development of creative and readily achievable access solutions for these and other telecommunications features.

That the role of the FCC was open to debate at all was the result of an apparent error in the final version of Section 255, as approved by the House-Senate Conference Committee and passed by Congress. Although the final version of Section 255 clearly directed the Access Board to issue its *guidelines* "in conjunction with the Commission," there were questions about whether Section 255 contained an explicit requirement for the FCC to adopt accessibility *regulations*.¹⁰ Consumers argued this was a mere oversight because when the individual House and Senate bills had been sent to that Conference Committee, each had still contained language specifically requiring FCC rules.¹¹ The only difference between the House and Senate versions of Section 255 was that the Senate bill had required the initial input of the Access Board, while the House bill had made the FCC fully responsible for developing rules. Additionally, passages in both the Senate and Conference reports referred to the relocation, rather than the deletion of the FCC's mandate to issue Section 255 rules:

The Committee has elsewhere assigned responsibility for promulgating regulations for this new section to the Commission. The Committee envisions that the guidelines developed by the Board will serve as the starting point for regulatory action by the Commission, much as, for example, the Board prepares minimum guidelines on accessibility under section 504 of ADA that serve as the basis for rulemaking by the U.S. Department of Justice.¹²

After confirming this interpretation in telephone conversations with the members of Congress who had shepherded Section 255 through their committees, consumers were able to dispel further concerns about the FCC's authority to promulgate enforceable mandates. This helped to clear the way for the FCC to finally release its proposed Section 255 rules, by a unanimous vote of all five commissioners, on April 20, 1998.¹³ But while consumers were pleased with the FCC's decision to develop enforceable mandates, and were further relieved that the agency's proposals largely mirrored the original TAAC recommendations, they found considerable fault with several of the agency's recommendations.

Section 255 requires access to "telecommunications" services and products, defined as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."¹⁴ For years, both Congress and the FCC had distinguished these types of services from "information" services (also called "enhanced" services), the latter defined as services that involved generating, storing, transforming, processing, or restructuring information.¹⁵ The FCC's Section 255 proposals recommended covering basic telephone services ("plain old telephone service" or "POTS"), along with a few

more advanced telephone features, including speed dialing, call forwarding, call monitoring, caller ID, call tracing, call blocking, call return, repeat dialing, call tracking, Operator Services for the Deaf, and computer-provided directory assistance, all of which were considered telecommunications services under other Commission rules. However, the FCC was reluctant to extend Section 255's protections to voice mail, interactive voice response (IVR) systems, and e-mail services, claiming these to be information services that fell outside of the statute's intended scope.

Consumers felt that limiting the scope of Section 255 in this manner would defeat Congress's intent to bring Americans with disabilities into the mainstream of the technological age.¹⁶ As technological innovations blurred the distinctions between different types of communications services, a narrow interpretation of Section 255 could diminish the number and types of innovative services that would be covered, to the point where the statute would have little, if any effect. This was of particular concern to Gregg Vanderheiden, director of the University of Wisconsin's Trace Research and Development Center and member of TAAC. Having witnessed the consequences of failing to design products with accessibility for years, he tried to convince the FCC that a "seamless continuum" existed across various communication technologies. Coverage of some, but not other advanced technologies would create an uneven playing field for the industry and result in confusion for consumers.¹⁷ According to Vanderheiden, the marvels of low-cost electronics, miniaturization, and programmable phones promised to make designing equipment for people with disabilities relatively easy, and therefore should be required.¹⁸

Of particular concern to people with disabilities was whether the FCC's new rules would require access to IVR and voice mail systems. These systems use automated voice prompts to direct users through a call, and are typically incompatible with TTYs, sometimes have audio quality that is too poor to be used effectively by people who are hard of hearing, and do not give relay operators enough time to convey choices to callers, receive back their selections, and make the desired connections. Despite their disadvantages for millions of people with disabilities, by the time that the FCC began considering the scope of Section 255's coverage, IVR services had become pervasive throughout thousands of government offices, schools, transportation facilities, libraries, and retail establishments. To the extent that businesses made recordings on these interactive systems their only method of providing telephone information to the public, people with disabilities were effectively shut out.

Although the FCC classified IVR systems as "information services," advocates knew that these systems were so integral to the provision of telecommunications services that their exclusion from the FCC's Section 255 rules would thwart the very purpose of the 1996 statute. To prevent this from happening, we offered the FCC various legal theories to extend its accessibility protections to these services. Under a doctrine known as "ancillary jurisdiction," the FCC is permitted to exercise jurisdiction over matters that are not expressly within the scope of a particular statutory mandate, but are still needed to execute the Commission's obligations under that mandate. Because inaccessible IVR or voice mail systems blocked one's ability to complete basic telephone calls that were already covered by Section 255, we argued that extending the accessibility mandates to these systems was well within this extended FCC authority.

Alternatively, advocates asserted that Section 255 was a civil rights statute, patterned after the ADA and intended to fill its gaps. Federal courts had always interpreted civil rights statutes broadly, seeking wherever possible to sustain the rights created by their protections. The FCC was asked to do the same in the quest to end telecommunications discrimination against people with disabilities.

Another matter that concerned consumers was the standard by which companies could be excused from their disability obligations. Section 255 only required companies to provide access where it was “readily achievable” to do so, a standard which, under the ADA, compared the size, type, and resources of a business against the nature and cost of the structural changes needed to provide access to that business’s facilities. The FCC’s proposals added new criteria to this equation, which advocates believed would facilitate avoidance of a company’s Section 255 obligations. Specifically, in addition to the above criteria, a company would be permitted to consider the projected income expected from an accessible product or service, the ability to recover the costs of incorporating access features, and “opportunity costs,” defined as the costs associated with reducing the product’s or service’s performance for other people.

Advocates feared that including these market factors in a readily achievable analysis could have disastrous consequences. Indeed, DOJ already had rejected loss of profit as a legitimate consideration for readily achievable determinations under the ADA.* Consumers also questioned the highly subjective nature of *opportunity costs*, fearing overblown assessments by companies who would declare that access efforts were shifting their focus away from other projects. TDI said that the FCC should instead focus on the high costs of *inopportunity*, that is, the costs to society of creating inaccessible products.¹⁹ These included not only the lost productivity of persons with disabilities, but heavy expenses incurred by employers, educators, and other members of the public for the purchase of adaptive equipment, when mainstream products were not accessible. For example, stand-alone captioning decoders and TTYs went for several hundred dollars, and Telebrailles, devices used by deaf-blind people to talk over the telephone, cost approximately \$6,000. By striking contrast, incorporating access had always resulted in exceptional benefits to society, in the form of increased tax revenues, reduced disability payments, and expanded independent living.

More than 200 sets of comments were submitted in response to the FCC’s Section 255 proposals, accompanied by an untold number of consumer and industry visits to the Commission. But as 1998 wore on, rather than move toward a final resolution of these rules, the FCC’s progress only seemed to slacken. Disputes over the readily achievable definition, the scope of the rules, and the adoption of either the product-by-product approach in the Access Board’s guidelines or the product line approach preferred by the industry continued to intensify, until the Commission’s efforts to please all constituencies on these and other issues resulted in complete gridlock.

In an effort to break the stalemate, during the fall of 1998, Motorola and TIA approached a few disability advocates about working out a compromise on the out-

* When DOJ first proposed ADA rules to end discrimination in places of public accommodation, it suggested that barrier removal not be considered readily achievable if it would result in a significant loss of profit. 56 *Fed. Reg.* 35569 (July 26, 1991), citing proposed rule 28 C.F.R. 36.304 (f)(1). DOJ decided to eliminate this section from its final rules after it was vigorously opposed by consumers.

standing issues.* Though we spent the next three months in an intense series of closed negotiations that successfully produced consensus on many of the issues,[†] attempts to sell the agreement to the wider disability community and other industry segments proved to be a failure and a public relations fiasco. The negotiations had purposely been conducted in private and contained within a small group of individuals, in the hope of reaching a swift consensus. When the proposed agreement was finally shared with other consumer and industry leaders, they reacted with surprise and even annoyance that there had been an attempt to achieve resolution on the outstanding issues behind closed doors.

By December 1998, although nearly three years had passed since the enactment of the Telecommunications Act, still no formal FCC guidance on Section 255 was forthcoming. Future efforts at collaboration with the industry seemed unlikely; during the weeks since we had abandoned our attempts at reaching a consensus, the extremely divergent views of our respective constituencies had once again created divisions in our positions that appeared difficult, if not impossible, to narrow. In the months that followed, each side again tried to win over the Commission by resorting to more traditional and lengthy written pleadings.²⁰

In March of 1999, disability advocates were approached by a different industry group—this time by the Personal Communications Industry Association (PCIA).²¹ Initially consumers were skeptical of the association's intentions, having already failed so many times before at achieving reconciliation with the industry on the remaining Section 255 matters. But a few weeks after the initial contact was made, advocates were delighted to learn that the association had reconsidered its position with respect to the inclusion of interactive and voice mail systems under Section 255, and was actually contemplating support for expanding the scope of the FCC's regulations to cover these services.²² If even a segment of the telecommunications industry sided with consumers on this issue, it could be just enough to sway the FCC. But advocates remained cautiously optimistic; PCIA's Washington, D.C., representatives informed us that they still needed to win the approval of the association's member organizations before making this support public.

By the beginning of June 1999, Chairman Kennard had made Section 255 one of his top priorities, and consumers felt confident that their views on the product line and readily achievable issues were being given the consideration that they were due.[‡] However, certain segments of the telecommunications industry were now doing everything they could to convince the FCC not to cover *any* information services in its rules. Two industry associations, USTA and CTIA, were even threatening lawsuits if the FCC attempted to impose access obligations on IVR and voice mail services.²³ This threat was not only hurting our chances of getting regulatory safeguards to ensure access to

* Participants to these negotiations were Paul Schroeder of AFB, Brenda Battat of SHHH, Mary Brooner and Al Lucas of Motorola, Grant Sieffert of TIA, and the author representing the NAD. Pam Ransom served as mediator of our group.

[†] Among other things, a November 23, 1998, agreement would have required manufacturers to prepare written plans for achieving the accessibility and usability of their equipment, and would have applied Section 255 to most, but not necessarily all products within a product line.

[‡] By then, FCC employees Ellen Blacker, Elizabeth Lyle, Meryl Icove, and Pam Gregory had been tasked with bringing the various Section 255 issues to closure.

these services; it was delaying the release of the Section 255 rules in their entirety. It was for this reason that disability advocates could not have been more grateful when, on June 24, 1999, Todd Lantor and Mary McDermott of PCIA informed the FCC that their association's members had, in fact, agreed to endorse Section 255 coverage of these interactive systems.*

To strengthen the impact of PCIA's announcement, on June 25, 1999, the Telecommunications Advocacy Network (TAN), a national grassroots network of deaf and hard of hearing consumer activists, joined the NAD and TDI in releasing a series of action alerts designed to produce "an avalanche of letters, phone calls, email messages, and faxes" requesting the FCC to eliminate barriers to voicemail and interactive menu systems.²⁴ TAN had been started under the NAD's auspices by Pam Holmes back in November 1997, with the assistance of Mitch Travers, Toby Silver, TDI's Board of Directors, and the Association of Late-Deafened Adults. The group's energy and enthusiasm had been consistently successful in providing local support for national advocacy efforts on telecommunications access issues. This time was no exception. Only a few days after the alerts went out, Dale Hatfield, chief of the FCC's Office of Engineering and Technology, gave a speech that emphasized the need to empower, not isolate people with disabilities.²⁵ But while two of the FCC's commissioners, Chairman William Kennard and Commissioner Gloria Tristani were by now squarely in favor of covering interactive phone services, two others, Commissioner Michael Powell and Commissioner Harold Furchgott-Roth still believed that Congress had only mandated disability access for "telecommunications" services, and that extending the law any further would be acting without legislative approval. The two claimed that all of the FCC's Section 255 rules could be thrown into jeopardy if the industry carried out its threat to challenge coverage of interactive systems.²⁶ Commissioner Ness, the fifth commissioner, remained uncommitted to either point of view.

When the FCC brought the Section 255 rules to a final Commission vote on the morning of July 14, 1999, consumers and industry remained uncertain about the fate of IVR and voice mail services. During the days leading up to the Section 255 vote, Kennard had employed all powers of persuasion to secure a third vote that would bring these within the purview of the new accessibility mandates. He tried to persuade his fellow commissioners that these services were so essential to the ability of people with disabilities to communicate effectively, that failing to require their accessibility would substantially undermine the implementation of Section 255.²⁷ But when the morning of the vote arrived, Kennard still did not have a firm commitment of support from any of the three remaining commissioners. Not knowing which way the final vote would turn, Kennard's press office took the precaution of preparing two statements for the chairman, one applauding the new rules, and the other complaining of their inadequacies. Intense negotiations continued throughout the morning, until Commissioner Susan Ness finally agreed to support the expanded coverage, only

* Claude Stout of TDI, Alan Dinsmore of AFB, and I, representing the NAD, sat in an FCC meeting room and watched in awe as Lantor and McDermott made this declaration to the FCC's Blackler, Icove, and Thomas Wyatt. Rob Hoggarth of PCIA (though not at the meeting) had also been helpful in obtaining PCIA's support. The FCC's very positive reaction to PCIA's announcement confirmed the significant impact that we had expected this news to have.



From left to right, TDI President Roy Miller, TDI Executive Director Claude Stout, and TAN Coordinator Pam Holmes join FCC Chairman Bill Kennard in celebrating the FCC's approval of Section 255 rules with a breakfast "toast" at TDI's thirteenth biennial international conference in Seattle, Washington, in July 1999. Kennard said the Commission's vote was one of the finest moments in the FCC's history.

minutes before the commissioners took their final walk to the meeting room.* In their haste to disseminate a press statement once the vote was taken, however, FCC staff inadvertently released the wrong packet of information to reporters. Soon realizing what they had done, they released the corrected copy, putting into circulation two conflicting versions of the vote's outcome, and confusing many who had been waiting months, if not years, for this pivotal decision!

When the vote was finally taken, consumers were ecstatic. Kennard proclaimed the Section 255 rules "the most significant opportunity for people with disabilities since the passage of the Americans with Disabilities Act of 1990."²⁸ The day itself was one of celebration, with FCC demonstrations of closed captioning and talking caller ID devices. Even Vice President Gore released a statement praising the efforts to support greater telecommunications access, and thanking those in the industry who were able to find "common ground on this important issue."²⁹ The final rules that were approved were set to take effect on January 28, 2000, almost four years after Section 255 was enacted.

Right after the Commission meeting, Kennard flew to Seattle, Washington, where TDI was holding its biennial convention. The following morning, flanked by Pam Holmes, Claude Stout, Roy Miller, and other deaf leaders, Kennard informed an exuberant crowd of the Commission's vote, calling it one of the finest moments in the FCC's history.[†] Later in the day, the chairman gave his formal address, "Defining Vision," inspiring all in attendance to look forward to a world without telecommunications barriers—a world where "people who are deaf and hard of hearing can no longer be denied access to telecommunications anytime, anywhere, or anyhow."

* Commissioners Powell and Furchgott-Roth dissented from this portion of the ruling, uncomfortable with the majority's decision to rely on the FCC's ancillary jurisdiction to reach these enhanced services. All five of the commissioners decided not to extend the mandates to other information services, such as e-mail and web pages, because they considered these to be alternative, rather than essential to telecommunications access.

[†] In a comical moment, Kennard "toasted" the crowd, while those around him held up toast from the morning's breakfast.



FCC Chairman Bill Kennard pauses for a photo at the TDI 1999 biennial convention with FCC Disabilities Issues Task Force staff and the TDI Board. Left to right: Joe Slotnick, Ken Rothschild, Mike Zeldon, Claude Stout, Pam Holmes (front, representing TAN), Roy Miller, Bill Kennard, Meryl Icove (front), Joe Duarte, Pam Gregory, Carol Sliney, Susan Watson. Icove and Gregory, DITF staff, played a major role in advancing telecommunications access issues at the FCC.

But advocates could not yet let down their guard. As expected, the FCC's decision to cover interactive phone systems prompted members of the telecommunications industry to renew their threats of a legal challenge to the Section 255 rules. In the days leading up to January 19, 2000—the deadline for filing a judicial appeal—Kennard made personal requests to individual industry leaders to let the rules stand. Miraculously, he was successful in turning the companies around; a few days later, he publicly commended industry for focusing its talents on increasing access, rather than pursuing litigation aimed at hindering that access.³⁰

Consumers hailed the FCC's final rules for the way in which they closely mirrored the Access Board's guidelines and accurately reflected the extensive deliberations that had taken place between industry and the disability community during the TAAC process.³¹ In this regard, the rules placed considerable emphasis on the need for universal design, and required every company to evaluate the accessibility, usability, and compatibility of *each* of its products and services throughout its design, development, and fabrication stages, as early and consistently as possible. Under the new directives, modest accessibility features such as volume control, that could be incorporated into a product's design with very little or no difficulty, would be universally required in *all* products within a product line. However, so long as a company generally tried to maximize accessibility, it would have the flexibility to incorporate more complicated access features in selected products across product lines.

The FCC's order also made clear that, generally, it would be unacceptable to eliminate an accessibility feature that already existed in a product; the very inclusion of that feature indicated that its continued availability was readily achievable.³² It was hoped that this language would prevent a repeat of events that had occurred in the 1960s and 1970s, when the telephone industry had inadvertently eliminated an accessibility feature—in that instance, hearing aid compatibility—when it redesigned its telephone handsets.

Under the new mandates, each company would be charged with reviewing its products and services for accessibility at the time of their conception and at “natural opportunities” in their products' ongoing development, for example when these were

Chart 16.1**Final Section 255 (and 251) FCC Rules
47 C.F.R. Parts 6 and 7**

Equipment and Services Covered:

- *Customer premises equipment*—equipment used by a person to originate, route or terminate telecommunications, including wireline and wireless telephones, pagers, fax machines, answering machines, direct-connect TTYs; software integral to equipment
- *Basic telecommunications services and “adjunct to basic” services*—includes, but not limited to call waiting, call forwarding, Caller ID, return call, speed dialing, repeat dialing, and call tracing
- *Interactive voice response systems and voice menus* (equipment and services)

Accessibility (subject to readily achievable standard)

- Access to input, control and mechanical functions
- Access to output, display and control functions
- Products and services to be evaluated at design stages and other “natural opportunities”

Usability

- Access in alternative formats to general product information, including bills, user guides
- Access to information about general and accessibility features
- Access to technical support services, including consumer hotlines, repair and billing services, and customer support centers

Compatibility (subject to readily achievable standard)

- When not readily achievable to provide access, equipment or service must be compatible with specialized customer premises equipment or existing peripheral devices commonly used by people with disabilities
- Equipment must connect with TTYs and other external audio processing devices
- Equipment must be compatible with TTY signals

Telephone Network Access

- Public switched network, including databases, local loops and switching hardware that route telecommunications services must not impede access

continued

Chart 16.1 *Continued***Information Pass-Through**

- Telecommunications equipment and CPE must pass through codes, protocols and formats needed to provide telecommunications in an accessible format, if readily achievable

Coordination with people with disabilities

- People with disabilities must be included in market research, product design, testing, trials, pilot demonstrations, and validation of access solutions where these are conducted
 - Telecommunications providers and manufacturers must designate points of contact for consumer inquiries and complaints about their services. Points of contact are available on disabilities page of the FCC's website, www.fcc.gov
-

substantially revised, upgraded or newly distributed.* In addition, the FCC agreed to the consumers' suggestion to consider the extent to which making a product accessible was readily achievable at the time that the product was designed. The Commission acknowledged that it would be unfair to allow a company to ignore its access obligations early on and then, once the product was fully manufactured, assert that retrofitting was no longer readily achievable. When it was not readily achievable to incorporate access at all, companies would need to make the product or service in question compatible with specialized equipment, such as TTYs and light signalers, so long as providing such compatibility was readily achievable.

In another win for consumers, the Commission's final rules abandoned criteria that relied on market factors and opportunity costs to determine whether an access feature was readily achievable. The rules focused instead on criteria that were more in line with the ADA, though they also permitted a company to consider whether a particular access feature would create technical difficulties, substantially alter a product's size, weight, shape, or functionality, or otherwise deter use of the product by other individuals. As was true under the ADA, companies that had greater resources would need to undertake greater changes to achieve compliance under this standard.

Unfortunately, the FCC, succumbing to aggressive lobbying by the telecommunications industry, decided not to require companies to provide documentation of their efforts to incorporate access, either in a product's packaging or in submissions to the FCC.³³ Still, the FCC made clear that it expected companies to maintain records of their accessibility efforts "in the ordinary course of business," so that they could demonstrate Section 255 compliance if complaints were filed against them.³⁴

By the time that the FCC released its Section 255 rules, several companies had already begun to respond to the accessibility directives of the 1996 statute.³⁵ Some of

* These assessments would not be triggered, however, when products received merely cosmetic changes, such as a change in their name or color.

Chart 16.2**Readily Achievable Standard
FCC Section 255 Report and Order
16 FCC Rcd 6417 ¶¶43-74**

The following are considered in determining whether an access feature is readily achievable:

- Nature and cost of action needed
- Overall financial resources of the company, number of persons employed, effect on expenses and resources, impact action will have on company operations
- Overall financial resources of parent of company, overall size of parent's business with respect to number of employees, and number, type and location of its facilities
- Type of operation of company, including composition, structure, functions of workforce, and geographic separateness, administrative or fiscal relationship of company in relation to parent company
- Fundamental alteration—whether access would reduce substantially functionality of product, render other features of the product inoperable, impede substantially or deter its use by other people, or alter substantially and materially the shape, size, or weight of the product
- Technical feasibility of the access feature, though company must provide empirical evidence or documentation of infeasibility to prove this defense.

Readily achievable determinations are to be made on a case-by-case basis at the time the product is initially designed and at other natural opportunities, including redesigns, upgrades, and substantial modifications. Cosmetic or other very minor changes will not trigger a readily achievable assessment.

these had adopted universal design principles, adding access features to the already long list of criteria considered in the design of their products.³⁶ Others had initiated training programs for their employees, and had begun adding customers with disabilities to their product trials and research efforts.³⁷ Industry access review boards, in-house accessibility teams and external advisory councils, as well as accessibility booths at industry trade shows also increased in number, as companies began to see the value of using these methods to facilitate coordination with the disability community.³⁸ Finally, some companies, such as Nokia, had begun to recognize the benefits of producing accessible products for burgeoning markets of senior citizens. According to Nokia, 76 million American baby boomers born between 1946 and 1964 would benefit from “products that are easier on weakening eyes and on ears fitted with hearing

aids.”³⁹ AARP agreed that senior citizens who grew up with access to consumer electronics would not want to lose that access as their vision and hearing begin to fade.⁴⁰

One direct outcome of the new rules was the creation of an Interactive Voice Response Forum by Jim Tobias in June of 2000.* Over the next several years, this group, consisting of manufacturers, service providers, consumers, and government officials, worked to identify accessibility barriers and solutions for IVR telephone systems, and to educate consumers about their rights to these services. But while the forum successfully developed ways to assess and resolve IVR accessibility, IVR manufacturers have since given little heed to these solutions. The absence of consumer complaints or enforcement by the FCC on this issue have kept inaccessible interactive systems in far greater supply than consumers had hoped when they prevailed in getting these systems covered under the FCC’s Section 255 rules. In all probability, the number of FCC complaints has remained low because of the difficulties that consumers confront in ascertaining the names and addresses of IVR manufacturers. For example, if a consumer calls a bank and reaches an interactive phone system, there is no way for that consumer to find out the manufacturer of that system and file a Section 255 complaint against that entity. While the consumer in this instance might file a complaint with DOJ against the bank under Title III of the ADA (for the bank’s failure to provide effective communication with people with disabilities), DOJ can only direct the *bank* to provide access; it has no authority to require the *IVR manufacturer* to make its system accessible. In an effort to achieve greater compliance with this portion of its Section 255 rules, the FCC released a public notice in September of 2000, reminding manufacturers and providers of voice mail and interactive menu products and services of their accessibility obligations.⁴¹ Three months later, FCC Chairman Kennard wrote to Attorney General Janet Reno urging stepped up enforcement of ADA rules requiring local governments and public accommodations to provide effective telephone communication for people with disabilities who are not able to access IVR systems.⁴² However, shortly after the letter was sent out, the presidential administration changed parties, causing the letter never to be answered. Since that time, the FCC has done little else to secure compliance with its Section 255 IVR obligations. By any standard, more needs to be done to have made the battles fought to secure this access worth their effort.

Unfortunately, the economic decline that hit the telecommunications industry during the first few years of the twenty-first century also took its toll on accessibility, and compliance with Section 255 became increasingly sporadic as companies began cutting programs to recoup their financial losses. Competitive pressures to devote limited resources to the production of fancier, multipurpose gadgets capable of attracting large followings pushed accessible design down on the list of industry priorities.[†] The inability to bring Section 255 lawsuits, coupled with the FCC’s lax enforcement of Section 255, were also factors in what most consumers perceived to be a downward spiral in accessibility compliance during this period. While the FCC accepts

* The forum was created under the auspices of the Alliance for Telecommunications Industry Solutions.

† Some have also questioned whether more specific standards, rather than the general performance guidelines that were adopted by the Access Board and codified by the FCC, would have achieved greater Section 255 results. This theory says that the providers and manufacturers would have been more compliant if explicitly directed to incorporate specific access features.

both informal and formal complaints, the latter are more akin to lawsuits, requiring lengthy pleadings and extensive discovery. With no means of recovering the legal fees and costs associated with these formal complaints, lawyers have not been eager to take on this potentially complex litigation for free. As a consequence, during the first eight years after the 1996 statute was passed, only *two* formal Section 255 complaints were brought to the FCC.*

Although it was easier for consumers to file Section 255 informal complaints, the FCC did little or nothing with the few complaints that arrived at the Commission up until the year 2000. Most, if not all, of the complaints that arrived before that time were lost in the thousands of informal telephone-related complaints filed annually with the FCC. During that period, the FCC also took little initiative in assessing Section 255 compliance on its own motion. Around the winter of 2000, the FCC's new Disability Rights Office put into place a protocol for handling complaints and inquires on disability issues and Jenifer Simpson, who had been instrumental in achieving passage of Section 255 and was now an FCC employee, became chiefly responsible for securing resolution of the newer arrivals. But only in 2004, four years after this, did the FCC's Enforcement Bureau begin engaging in earnest efforts to step up enforcement of Section 255. Unfortunately, even today, many remain critical of the FCC's minimal efforts to secure compliance with these mandates.

Application of Section 255 to IP-Enabled Services

When the FCC issued its final Section 255 rules, it also released a further notice of inquiry seeking feedback on the extent to which these rules should extend to services and computer equipment used to send real-time voice transmissions over the Internet. Initially, heavy industry resistance to regulating the Internet discouraged the FCC from finalizing this proceeding. However, in 2003, when new “voice over Internet Protocol” or “VoIP” technologies began replacing traditional telephone services in many homes and businesses, the FCC began to take a second look (through forums and rulemaking proceedings) at the extent to which Section 255's protections needed to be applied to these new forms of telephony.⁴³

Traditional telephone communications that use the PSTN send entire conversations over a single dedicated path from the point of their origination to their point of destination. By contrast, VoIP technologies break up conversations into many digitized “packets,” which travel separately over various Internet paths. Once all the packets have reached their destination, they reunite, enabling the receiving party to receive the message intact. From an accessibility perspective, sending messages over the Internet has a number advantages. IP-based services allow users to choose from among a variety of communication modes—voice, text, or video—depending on the

* The first of these was brought by Bonnie O'Day, a blind disability advocate, against Audiovox and Verizon Wireless, for failing to produce a cell phone that voiced prompts and other information that appeared on its screen. The case was handled on an entirely pro bono basis by the Washington, D.C., law firm of Spiegel & McDiarmid, with Scott Strauss as the lead attorney for the plaintiff. It produced a settlement, after which Verizon Wireless and other companies began offering cell phones that were accessible to people with vision disabilities. The second formal complaint, against OnStar for its failure to provide access to TTY users, resulted in a confidential settlement.

circumstances, and even have the capacity to enable individuals to use multiple conversational modes during a single conversation or to change modes mid-transmission, if needed to enhance accessibility.

But along with their considerable promise, IP technologies can create significant barriers for people who are deaf and hard of hearing if they are not designed to be accessible. Although the extent to which Section 255's mandates will be applied to new IP-based technologies hangs in the balance, Section 508 of the Rehabilitation Act already requires federal agencies to make their IP-based technologies accessible to federal employees and members of the public with disabilities who use their services.⁴⁴ As our nation's communications venues shift from the public switched network to the Internet, both Congress and the FCC are grappling with how the accessibility safeguards secured in the past can be carried over to the technologies of the future, so that all Americans, including Americans with disabilities, will have equal access to all of our nation's communications systems.

Notes

1. Access Board, Telecommunications Act Accessibility Guidelines for Telecommunications Equipment and Customer Premises Equipment, Notice of Appointment of Advisory Committee Members and Notice of First Meeting, 61 *Fed. Reg.* 26155 (May 24, 1996). I served on this federal advisory committee as a representative of the Council of Organizational Representatives (COR).

2. Pacific Telesis was one of the few companies that agreed with this approach. See generally Pacific Telesis Comments in WT Dkt. 96-198 (October 28, 1996), 26.

3. See, for example, Comments of the NAD on Section 255 proposed Access Board guidelines (June 2, 1997), 9–11. The NCD and various other advocacy groups agreed with this approach.

4. Telecommunications Access Advisory Committee, *Access to Telecommunications Equipment and Customer Premises Equipment by People with Disabilities*, Final Report (January 1997). Available at <http://www.access-board.gov/telecomm/commrept/taacrpt.htm>. Roberta Breden officially transmitted the TAAC final report to the Access Board on February 26, 1997. The final TAAC steering committee compiling the recommendations included Judy Brewer of the Massachusetts Assistive Technology Partnership, Gerry Nelson of Lucent Technologies, Leigh Thorpe of Northern Telecom, and the author representing COR.

5. *Telecommunications Act Accessibility Guidelines*, Proposed Rule, 62 *Fed. Reg.* 19178 (April 18, 1997).

6. Although the guidelines had been under OMB's review as of September 10, 1997, the Access Board did not formally transmit them to OMB until November 12, 1997. In October 1997, disability advocates met with Sally Katzen of OMB to find out why the guidelines were being held up. Senator Ron Wyden then sent his letter to Franklin D. Raines, director of OMB on November 21, 1997.

7. *Telecommunications Act Accessibility Guidelines*, Final Rule, 63 *Fed. Reg.* 5608 (February 3, 1998), codified at 36 C.F.R. Part 1193. The guidelines were set to become effective on March 5, 1988. Dennis Cannon, David Capozzi, and Elizabeth Stewart were largely instrumental in bringing the guidelines to fruition at the Access Board. Doug Wakefield was later brought on to provide technical assistance on these guidelines.

8. *Implementation of Section 255 of the Telecommunications Act of 1996, Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment by Persons with Disabilities*, Notice of Inquiry, WT Dkt.96-198, FCC 96-382, 11 FCC Rcd 19152 (September 19, 1996). The FCC had initiated its proceeding in direct response to a request for assistance from TAAC Co-Chair Breden and Access Board Executive Director Lawrence Roffee.

9. Comments of the NAD in WT Dkt. 96-198 (October 28, 1996), 17; CCD, separate letters to each of the FCC commissioners, October 10, 1996 (urging the need for regulations to make sure that manufacturers and providers fully understood their access obligations).

10. The directive for the Access Board to work with the FCC can be found at 47 U.S.C. §255(e).
11. Section 308(a) of S. 652, passed by the Senate on June 15, 1995, would have required the Access Board to develop guidelines on access to telecommunications equipment and customer premises equipment, and the FCC to adopt a rule that would have been consistent with such guidelines. Section 249(c) of H.R. 1555, the final version of the House bill, had similarly required the FCC, within one year after the date of its enactment, to establish regulations needed to ensure access to equipment and advancements in network services.
12. S. Rep. No. 23, 104th Cong., 1st Sess. 53 (1996). Similar language appeared in the conference report. See Conf. Rep. No. 458, 104th Cong., 2d Sess. 134–35 (1996). The committees' references to assigning responsibility for FCC regulations "elsewhere" may have been to Section 251(d), which states that "the Commission shall complete all actions necessary to establish regulations to implement the requirements of this section." 47 U.S.C. §251(d). That section, in turn, refers back to Section 251(a), which prohibits carriers from installing network features that are inconsistent with the Section 255 guidelines.
13. *Implementation of Section 255 of the Telecommunications Act of 1996, Access to Telecommunications Services, Telecommunications Equipment, and Customer Premises Equipment by Persons with Disabilities*, Notice of Proposed Rulemaking, WT Dkt. 96-198, FCC 98-55, 13 FCC Rcd 20391 (April 20, 1998). Hereinafter cited as Section 255 NPRM. During the winter before these rules were released, a number of disability advocates, including Nancy Bloch, Claude Stout, Brenda Battat, Jenifer Simpson, Donna Sorkin, Paul Schroeder, Alan Dinsmore, and the author, made various visits to FCC commissioners, Wireless Telecommunications Bureau Chief Dan Phythyon, and FCC employees Elizabeth Lyle, Meryl Icove, and Pam Gregory to press the case for FCC regulations. The FCC found both specific authority to issue the rules in Section 255 and more general authority under its obligation to execute actions in the public interest. Section 255 NPRM, ¶¶24–28, citing Sections 4(i), 201(b), and 303(r) of the Communications Act.
14. 47 U.S.C. §153(43).
15. 47 U.S.C. §153(20) (definition of "information services"); 47 C.F.R. §64.702 (definition of "enhanced services").
16. See Comments of the NAD in WT Dkt. 96-198 (June 30, 1998), 9–14, prepared with the assistance of Lori Dolqueist of IPR.
17. Comments of the Trace Research and Development Center in WT Dkt. 96-198 (June 30, 1998), 2.
18. See Mark Wigfield, "Industry Awaits FCC Rules Making Telecom Use Easier for Disabled," *Dow Jones Newswires* July 7, 1999 (retrieved from www.dowjones.com archives).
19. Comments of TDI in WT Dkt. 96-198 (June 30, 1998), 18.
20. Consumer proposals were submitted on January 20, 1999, and February 5, 1999, by the NAD, AG Bell, ACB, AFB, ASDC, ASHA, Gallaudet University, LHH, SHH, TDI, UCPA, and WID. TIA submitted its proposal for a product line approach on January 8, 1999 and rejected the consumer approach in a letter to the Commission on March 9, 1999.
21. Todd Lantor, phone call to the author, March 17, 1999.
22. This was discussed at a meeting held between PCIA and disability advocates on April 7, 1999.
23. See Wigfield, "Industry Awaits."
24. Claude Stout, Nancy Bloch, and Pam Holmes, "Full Community Effort to Send Communication to the FCC on Section 255," electronic action alerts, June 25, 1999. In addition, on June 30, 1999, Jim House of TDI sent out sample letters for TDI members to send to the FCC. Other action alerts went out from the NAD on June 23 and July 7, 1999.
25. Heather Forsgren Weaver, "FCC Gets Ready to Adopt Disabilities Rules," *RCR Wireless* (July 12, 1999), 10. Hatfield further noted Kennard's "commitment to seeing that all people receive the benefits of the wonderful technological revolution that is occurring in the telecommunications field."
26. "FCC Backs Rule on Access for Disabled, Still Fine-Tuning Statement of Authority," *Regulation, Law & Economics*, July 15, 1999, A-24.
27. See generally, *Implementation of Section 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996, Access to Telecommunications Services*,

Telecommunications Equipment, and Customer Premises Equipment by Persons with Disabilities, Report and Order and Further Notice of Inquiry, WT Dkt 96-198, FCC 99-181, 16 FCC Rcd 6417 (September 29, 1999), ¶¶99-106, codified at 47 C.F.R. §6.1 et. seq., and §7.1 et. seq. Hereinafter cited as Section 255 R&O.

28. Statement of Chairman Kennard, Section 255 R&O.

29. The White House, Statement of Vice President Gore (July 14, 1999).

30. *FCC Chairman Kennard Applauds Industry Decision to Provide Telecommunications Access for People with Disabilities*, FCC News Release (January 21, 2000); See also “No Lawsuits to Challenge U.S. Phone Access Rules,” *Reuters* (January 21, 2000).

31. See “Disability Groups Hail Rules on Equipment, Service Access,” *Telecommunications Reports*, October 4, 1999, 22-23.

32. Section 255 R&O, ¶26. The FCC declined to adopt a more specific Access Board guideline prohibiting companies from making product changes that had the overall effect of decreasing product accessibility. See 36 C.F.R. 1193.39(a). However, the FCC’s final compromise on this point was a significant improvement over its earlier conclusion that this Access Board guideline was inappropriate because it would “stand in the way of technological advances.” Section 255 NPRM, ¶114.

33. Schwartz, “Making Cell Phones,” E-1. (Al Lucas of Motorola was quoted as opposing “onerous record-keeping requirements.”)

34. Section 255 R&O, ¶74.

35. See generally, “FCC Expected to Spell Out Disabled Access Rules,” *Reuters* (July 7, 1999).

36. Pacific Telesis, SBC, and Bell Atlantic had adopted these practices. A few months after promulgation of the rules, CEOs from forty-six companies of America’s high-technology companies also pledged their support for the government’s efforts to promote access to information and communication products and services for people with disabilities. “An Open Letter on Accessibility from Technology Executives,” September 21, 2000. Signatories included AOL, AT&T, BellSouth, eBay, and Microsoft.

37. Motorola and Nokia adopted training programs along these lines.

38. For example, Microsoft developed extensive in-house accessibility teams to monitor and address the accessibility of its products and services.

39. Kathy Chen, “FCC to Issue Rules to Help the Disabled In the Use of Telecommunications Gear,” *Wall Street Journal*, July 14, 1999, p. B6 (quoting Bill Plummer of Nokia).

40. John Schwartz, “Making Cell Phones Disabled-Friendly,” *Washington Post*, July 14, 1999, E-1 (quoting Jeff Kramer of AARP).

41. See *Reminder to Manufacturers and Providers of Voice Mail and Interactive Menu Products and Services of Their Accessibility Obligations Under New Part 7 of the Commission’s Rules*, FCC Public Notice, DA 00-2162 (September 22, 2000).

42. FCC Chairman William E. Kennard, letter to the Honorable Janet Reno, December 27, 2000.

43. For example, on December 1, 2003, the Commission held the Voice Over Internet Protocol Forum, which gave Gregg Vanderheiden, director of the Trace Center, an opportunity to explain the many ways that VoIP services can benefit people with disabilities and the importance of applying the FCC’s disability access rules to these services. At a second forum, the VoIP Solutions Summit, Focus on Disability Access Issues, on May 7, 2004, various disability advocates came forward to urge the Commission to continue safeguarding disability protections as VoIP services replace traditional telephone services provided over the public switched telephone network. Included among the speakers at this event were many of the disability leaders who had spent decades advocating for equal access, including Brenda Battat (SHHH), Claude Stout (TDI), Jim Tobias (Inclusive Technologies), Paul Schroeder (AFB), Ed Bosson (Texas PUC), and once again, Vanderheiden. During this period, the FCC also released various notices of proposed rulemaking seeking public feedback on how best to guarantee disability access in an Internet-enabled world. See, for example, *IP-Enabled Services*, Notice of Proposed Rulemaking, WC Dkt. 04-3, FCC 04-28 (March 10, 2004).

44. 29 U.S.C. §794d; 36 C.F.R. Part 1194.

17

TTYs and Wireless Retrofitting: Emergency Access Revisited

Susan and Carl, both system designers, met for coffee and bagels on the 43rd floor. When the first jet collided, they instantly saw the fear in other people's faces as the skyscraper began to sway violently. They dropped their refreshments and went toward the stairs. . . . Susan used her new AOLMobile pager to e-mail her friends from the stairwell. . . . Carl, who had earlier teased Susan about her pager, saw the value of instant telecommunication during emergencies.

IN THE EARLY 1990s, many Americans began purchasing wireless telephones for the express purpose of being able to call 911 emergency services when they were away from their homes or offices. As this occurred, the FCC knew that it was only a matter of time before wireless customers would want the same 911 features that were available to wireline customers. Specifically, 911 calls made from wireline telephones often are connected with public safety answering points (PSAPs) that have an “enhanced” capability to automatically obtain the caller’s telephone number and location. These automatic number identification (ANI) and automatic location identification (ALI) features enable the 911 dispatcher to return a disconnected call and send out assistance without the need to verbally obtain the telephone number of the person calling or the address where the emergency is taking place—saving valuable seconds and providing an extra level of protection if the caller is disoriented, unaware of his or her location, or simply unable to speak.

When the FCC began contemplating a new proceeding to require these enhanced 911, or “E911” features over wireless communications, TDI’s Executive Director Al Sonnenstrahl took note. Aware of the nation’s poor track record in responding to 911 calls made by TTY users over wireline phones, Sonnenstrahl wanted to make sure that the needs of this constituency would be considered as the FCC moved forward in developing its new wireless mandates. Indeed, accessibility barriers were already presenting themselves. Although TTY tones could be transmitted over the analog wireless services then used by most Americans, the shape and small size of wireless handsets often made their ability to couple acoustically with TTYs difficult, if not

Epigraph. “Three Deaf World Trade Center Survivors on NBC’s *Dateline*,” *GA-SK* 32 (3): 27.

impossible.* In addition, while a few analog wireless phones had built-in modular (RJ-11) jacks that allowed a telephone cable to directly connect these devices to TTYs, these jacks were rather large, and could not fit on wireless phones that were becoming smaller with the passage of time. Sonnenstrahl wanted the FCC's E911 proceeding to include a proposal for *all* wireless phones to have these ports. TDI also wanted FCC assurances that if automatic number and location identification were provided for wireless voice customers, these features would be made equally accessible to TTY users.

One of the FCC employees that Sonnenstrahl called was Linda Dubroof, then the FCC's principal attorney working on disabilities issues. Dubroof conveyed TDI's concerns to other Commission officials, who then successfully elevated this issue through public speeches and in discussions with the relevant industries. The result was that when wireless service providers and emergency service authorities put together their own "Emergency Access Position Paper" for providing wireless E911 services to the general public—delivered to the FCC on June 30, 1994—it included a proposal for wireless systems to become compatible with 911 calls made with TTYs.[†] This proposal was then tentatively adopted by the FCC in October of 1994, when the Commission initiated its proceeding to mandate the provision of wireless E911 services.[‡] Pleased that the FCC was considering the needs of deaf and hard of hearing constituencies at the start of the wireless E911 proceeding rather than as an afterthought, Sonnenstrahl quickly pulled together a coalition of twenty-one national and regional deaf and hard of hearing organizations to respond to the Commission's proposals.²

A little over a year later, CTIA and national public safety associations responded to the FCC's new proceeding with a Consensus Agreement that proposed a two-phase implementation schedule for the provision of all wireless E911 services.³ In accordance with the industries' earlier recommendation, the agreement slated TTY access for completion during Phase I, expected to occur within twelve to eighteen months after the effective date of the FCC's E911 order.[‡] The FCC relied upon this recommendation and the absence of any industry objection to require all wireless carriers to transmit TTY calls to 911 services by October 1, 1997, when it finalized its E911 wireless rules in July 1996.⁴ By then, 62 percent of Americans cited safety and security as their main reason for purchasing mobile phones. As justification for its new TTY requirement, the FCC referenced this expanding reliance on wireless services, as well as the Americans with Disabilities Act's mandate for direct TTY access to 911

* Specifically, the rubber "cups" in the design of most TTYs had been developed for use with standard wireline phones, not compact wireless handsets. As a result, ambient noise often seeped in, causing garbling of the TTY characters. The problem became even worse when these phones were used in noisy environments.

[†] Groups that signed onto this Joint Paper were PCIA—a wireless trade association; the Association of Public-Safety Communications Officials-International (APCO)—an organization of thousands of individuals who manage public safety communications systems, including police, fire, highway maintenance, and emergency medical services; the National Emergency Number Association (NENA)—an organization dedicated to furthering the implementation of universal emergency telephone number systems; and the National Association of State Nine One One Administrators (NASNA)—an organization of state officials who facilitate information-sharing among states with 911 programs.

[‡] Among other things, Phase I would also require the provision of ANI for all wireless users. Phase II would occur within five years and require ALI.

services and Congress's directive under the newly enacted Section 255 of the Communications Act to make all telecommunications equipment and services disability accessible.⁵ However, the FCC declined to require all wireless phones to connect directly to TTYs, citing insufficient evidence in the record to support its technical feasibility, and deferring this matter for the agency's review during its more general Section 255 proceedings.

Although the FCC's ruling was not everything that consumers had hoped for, they believed that the agency's directive for wireless devices to be compatible with TTYs was a step in the right direction. Unfortunately, almost as soon as the ruling was released, the wireless industry began to complain about its lack of feasibility. The problem was that between the time that the industry had first consented to providing TTY access and the time that the FCC's mandate was announced, digital wireless services had been introduced to American society. While digital systems offered far more efficient use of spectrum, lower pricing, and better features than their analog counterparts, they posed far greater technical challenges for the carriage of TTY transmissions. Digital cellular systems were designed to "digitize" a person's speech, compress the data, and reconstitute that speech at the receiving end of a telephone call; it remained unclear whether this ability to reproduce human voices could be duplicated for TTY signaling tones, which are very different in nature from speech. Unfortunately, like hearing aid compatibility, TTY compatibility had *not* been considered when digital transmission technologies were first conceived.

On September 3, 1996, these concerns prompted three separate industry groups, Omnipoint, TIA, and PCIA, to petition the FCC to reconsider the TTY compatibility mandate.⁶ Companies lacked confidence that the level of errors in digitization and transmission that were tolerable or even went unnoticed in voice transmissions would be acceptable for the accurate conveyance of TTY conversations. According to TIA, it would be a "Herculean task" to develop and implement industry standards to resolve this problem within one year.⁷ Besides requesting that the FCC hold off on establishing *any* deadline for digital compatibility until these standards could be developed, Omnipoint specifically asked the FCC to allow, as methods that would be deemed in compliance with the TTY mandate, short messaging services generated via a handset keypad; data services; and the continued use of TTY transmissions over analog services.

On October 9, 1996, the Texas Advisory Commission on State Emergency Communications filed a harsh opposition to the petitions, insisting that Omnipoint's proposed alternatives would deny people with disabilities equal access to telecommunications services and "so water down the TTY requirement as to no longer make it a requirement."⁸ The NAD agreed that after being given two years' notice, the industry "should not be permitted to come in at the eleventh hour and secure an unspecified amount of additional time" to achieve compliance.⁹ Consumers insisted that it was far too early for the wireless industry to predict failure, given how little it had done thus far to attempt to resolve the technical issues. CAN specifically complained about the industry's proposed reliance on short messaging services, believing it would be difficult, if not impossible, for an individual to have the presence of mind to type out words on a telephone keypad while in the throes of a stressful emergency.¹⁰

As the TTY deadline loomed without an FCC decision on the reconsideration

petitions in sight, members of the wireless industry began to grow concerned. During the summer of 1997, a new group of wireless providers and manufacturers calling itself the Wireless E911 Coalition, petitioned the FCC to extend the deadline for the TTY mandate for eighteen months—until April 1, 1999.¹¹ The group insisted that the wireless industry's resources were stretched too thinly; not only did companies need to comply with other E911 public safety mandates then being imposed by the Commission, but they were now preoccupied with responding to new FCC proceedings addressing the implementation of Section 255. They claimed that efforts to conduct research and testing, achieve solutions, and make the necessary product changes were complicated by the need to reach consensus among multiple industries—wireless carriers and manufacturers, public safety agencies, and TTY providers. The group announced plans to create a Washington, D.C., forum for this purpose.

The NAD and CAN jointly opposed the extension, asserting that the petitioners had failed to offer any legitimate justification for their noncompliance.¹² Consumers were dismayed that efforts to begin exploring solutions had started so late, only a month before the FCC's rules were set to take effect. Advocates proposed instead a nine-month extension, to be accompanied by periodic industry progress reports, consultation with deaf and hard of hearing consumers, and penalties for noncompliance.

The Wireless TTY Forum

On September 17, 1997, CTIA went ahead with its plans to launch a new Wireless TTY Forum for industry and consumer stakeholders to exchange information and reach agreement on how best to support TTY technology over digital wireless systems. The initial meetings were tense; industry requested steep fees from all parties to participate in the collaborative effort, a practice that was customary among these companies when engaging in joint work efforts, but foreign to nonprofit disability organizations whose budgets were already strained. In addition, the industry's lack of familiarity with providing accommodations to facilitate communication with deaf people resulted in its initial refusal to pay for sign language interpreters.

Although wireless companies claimed to understand the need for emergency access by TTY users, many industry participants were also upset with the prospect of having to invest time and money into developing compatibility solutions for Baudot TTY technology, an outdated analog technology used over voice telephone networks. They believed that the future would be better served by sending emergency calls over advanced wireless data services that were also capable of providing text messaging, e-mail, and web access. Consumers agreed that such data solutions were desirable because they would allow deaf and hard of hearing consumers to break free of the specialized TTY technologies that had long segregated their communications from the mainstream public. However, the situation was more complex than it appeared. Advanced data solutions for handling emergency text calls were a long way off; Baudot still remained the only technology available to support real-time text telephone conversations, as well as the only form of text to which 911 emergency centers were capable of responding. In addition, wireless telephone services extended over greater geographic areas than data services, providing consumers with far wider areas of coverage for their emergency calls. Also, the ability to ascertain the originating location

As a former officer of TDI, NAD and various other emergency access committees, Toni Dunne has been tireless in her pursuit of equal access to emergency services, and represented the Texas Advisory Commission on State Emergency Communications on the TTY Wireless Forum.



of a 911 call was soon to be phased in under other parts of the FCC's E911 proceeding, but this feature could not be provided via data services. Nor, at that time, could data services offer voice carryover, which would allow hard of hearing people to receive messages in text, but save precious minutes by using their own voices to speak directly to emergency personnel. Finally, there were no guarantees that wireless data services even would be capable of routing calls through servers to 911 centers; these services did not have the same priority routing as voice calls. If advocates abandoned efforts to make TTYs compatible with digital wireless services before the promised—but still hypothetical—data solutions were developed, deaf consumers might end up without any means of accessing 911 services over wireless systems. The Wireless TTY Forum consequently agreed to collaborate on two solutions—a short-term solution to enable wireless TTY 911 calls and a long-term solution for two-way real-time text to be transmitted to 911 via data communications.

During the fall of 1997, through various *ex parte* filings made at the FCC, consumers and the wireless industry continued to spar over the need for an extension of the FCC's original TTY deadline.¹³ Disability advocates feared that it would not be long before the rapid migration from analog to digital wireless technologies entirely eliminated the ability of TTY users to obtain prompt emergency assistance via wireless services. Nevertheless, in the interest of reaching agreement with the wireless industry and to permit collaboration by the Wireless TTY Forum on a work plan for the delivery of TTY transmissions over digital wireless services, the NAD, Gallaudet, TDI, and CAN signed a consensus agreement with CTIA and PCIA on November 20, 1997, reluctantly agreeing to a fifteen-month extension.¹⁴ In the event that unresolved technical issues prevented the forum from achieving access by that time, the groups proposed that they be given discretion to extend this deadline by an additional three months. Industry agreed to file periodic FCC reports throughout the extended period, detailing problems associated with TTY access and steps taken to resolve those problems.

Only ten days after the agreement was signed, a joint report submitted to the FCC by the wireless industry and public safety authorities reported that PSAP administrators were already beginning to receive instruction on ways to identify and respond to TTY calls made over analog wireless services.¹⁵ For example, 911 operators were

being trained to immediately patch both silent calls and calls containing TTY tones through to appropriate TTY-equipped stations, to ensure the timely identification of the caller's number and location, whether the call was made from a wireline or wireless phone. While this did not address the pressing digital compatibility issues, the report showed good faith on the part of public safety agencies, who were now actively engaged in efforts to achieve TTY access solutions.*

The FCC Takes a Stand

Notwithstanding this initial progress by local 911 offices, the Commission adopted an E911 Reconsideration Order on December 1, 1997, that showed annoyance with the wireless industry's total disregard for the TTY compatibility mandate.¹⁶ The Commission rebuked the industry for ignoring its access obligations three years after it had been put on notice, and said that carriers had offered "little in the way of convincing justification" for not meeting the earlier deadline.¹⁷

Nevertheless, the FCC acknowledged that while it had been feasible to transmit TTY calls through wireless *analog* systems, additional work needed to be accomplished before *digital* wireless service would be error-free, standardized, and ubiquitous for TTY users. Because stress associated with emergencies might cause TTY users to make typing mistakes of their own, it would be especially critical for the wireless access solution not to add extra errors to the transmission of TTY messages that could lead to misinterpretation by 911 operators. Accordingly, while the Commission directed analog carriers to immediately begin providing TTY access, it grudgingly granted the industry an additional twelve months after its original deadline, or until October 1, 1998, to develop a digital wireless TTY solution that would minimize the potential for errors, and ordered the industry to work closely with disability groups in achieving this result. This last directive paved the way for consumers to convince the industry to sponsor the attendance of consumer groups and sign language interpreters at future forum meetings.[†] The FCC also agreed with consumers that short messaging services would be impractical in emergencies—not only because it would be difficult to figure out which letter was ascribed to each numerical digit under stress, but because 911 centers were not configured to accept these types of communications.

Until a TTY solution was implemented, the FCC obligated carriers to notify wireless TTY subscribers of the limitations that digital wireless services placed on their calls to 911 services. During the ensuing months, the Wireless TTY Forum complied with this directive by creating an industry–consumer Customer Awareness Team, which prepared informational materials for use on websites, billing inserts, and organizational and mainstream publications. The FCC further directed the Wireless TTY Forum to file quarterly progress reports, which would be used to enable the FCC's

* This was largely due to participation in the forum by Toni Dunne of the Texas 911 Commission, long-time advocate for emergency access by TTY users.

† At this point in time, the forum's meeting locations were switched to Gallaudet University, and industry began sponsoring the attendance of consumer representatives from SHHH (David Baquis and Brenda Battat), Gallaudet (Judy Harkins, Norman Williams, and Dick Brandt), TDI (Claude Stout and James House), CAN (Al Sonnenstrahl), and the NAD (the author).

Wireless Bureau (not the TTY forum, as had been proposed) to determine whether the extension should continue for an additional three months.

The FCC's E911 TTY mandate was imposed on wireless *carriers*—i.e., the companies that provided wireless service to the general public. However, cooperation by the companies that manufactured wireless telephones was just as important for achieving TTY compatibility. By the spring of 1998, members of the Wireless TTY Forum had developed a testing procedure for these handset manufacturers to evaluate the error rate of TTY transmissions over wireless systems. But the participation of these vendors in the Wireless TTY Forum had been alarmingly low, perhaps because these companies knew that the FCC's authority under the E911 mandates did not extend to their operations. Concerned that their lack of involvement in the forum's work would seriously impede progress on developing a viable TTY-digital wireless compatibility solution, at the end of April 1998, the forum (through CTIA and PCIA) sent urgent letters to the manufacturers, imploring them to conduct the needed tests and promptly report their results in order to meet the October 1, 1998, compliance date.¹⁸

The slow progress on a TTY solution also prompted CTIA, during the spring of 1998, to ask the FCC to redefine compliance with its new TTY compatibility requirement. Rather than provide a full line of accessible phones by the October deadline, CTIA sought permission for each service provider to offer just *one* TTY compatible wireless phone by that time.¹⁹ Although this reduced level of compliance would be a temporary measure only—until a long-term solution could be achieved for all digital wireless phones—consumers opposed this request, claiming that it conflicted with the universal design principles contained in Section 255, which favored making all mainstream telecommunications products and services accessible to the widest range of individuals. They wanted the ability to make calls from any wireless phone where an emergency situation might arise, not to be relegated to specialized solutions that would force them to purchase separate phones or accessories. For the same reason, they did not want the industry to adopt nonstandard dialing patterns for TTY users that would set them apart from the general public.²⁰

When the FCC seemed inclined to accept industry's "one-phone-per-provider" approach, consumers responded by urging industry to at least incorporate certain accessibility features—or certain "user requirements"—in the few phones that they chose to make compatible.* For example, in the interest of obtaining phones with features and functions that addressed a wide variety of needs, advocates asked providers not to designate either their lowest-end or most expensive models as their one compliant phone. Consumers also wanted mobile phones designed for TTY use to offer vibrating ring signals and the ability to visually monitor all aspects of a call's progress, including its ring, busy signals, and disconnection. Similarly, people who could not hear but could speak with their own voices, or who could speak but not hear, wanted the wireless phones to be capable of handling voice and hearing carryover; that is, they

* These were submitted in a document titled "Consumer Approved Criteria for Acceptance of 'One Phone Model Per Service Provider as of October 1,'" (proposal to the Wireless TTY Forum meeting, July 20–21, 1998 meeting). Although this document was originally created as a quid pro quo for agreeing to the one phone per provider temporary solution, much later on, the forum would use it as guidance for how best to meet the needs of TTY users with respect to all digital wireless phones.

wanted to be able to switch back and forth between their TTYs and their conventional voice telephones during wireless calls to 911 services.

Finally, consumers deemed it critical for compatible wireless phones—as well as any adaptors that were needed to connect these to a TTY—to be available throughout the full range of retail stores used by service providers, so that TTY users would not be forced to search for these devices. Unfortunately, wireless representatives refused even to consider this last point, insisting that the forum was designed solely to develop technical solutions, not to bind their companies on matters dealing with marketing, advertising, and customer care.

After a year of Wireless TTY Forum meetings, industry testing finally began to reveal more about the cause of the compatibility problems between TTYs and wireless services.²¹ But as the October 1998 deadline drew near, it became increasingly apparent that the FCC's timeline would not be met.* Given the lack of a solution in the foreseeable future, let alone the lack of a comprehensive work plan with specific benchmarks to guide the industry's efforts, consumers began to question the extent to which industry had engaged in good faith efforts to develop a coordinated strategy for achieving either its short-term or long-term goals. Discussions within the forum began to break down, with consumers threatening to oppose any further extension of time that the industry might request from the FCC. The forum's meetings over the prior year had been taking up large chunks of time, causing consumers to experience an enormous drain on the resources of their nonprofit organizations, in return for what they perceived as very few results.

In mid-September 1998, CTIA and PCIA filed a request with the FCC to extend the deadline for another three-months, alleging that digital wireless phone manufacturers were still assessing potential solutions, and claiming that it would be “technically and fundamentally impossible” for any carrier to comply with the FCC's ruling because not a single manufacturer would have a compatible product available by October.²² Although the petitioners attached a draft work plan to achieve TTY compatibility, they acknowledged that this had been developed without the input of consumers or the other stakeholder groups that comprised the full TTY Forum.

Advocates shot back with complaints about industry's failure to seek consumer feedback on the proposed work plan, and more importantly, industry's failure to offer any target dates for the completion of the various activities listed in that plan.²³ In addition, consumers pointed out that although the industry had been promising extensive testing on the compatibility of various wireless technologies with TTYs over the past year, it had not yet even determined its lab sites. Nor, despite various consumer attempts, had the forum's industry representatives adequately responded to the incorporation of the various criteria that consumers had sought in exchange for agreeing to industry's one phone per provider solution. With digital wireless services now flourishing across America, TTY users outside of the Washington, D.C., beltway had already begun to speak up about their lack of access to these services. During

* Part of the problem was that the absence of any TTY technical standards was causing variations in the performance levels of different TTYs with different digital wireless air interfaces (TDMA, CDMA, and GSM).

recent months, congressional and FCC lawmakers had been “deluged with letters from constituents” concerned about noncompliance with the 1996 TTY mandate.²⁴ Advocates, by now very disturbed by the industry’s lax compliance, insisted that it was time for the FCC to take a harder line in the enforcement of its rule.

When the Going Gets Tough, the Tough Finally Get Going

When the FCC’s Wireless Bureau released its order in response to CTIA’s appeal for additional time on September 30, 1998, even consumers were taken aback by the agency’s new tone.²⁵ Obviously annoyed with the wireless industry’s lack of direction and the inadequacies of its work plan, the bureau complained that after meeting for a full year, the submission of the industry’s draft plan within only the past month was insufficient progress to warrant a three-month extension. The bureau cut that time in half, allowing industry only an additional forty-five days for compliance, and warned the industry that if it still needed more time, it would need to submit far more detailed information about its past progress and its planned future activities. Specifically, the Commission demanded that within one month, the industry provide reasons for technical barriers to TTY compatibility, potential solutions that had been submitted to standards organizations, information on laboratory locations and timetables for testing solutions, and specific steps taken to educate consumers about digital phone limitations. The bureau then elevated the importance of the various features that consumers had wanted in a TTY solution by attaching a list of those criteria as an appendix to the order and directing industry to work more collaboratively with consumers in the future.

The Commission’s new ruling—and especially its emphasis on consumer needs—was greatly appreciated by advocates, who had grown exasperated with industry’s foot-dragging so late in the forum’s processes. Nevertheless, advocates questioned whether even this would be enough to spur the companies into action. Without waiting for the Commission’s next deadline to arrive, consumers marched to the FCC on October 2, 1998, to express frustration with industry’s negligible efforts.²⁶ Although a few lower-level FCC employees had occasionally frequented the Wireless TTY Forum’s meetings, advocates insisted that the FCC needed to do more to demonstrate its commitment to enforce the TTY mandate. Within days, they got their wish.

When attendees arrived at the Wireless TTY Forum meeting held in early October 1998, they noticed FCC officials strategically situated in a corner of the room.²⁷ One of these individuals was the chief of the FCC’s Office of Engineering and Technology, Dr. Dale Hatfield, an FCC official who was largely responsible for overseeing compliance with the FCC’s E911 mandates. After briefly watching the forum’s proceedings, Hatfield stood up to express his extreme displeasure with the industry’s delays in finding a TTY solution. He declared that if the companies did not begin to take their access obligations more seriously, there would be a steep FCC price to pay. Hatfield’s visit was followed by an equally strong appeal made by FCC Chairman William Kennard. In an October 23, 1998, letter to approximately thirty wireless carriers, Kennard emphasized the need for access by all Americans to wireless technologies to live safer, healthier lives: “No segment of our community should be disadvantaged or left

behind when it comes to telecommunications and emergency services.” Although the chairman acknowledged the existence of technical hurdles, he sharply criticized the lack of attention that the wireless industry had given to resolving the TTY compatibility problem.²⁸

In a response sent only a few days later, CTIA President Thomas Wheeler wrote that it was counterproductive to try to achieve compatibility between the 1940s TTY Baudot technology and digital wireless networks.²⁹ Wheeler asked the chairman to build upon the improved functionality that digital networks could offer by allowing the industry to pursue ways for deaf and hard of hearing Americans to achieve mobile communications through data-based solutions. The industry’s October 1998 quarterly forum status report similarly complained about having limited time and resources to invest in the type of TTY testing requested by the FCC.³⁰

But despite continual industry grumblings, it soon became apparent that the FCC’s threats had, in fact, ignited a fire within the companies covered by the agency’s TTY mandate. On October 30, 1998, CTIA and PCIA fully complied with the FCC’s September order by submitting a work plan that, for the first time, included specific timetables, and identified possible solutions for TTY access. And, in the weeks that followed, the forum’s activities took on a new sense of urgency. These efforts proved enough to convince the FCC to grant an additional extension of the TTY mandate until December 31, 1998, although the Commission warned that from that point on, carriers would be granted waivers only if they continued to demonstrate their plans for compliance with “sufficient particularity,” through “well-documented timetables and milestones” that described the steps being taken to achieve TTY compatibility.³¹

Though delighted with the FCC’s new tough approach, consumers were less than surprised when, as the December 31 deadline approached, the FCC was bombarded with waiver requests from more than 100 individual wireless companies. Unfortunately, the volume of the submissions—each of which included extensive documentation as per the FCC’s prior directives—was so great that the FCC, not having the time to review each one prior to the deadline, had no choice but to temporarily grant *all* of the petitions in a single act.³²

In the meantime, a series of nationwide surveys distributed to deaf consumers by TAN coordinator Pam Holmes in the fall of 1998 demonstrated the growing problems that wireless services were beginning to present for deaf consumers.* Although analog phones remained accessible to TTY users, 71 percent of the respondents reported that store personnel were not prepared to help them find a compatible phone. Most sales personnel had no idea what a TTY was, nor were they familiar with the adapters that might be needed to connect TTYs to wireless devices. The survey also revealed that promotional phones were generally not accessible, and that consumers had to pay considerably more for phones that vibrated or contained a data connector. So pervasive were these problems, that only 2 of the 155 individuals surveyed had been successful in purchasing a wireless device.

* The Wireless E911 Access: TTY User Survey went to fifty-six individuals in twenty-four cities comprising the NAD’s Telecommunications Advocacy Network, eighty-six people on the NAD Telecommunications Committee listserv, and thirteen individuals in the nine regions of TDI’s board during November 1998.

A Solution at Last

The *New York Times* called it “a way to talk on a cell phone without a word being spoken.”³³ Despite the Wireless TTY Forum’s very slow start, after the FCC began to show attention to the wireless compatibility issue, some very dedicated industry researchers eagerly took on the challenge of achieving an effective TTY solution. As a result, after an untold number of hours and the expenditure of incalculable resources, by early 1999, these engineers were able to accomplish what many had been convinced at the start of the TTY Wireless Forum was a nearly impossible task: a means of effectively passing TTY tones over two of the main wireless transmission protocols: CDMA and TDMA.³⁴ The new solution, created by Lucent Technologies and later made available royalty-free to competitors, contained a built-in error correction feature that resulted in a very high accuracy rate.³⁵ Additionally, the solution permitted both TTY transmissions and voice conversations to take place through the same connection, enabling VCO and HCO users to switch between these modes as needed. Ed Hall of CTIA and Todd Lantor of PCIA, the forum’s co-chairs, cheerfully noted that it was the “synergy, team-spirit, and positive environment” of the forum’s members that had brought everyone to this point.³⁶ However, because additional testing and software upgrades were needed before the new phones could be made commercially available, around the time that this solution was announced, again industry requested, and was granted, an extension of the TTY deadline—this time until December 31, 2001.³⁷ Moreover, the solution was not perfect. Because the wireless industry had discontinued using RJ-11 jacks, consumers would not be able to use their existing TTYs to achieve wireless access. Instead, TTY manufacturers would have to modify their devices to provide a new audio jack for connection with cell phones, and consumers would have to purchase these new TTY devices to get digital wireless access—at prices that generally started at two hundred dollars apiece.*

Continued developments over the next few months produced viable TTY solutions for the remaining digital wireless technologies. But despite all of the progress that had been made, at a TTY forum meeting held on July 11, 2000, CTIA revealed that, yet again, its companies would not be capable of meeting the December 2001 deadline. Companies asked the FCC for an additional six months to test and deploy new solutions, insisting that consumers could continue to use their TTYs with analog services in the meantime.

Though fatigued from the years of delays, consumers knew enough to recognize that an additional six months would not make a significant difference in the lives of TTY users. Nevertheless, advocates were bothered by industry’s ongoing suggestions that analog services would prevent consumers from being harmed by a further delay. While analog phones had offered a feasible alternative six years earlier, when consumers had first raised the need for TTY compatibility, it was becoming increasingly difficult to find retail establishments that still sold these phones. In addition, even where these phones were available, their purchase plans were far inferior to those for digital services, the latter of which often came with free phone equipment and bundles

* In 2004, a pager-sized TTY capable of providing wireless access would be released to the public, but little publicity would accompany either its existence or availability.

Chart 17.1**Enhanced 911 TTY Compatibility Mandate—FCC Extensions
47 C.F.R. §20.18(c)***Original FCC Deadline: October 1, 1997**Compatibility Achieved: mid-2002*

- October 1994—FCC releases notice seeking feedback on industry-initiated proposal for wireless systems to be compatible with TTY 911 calls
 - February 1996—Industry Consensus Agreement reached on all wireless E911 calls: includes plan to provide TTY access within 1 year to 18 months after FCC’s final E911 rules become effective
 - July 1996—FCC adopts Consensus Agreement recommendation: directs wireless systems to be capable of handling 911 calls placed with TTYs by October 1, 1997
 - September 1997—FCC stays TTY mandate until November 30, 1997; Wireless TTY Forum created
 - December 1997—FCC extends deadline for digital services until October 1, 1998
 - September 1998—FCC extends deadline until mid-November 1998
 - November 1998—FCC extends deadline until end of December 1998
 - December 1998—FCC issues indefinite waivers in response to more than 100 individual company petitions
 - January 1999—Lucent Technologies proposes TTY compatibility solution
 - May 1999—FCC extends deadline until end of December 2001
 - December 2000—FCC sets final deadline: June 30, 2002
 - June 30, 2002—Deadline is met. (Deaf community has largely switched over to pagers; few take advantage of the TTY-wireless compatibility solution)
-

of minutes. The fact that completing a TTY call took up to four times longer than completing a voice call intensified the considerable price differential between analog services used by TTY users and digital services used by voice telephone users.

At the NAD biennial conference held in Norfolk, Virginia, in July 2000, NAD attendees resolved to complain to the FCC about the discrepancy between analog and digital pricing packages. Upon their return to Washington, D.C, they and other consumer advocates informed the FCC that they would agree to a modified, but “firm and final” deadline of June 30, 2002, for digital wireless TTY compatibility, but wanted the Commission to establish an “equal rate of pay” plan that would allow TTY users to receive rates for analog services that were equivalent to those charged for digital services, at least until digital services became TTY accessible.³⁸ Precedent existed for



By the time industry was able to make TTYs compatible with wireless services, most of the deaf community had migrated to pagers for their mobile communications.

this type of price adjustment; for more than two decades, wireline telephone companies had been offering TTY discounts to compensate for the greater amount of time needed to complete calls over their networks. On December 11, 2000, the Commission rejected this request, though it did encourage analog carriers to work with TTY users to offer more equitable pricing plans. In that same order, the FCC also approved a final extension of the TTY compatibility rule, until June 30, 2002.³⁹

Industry successfully met the FCC's final deadline. However, a survey later conducted by the Rehabilitation Engineering Research Center on Telecommunications Access revealed that consumers experienced significant difficulties when they tried to find the TTY mode in handsets. These features were either buried within handset menus or were only provided through firmware upgrades upon a consumer's request.

In many ways, the eight-year effort to secure TTY access to digital wireless services exemplified the forty-year struggle by the deaf and hard of hearing community for telecommunications access. The consequences of this delay had been severe. Enormous resources had been spent trying to remedy industry's initial failure to incorporate access when it first designed its wireless communications. At the same time,

the ensuing events proved the ability of industry to rise to the most difficult of challenges (to achieve the short-term solution), even if this only came about as a result of government fiat. Unfortunately, once the FCC stepped out of the picture, the wireless companies ceased efforts to pursue the pledged long-term solution. The industry never accomplished a way for two-way real-time text to be transmitted to 911 through data communications, which had been promised during the TTY Forum's earliest meetings.

Most devastating to the individuals who had poured so much time and energy into making the necessary retrofits was that by the time their short-term solution was implemented, other technological developments had so altered the telecommunications landscape that most of the intended beneficiaries had already stopped using TTYs with wireless services. During the first few years of the twenty-first century, deaf people adopted interactive pagers as their new and primary form of mobile access, despite the inability of these devices to contact 911 services.* This time around, it had taken so long to obtain telecommunications access, that progress had moved deaf consumers along without it.

Notes

1. *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Notice of Proposed Rulemaking, CC Dkt. 94-102, RM-8143, FCC 94-237, 9 FCC Rcd 6170 (October 19, 1994), ¶54.

2. See Comments of TDI et al., filed on behalf of the NAD, AG Bell, SHHH, ALDA, AARP, and fifteen additional organizations in CC Dkt. 94-102 (undated).

3. CTIA, APCO, NENA, and NASNA, Consensus Agreement (February 12, 1996), cited in *infra* n. 4, ¶¶22–23, Table B.

4. *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Report and Order and Further Notice of Proposed Rulemaking, CC Dkt. 94-102, RM-8143, 11 FCC Rcd 18676 (July 26, 1996), recon., 12 FCC Rcd 22665 (1997).

5. Americans with Disabilities Act, 42 U.S.C. §12131 et. seq. (911 provision implemented at 28 C.F.R. §35.162); Section 255 of the Communications Act, 47 U.S.C. §255.

6. Petition for Reconsideration and Clarification of the Mobile and Personal Communications Division of TIA. Hereinafter cited as TIA Petition. Petition for Reconsideration of PCIA; Petition for Reconsideration and Clarification of Omnipoint (all filed on September 3, 1996 in CC Dkt. 94-102).

7. TIA Petition, 15.

8. Opposition and Response to Petitions for Reconsideration of Texas Advisory Commission on State Emergency Communications in CC Dkt. 94-102 (October 9, 1996), 10.

9. NAD Reply Comments in Support of Opposition to Petitions for Reconsideration in CC Dkt. 94-102 (October 18, 1996), 2.

10. Comments of CAN in CC Dkt. 94-102 (October 18, 1996).

11. The group first made this request at a meeting with the FCC on June 4, 1997. This was followed by a written request filed by PCIA: Request for Extension of Time to Implement E911/TTY Compatibility Requirement for Wireless Operators in CC Dkt. 94-102 (August 27, 1997).

12. NAD and CAN Opposition to Request for Extension of Eighteen Months to Implement E911/TTY Compatibility Requirement for Wireless Operators in CC Dkt. 94-102 (September 11, 1997).

*The one limited exception to this is the Sacramento, California, Police Department, which has established a system that enables deaf people to use their pagers to link directly to police stations.

13. See Michael F. Altschul, CTIA, letter to FCC Chairman Reed E. Hundt, September 23, 1997 (requesting an eighteen-month extension, until April 1, 1999); Joint letter of CTIA, PCIA NENA, APCO, and NANSAs, September 25, 1997 (supporting that extension). By contrast, letters from Congresswoman Anna Eshoo (D. Calif.) (sent on September 29, 1997) and the Ad Hoc Alliance for Public Access to 911 (sent on September 30, 1997) opposed a delay in requiring all wireless TTY 911 calls to be capable of reaching public safety authorities. On September 30, 1997, the FCC stayed the TTY mandate until November 30, 1997, so that it could further review the issues. *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Order, CC Dkt. 94-102, DA 97-2119 (September 30, 1997).

14. Andrea D. Williams, CTIA, letter to Dan Phythyon, acting chief, FCC Wireless Bureau with attached consensus of CTIA, PCIA, NAD, TDI, Gallaudet University, and CAN, November 20, 1997.

15. Report of CTIA, PCIA, TDI, APCO, and NENA, NASNA (November 30, 1997).

16. *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Order, CC Dkt. 94-102, RM-8143, DA 97-2530, 12 FCC Rcd 20224 (December 1, 1997); Memorandum Opinion and Order, FCC 97-402, 12 FCC Rcd 22665 (December 23, 1997). Hereinafter cited as 1997 MO&O.

17. 1997 MO&O, ¶54

18. Ed Hall, CTIA and Mary Madigan, PCIA (TTY Forum co-chairs), separate letters to various wireless manufacturers, April 27, 1998.

19. Andrea D. Williams, *ex parte* letter to Magalie Salas, FCC secretary, March 26, 1998 (reporting on meeting between CTIA representatives Ed Hall, Michael Altschul, and Andrea Williams, FCC Wireless Bureau Chief Dan Phythyon, and other FCC employees).

20. See generally, CTIA Forum, *Seeking Solutions to TTY/TDD Through Wireless Digital Systems*, (report on meeting of September 17–19, 1997). At this first meeting of the forum, various advocates and researchers, including Pam Holmes of Ultratec, Toni Dunne of the Texas 911 Commission, APCO and NENA, Dick Brandt of Gallaudet University, and the author (representing the NAD) provided background to the industry members on the need to devise a universal design solution that encompassed ANI, ALI, direct connectivity, VCO, and HCO. Consumers explained that they also did not want to have to register their TTY numbers or otherwise pre-identify themselves to 911 centers if this was not required of the hearing public.

21. In April and July of 1998, the TTY Forum submitted its quarterly status reports to the FCC. Wireless TTY Forum, *Seeking Solutions to TTY Through Wireless Digital Systems*, quarterly status reports (April 10, 1998; July 10, 1998). The reports were specifically submitted by CTIA, PCIA, CAN, Gallaudet University, NAD, and TDI.

22. Andrea Williams, CTIA, and Mary Madigan Jones, PCIA, *ex parte* communication to Dan Phythyon, FCC, September 11, 1998; Edward A. Hall, CTIA and Todd Lantor, PCIA (TTY Forum co-chairs), letter to Dan Phythyon, FCC, September 28, 1998 (letter on behalf of the Wireless TTY Forum supporting the three-month delay).

23. This was done through a meeting held with the FCC on September 24, 1998. Claude Stout, representing TDI, and I, representing the NAD, met with the chief of the FCC's Office of Engineering and Technology, Dr. Dale Hatfield, and FCC employees Elizabeth Lyle, Marty Liebman, and Pam Gregory.

24. Jeffrey Silva, "Disabled Community Concerned over Compliance," *RCR Wireless*, September 30, 1998, 18.

25. *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Order, CC Dkt. 94-102, RM-8143, DA 98-1982, 13 FCC Rcd 21746 (September 30, 1998).

26. Judy Harkins, Al Sonnenstrahl, Claude Stout, David Baquis, and Norman Williams visited with Dr. Dale Hatfield, Pam Gregory, Meryl Icove, and Elizabeth Lyle of the FCC.

27. In addition to Hatfield and Phythyon, other FCC employees working on the wireless TTY issue included Andy Firth, Marty Liebman, Patrick Forster, Kris Monteith, Blaise Scinto, Jerry Stanshine, Mindy Littell, Elizabeth Lyle, and former Wireless Bureau Chief Tom Sugrue.

28. FCC Chairman Kennard, letter to top twenty cellular and top thirteen PCS carriers, October 23, 1998.

29. Thomas Wheeler, letter to FCC Chairman William Kennard, October 28, 1998.

30. Wireless TTY Forum, *Seeking Solutions to TTY through Wireless Digital Systems* (October 13, 1998).

31. *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Order, CC Dkt. No. 94-102, RM-8143, DA 98-2323, 14 FCC Rcd 694 (November 13, 1998), ¶11. Carriers granted future waivers would only be able to maintain that status by filing progress reports every three months.

32. *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Order, CC Dkt. 94-102, RM-8143, FCC 98-345, 14 FCC Rcd 1700 (December 31, 1998); Order, 14 FCC Rcd 3304 (1999).

33. Catherine Greenman, "A Way to Talk on a Cell Phone Without a Word Being Spoken," *New York Times* (February 3, 2000), E4.

34. See generally, "Lucent's TTY Proposal May Have FCC Listening," *Mobile Phone News*, March 8, 1999. The solution was developed by Dr. Steven Benno and Michael Recchione of the Bell Labs Speech and Audio Processing Technologies group.

35. Lucent Technologies, "Bell Atlantic Mobile and Lucent Technologies collaborate on first-ever digital cellular service for hearing and speech impaired," press release, January 26, 2000. In addition, on February 24, 2000, Ericsson sent a letter to the TTY Forum announcing that it would grant nonexclusive, royalty-free licenses under Ericsson patents that were needed to achieve TTY compatibility with wireless systems. Charles Moore, Ericsson, letter to TTY Forum, February 24, 2000.

36. Ed Hall and Todd Lantor (TTY Forum co-chairs), "TTY Forum Update," memorandum to forum members, March 22, 1999.

37. See *Wireless Telecommunications Bureau Reports on Status of Pending TTY Waiver Petitions*, FCC Public Notice, CC Dkt. 94-102, DA 99-895 (May 13, 1999); *Wireless Telecommunications Bureau Seeks Comment on New Implementation Deadline for TTY Access to Digital Wireless Systems for 911 Calls*, FCC Public Notice, CC Dkt. 94-102, DA 00-1091, 15 FCC Rcd 8860 (May 17, 2000).

38. Comments of CAN, Gallaudet, NAD, RERC-TA, SHHH, and TDI in Dkt. 94-102 (July 19, 2000).

39. *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, Fourth Report and Order, CC Dkt. 94-102, FCC 00-436, 15 FCC Rcd 25216 (December 14, 2000), codified at 47 C.F.R. §20.18(c). In this order, the FCC also permanently dismissed all 104 waiver petitions that were still pending.

POSTSCRIPT

A Light at the End of the Tunnel . . . and into the Future

WHEN I WAS a child growing up in New York, often my mother and I would drive from our home in Brooklyn to pick up my father at his office in lower Manhattan. The trip entailed driving through the long and dimly lit Brooklyn Battery Tunnel; wending our way through those twisting and dingy corridors always seemed to take forever. Although I disliked the ride, I always knew that at the end of the tunnel there would be a light—my father—that would make the trip worthwhile.

The journey for telecommunications access undertaken by Americans who are deaf and hard of hearing has also been long and arduous. Decades have passed as advocates have poured sweat and tears into seemingly endless and often frustrating efforts to open up the doors to equality. Often tensions have run high, especially when consumers felt that their needs were being ignored. A look back at this history reveals a somewhat troubling pattern, in which telecommunications companies—driven by the market pressures endemic to a highly competitive industry—would all too often roll out innovative but inaccessible technologies, while lawmakers—reluctant to regulate in ways that might impede competition and innovation—stood on the sidelines. If the new technologies proved popular among the general public, consumers with disabilities would protest at having been left behind, intensifying their efforts until governmental mandates were issued to correct the original market deficiencies. Unfortunately, by the time advocates were successful in securing these protections, retrofitting the original technologies for accessibility would require substantial burden and expense. More often than not, companies would resist making the needed changes, compelling consumers to double their efforts just to be on an equal footing with their hearing peers. Sometimes this progression of events took so long that by the time the desired accessibility was finally achieved, it was no longer needed, having been replaced by newer innovations.*

There is no telling how often these various stumbling blocks on the road to telecommunications equality produced disappointment, resentment, and even anger. But while efforts to achieve telecommunications access over the past several decades have

* For example, it took so long to make TTYs compatible with digital wireless services that by the time this was accomplished, the deaf community had all but migrated to pagers and other advanced technologies. Similarly, although the nine-year endeavor to secure 711 access to relay services was ultimately successful, only a few years later, new text and video Internet-based relay services (accessed via websites), began to replace TTY-based services that use 711 dialing for many relay users.

been fraught with setbacks, the light at the end of this tunnel always has been reward enough to continue its pursuit. Through the perseverance of dedicated advocates, our nation now has a string of federal telecommunications access laws that have created new opportunities in and access to employment, education, entertainment, government, and commerce. Federal legislative mandates for hearing aid compatibility, nationwide relay services, closed captioning, emergency services, and accessible telecommunications products and services now proclaim that equal access to communication is a civil right owed to all Americans.

Very often, Congress has seen fit to impose these disability safeguards where it otherwise has taken a deregulatory approach. For example, the Telecommunications for the Disabled Act of 1982 permitted the continued cross subsidization of specialized equipment, such as TTYs, with fees collected for telephone services, even though this was disallowed for mainstream products. Similarly, Section 255 of the Telecommunications Act of 1996 imposed telecommunications access mandates amidst the general deregulation of the telecommunications industry. Moreover, nearly all of these telecommunications access laws have enjoyed bipartisan support, often crossing party lines when it was least expected. One reason is that countless lawmakers themselves have a disability or have family members with disabilities. And even those that do not need accessibility at the time that a piece of disability legislation crosses their desks, often recognize that requiring access offers an insurance policy for their senior years, when their own hearing, eyesight, or mobility might diminish.

Accompanying these legal mandates have been remarkable technological innovations that have had a liberating effect on the lives of people who are deaf and hard of hearing. Although the ability of the TTY to handle real-time, simultaneous communication still makes this analog equipment the single most effective means of summoning assistance in an emergency, increasingly, over the past decade, this device has been replaced by advanced mainstream technologies that include paging, short messaging services, instant messaging, web-based chat, and other electronic communications.* If the family's TTY used to enjoy a prominent place on bedroom dressers and kitchen counters, it is now relegated to darkened basements and the recesses of hallway closets. Although the ease and reliability of the TTY made it the communication method of choice for the deaf community throughout the second half of the twentieth century—and will likely cause this device to remain around for a bit longer, especially in the homes of older and rural Americans—most agree that it is only a matter of time before the inability of the TTY to keep up with the versatility of advanced, digital-based technologies will cause its total demise.†

*On occasion, individuals with hearing loss were amongst the earliest adopters of these technologies. For example, as far back as the 1970s, members of the deaf community experimented with computerized communications networks, such as Deafnet, long before most members of the general public had even heard of e-mail or other online messaging services. However, it was not until these electronic innovations gained widespread popularity within the mainstream population that they truly started benefiting deaf and hard of hearing communities on a more global scale.

† In addition to the TTY's general lack of compatibility with many digital devices, the protocol used in American TTYs has never been compatible with most protocols used by text devices in European and other countries. In the mid-1990s, Dick Brandt, working with Gallaudet's Technology Assessment Program, was successful in attempting to bridge this gap with the creation of V.18, a worldwide standard that could be incorporated into conventional computer modems to allow communication across



While often challenging, collaborative consumer–industry forums have at times succeeded in breaking down attitudinal barriers by giving industry insight into the needs of people with disabilities and consumers a better understanding of product design processes. Shown here are consumer, industry and governmental representatives who at various times have experienced the benefits of working together to produce mutually agreeable accessibility solutions. Left to right, Ron Barnes (CTIA) Nancy Bloch (NAD), Mary Brooner (Motorola), Elizabeth Lyle (FCC), Jenifer Simpson (FCC), the author, Al Sonnenstrahl (CSD), Brenda Battat (Hearing Loss Association of America, formerly SHHH), Richard Ellis (Verizon) Claude Stout, TDI.

The past decades have also witnessed significant shifts in societal attitudes toward individuals with disabilities. Well into the 1980s, telecommunications companies equated the provision of access with a charitable privilege that could be granted, rather than a civil right that had to be guaranteed. Over time, these condescending attitudes have given way to a greater understanding of the needs of people with disabilities, in part a byproduct of the laws that have forced companies to find access solutions, but also the result of non-confrontational and collaborative consumer–industry forums that have convened over these many years.* By providing industry with greater insight and sensitivity into the needs of people with disabilities and giving consumers a better comprehension of manufacturing and design processes, these forums have softened animosities and proven the ability of consumers and industry to work together and reach mutually agreeable solutions. As our society prepares for the convergence of telephone, television, and computer applications and untold

various TTY protocols. Although a United Nations standards group (the International Telecommunication Union/Telecommunication Standards Bureau) eventually approved this specification, computer manufacturers never adopted the voluntary standard. Fortunately, the ability to conduct communications over the Internet has finally helped to eliminate some of the barriers that previously existed between deaf people located in different countries.

* These forums included the Telecommunications Access Advisory Committee, which developed guidelines for Section 255; the Electronic and Information Technology Advisory Committee, which drafted consensus guidelines for Section 508's mandates for electronic and information access by federal agencies; and the hearing aid compatible negotiated rulemaking committee, which revised the FCC's rules for making wireline phones compatible with hearing aids. Similarly, the Web Accessibility Initiative of the World Wide Web Consortium, under the direction of leading disability advocate Judy Brewer, continues to foster dialogue among disability organizations, industry, researchers, and government to make the Web accessible by people with disabilities.

advancements in the field of communications, this ongoing and open dialogue between industry and consumers will take on an even greater importance.¹

A New Wave of Legislation: Calling all Vigilantes

In the early 1990s, as new wireless and cable services were gaining a foothold in American society, lawmakers took it upon themselves to reevaluate the extent to which they wanted to hold these new industries accountable to the same legal mandates that applied to the wireline and broadcast services that preceded them. Several legislators were concerned about the inequities of requiring some, but not all, companies across competing industries to meet certain social and economic obligations.²

Only a little more than a decade later, history is repeating itself, only this time the new entrants are manufacturers and providers of Internet-based technologies, including voice-over Internet protocol, or VoIP. The Internet-based broadband communication technologies now sweeping the nation offer extraordinary benefits to people who are deaf and hard of hearing in terms of mobility and versatility. Not only can these high-speed technologies allow the carriage of voice, text, and video through a single piece of equipment, and over a single network, but also the ability to select multiple interactive functions from among various communication modes can enable users to choose the format best suited to their needs or even to switch among multiple modes during a single conversation.³ Similarly, sending cable television transmissions over the Internet can enhance the television experience by allowing viewers to easily scroll through channels, order products from Internet sites while watching TV, and even choose their preferred camera angle while watching live programs.⁴ Viewers are also becoming enticed with using Web-based TV services to access older television shows, Web clips, flash animations, and television programs from their cell phones.⁵

But just as easily as Internet-based innovations can bring about greater opportunities, so too can these technologies result in dependence and isolation if they are not designed in a manner that provides full accessibility to their users. For example, firewalls already are known to block the passage of text or video over the Internet where voice communications can otherwise pass. And both point-to-point and relay-based video communications currently have no uniform numbering scheme equivalent to the North American Numbering Plan, making it difficult for people who use sign language to readily identify and call one another regardless of their service providers.* Similarly, manufacturers of future technologies need to be concerned with

* Although video-based users have Internet addresses, these are dynamic—they are constantly changing, and therefore unreliable for receiving calls. Although each VRS provider has created a more dependable, short-cut method of identifying its end users for incoming calls, because these vary across provider, the resultant haphazard arrangement discourages calls from hearing persons, who need to know multiple ways of calling their full universe of deaf contacts. As a consequence, while VRS usage for calls initiated by deaf and hard of hearing individuals has soared over the past two years, calls from hearing people have accounted for scarcely 1–2 percent of all VRS minutes. The lack of a nationwide VRS numbering system also creates considerable problems for point-to-point video users, who are without a consistent and uniform means of calling one another. In November 2005, CSD put in a request to the North American Numbering Council (NANC) to develop a uniform scheme that will allow video communication users to access other users with the same ease that PSTN and VoIP users are able to identify and call one another. NANC has referred the matter to the Industry Numbering Council of ATIS, the very same group that considered the need for 711 relay access back in the 1990s.

how consumers with disabilities will be able to operate the features and functions of their new products. An article in Microsoft's *Executive Circle* magazine in June of 2003 noted the extraordinary accuracy with which voice recognition technologies can enable computers to understand and respond to human speech.⁶ This technology is said to be able to cut costs, increase consumer satisfaction, and enhance worker productivity. But if this became the *only* method of interacting with computing devices, it would create a new barrier for people who are deaf or hard of hearing.

In 2000, Gallaudet University honored former FCC Chairman William Kennard at its commencement ceremonies for his role in expanding telecommunications access. As Kennard gave his address, the graduating seniors chatted away, exuberant at having reached this special day, but seemingly unaware of the significance of their speaker's presentation. Some might say that the excitement of the day simply distracted these graduates from the chairman's heartfelt words. But it seemed more likely that these students were already taking for granted the access that had now become a routine part of their lives.

My, what a difference a few decades make.

The truth is that these students had grown up with many of the technologies that were the subject of the Chairman's speech. Closed captioning, relay services, hearing aid compatible telephones . . . these were now routine for the young attendees. And unlike their deaf parents—who frequently had to travel across town simply to deliver a message—these students had a plethora of advanced telecommunications options now open to them. But as we enter a new era that will bring technological innovations that we cannot yet begin to imagine, it is critical that they and other future deaf leaders remember the struggles fought for equal telecommunications access, as well as the passion and determination of the pioneers behind those struggles.

As Congress grapples with many of the same questions that it was forced to address more than a decade earlier, advocates need to be proactive, to ensure that the newest breeds of Internet-based communication products and services are required to be accessible by people with hearing loss, so that these persons are neither relegated to obsolete technologies nor forced to rely on adaptive or difficult-to-find “specialized” equipment.⁷ Text and video communication must be available with the same reliability, ease, interoperability, and instantaneous access as voice communications.

* * *

This book was as much an effort to chronicle the extraordinary quest for the legal right to telecommunications access, as it was to provide guidance for the future advocates who will be continuing this journey. Significant inroads toward achieving telecommunications parity have been made, but now is not the time to become complacent. Prospective advocates and policymakers can and should adhere to the intent behind the laws and policies that have shaped our nation's safeguards for telecommunications equality and learn from the successes and mistakes of their predecessors. Tomorrow's technologies hold tremendous promise for the increased productivity, self-sufficiency, and empowerment of people who are deaf and hard of hearing, but as the pace of technological innovation continues to accelerate, we must be vigilant in order to ensure that the successes so painstakingly won in the past are carried into the future.

Notes

1. Increased communication between telecommunications companies and the deaf community can also enhance the profitability of these companies' ventures. For example, T-Mobile's decision to offer a data-only plan for SideKick, its all-in-one mobile device (which provides cell-phone access, e-mail, instant messaging, and Web access), occurred after the deaf community communicated its resistance to paying for voice minutes, and has proven highly successful. Jon Fortt, "Signs of the Times," *Mercury News*, May 8, 2003, 1E. See also Ian Fried, "T-Mobile's Sidekick Springs into Color," *CNET News*, June 5, 2003.

2. Congressman Edward Markey (D-Mass.), letter to Acting FCC Chairman James Quello, February 12, 1993.

3. Gregg Vanderheiden, "Expanded Opening Remarks," (presentation, FCC Voice-Over Internet Protocol Services Forum, December 1, 2003); Comments of the RERC-TA in *IP Enabled Services*, WC Dkt. 04-36 (May 28, 2004).

4. Statement of Lea Ann Champion, SBC Communications Inc., Hearings before the Subcommittee on Telecommunications and the Internet of the House Committee on Energy and Commerce on "How Internet Protocol-Enabled Services are Changing the Face of Communications: A Look at Video and Data Services," 109th Cong., 1st Sess. (April 20, 2005).

5. Lee Gomes, "Web TV Is Changing the Way Programming Is Watched and Sold," *Wall Street Journal* (May 10, 2004), B1.

6. Elisabeth Horwitt, "Speech Recognition—Talking Points," *Microsoft Executive Circle* 3 (Fall 2003): 31.

7. See Statement of Karen Peltz Strauss before the Subcommittee on Telecommunications and the Internet of the House Committee on Energy and Commerce on "How Internet Protocol-Enabled Services Are Changing the Face of Communications: A View from Government Officials," 109th Cong., 1st Sess. (April 27, 2005). The testimony was presented on behalf of the Alliance for Public Technology (APT), American Association of People with Disabilities (AAPD), AFB, ALDA, DHHCAN, NAD, SHHH, and TDI; Statement of Dr. Frank G. Bowe before the Subcommittee on Telecommunications and the Internet of the House Committee on Energy and Commerce on staff discussion draft of legislation to create a statutory framework for Internet protocol and broadband services, 109th Cong., 1st Sess. (November 9, 2005). Bowe's testimony was on behalf of AAPD, ACB, AFB, ALDA, APT, California Coalition of Agencies Serving the Deaf, Hard of Hearing, Inc., CSD, DHHCAN, Deaf and Hard of Hearing Service Center, Inc., Inclusive Technologies, NAD, NCAM, NVRC, SHHH, TDI, and WID.

APPENDIX A

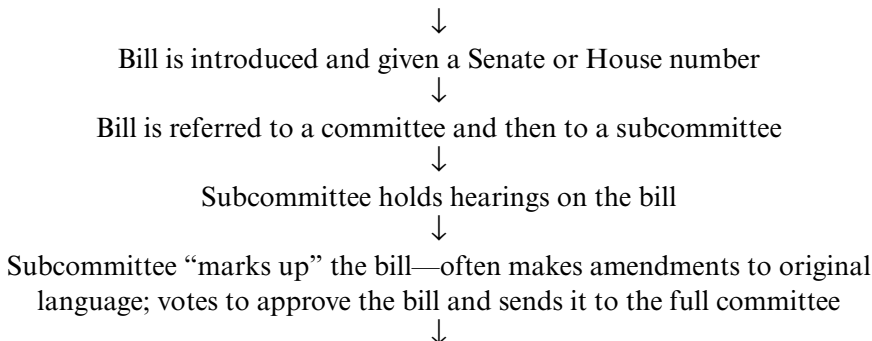
A Road Map for Achieving Legislative and Regulatory Change for Telecommunications Access

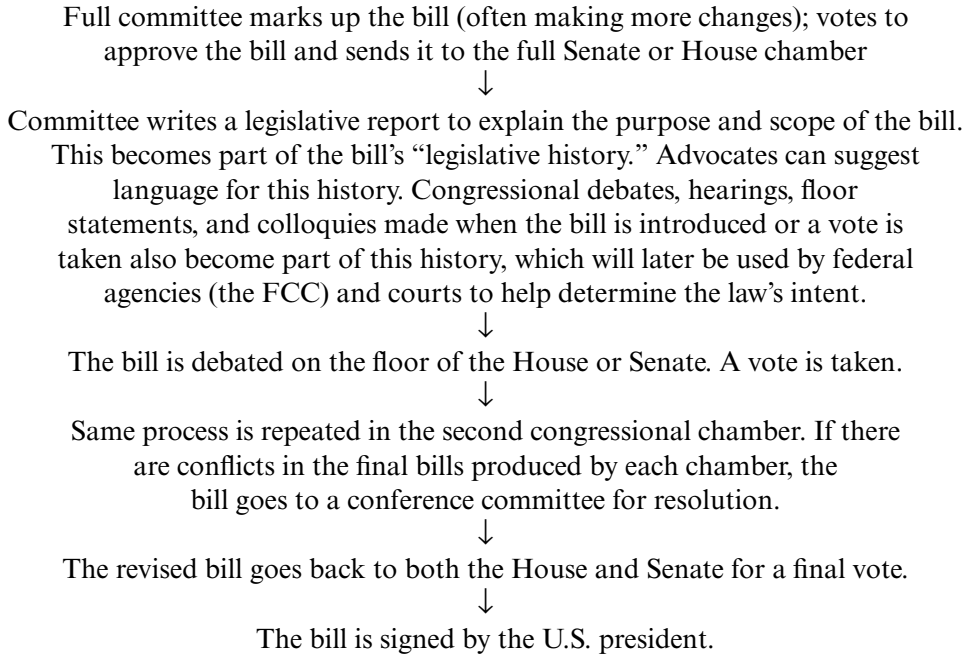
Legislative Change

The following steps can assist in achieving legislative change for telecommunications access:

1. Bring the idea for improved telecommunications access to national and local consumer organizations to develop a consensus for going forward.
2. Examine existing laws to determine how similar problems have been addressed in the past.
3. Gather facts and supporting documents to demonstrate the impact that providing such access will have on people with disabilities and society in general. These should include:
 - real-life examples supporting the need for access
 - information on prior experiences that local, state, or private entities have had in providing this type of access
 - the costs and feasibility (technical, legal, practical) of going forward with the access proposal
4. Explore and discuss the concept with companies likely to be affected.
5. Build support through coalitions of organizations, grass-roots communities, and, if possible, industry stakeholders.
6. Bring the idea, now fully supported and documented, to congressional policymakers and work with a senator or House representative to draft a bill.

The Federal Legislative Process

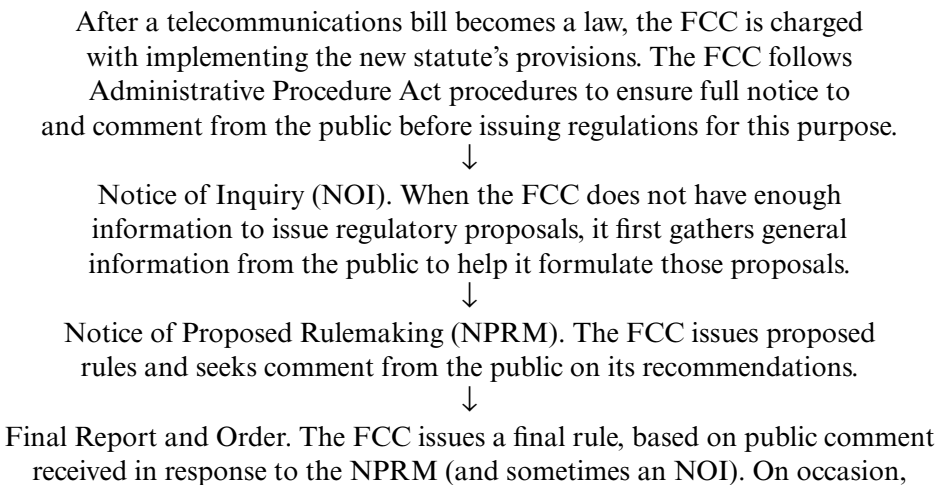




Regulatory Change

There are far fewer hurdles to achieving regulatory change for telecommunications access than legislative change. Generally, the same initial steps should be followed—advocates should build support among consumers and industry and gather documentation in support of the requested change. Sometimes change can be effectuated simply by commenting on a notice for public comment released by the FCC (described below). Other times, consumers need to initiate a proceeding by filing their own petition for rulemaking.

The FCC Regulatory Process



the FCC will need additional feedback from the public on matters related to the new regulations and will issue a Further Notice of Proposed Rulemaking (FNPRM) to gather more input.



Order on Reconsideration. Members of the public who oppose the final rule may petition for reconsideration. After reviewing the arguments presented, the FCC issues a new order, resolving the contested issues.



Court Challenge. After the FCC has issued an order on reconsideration, parties still have the right to challenge the Commission's actions in a federal court, if the parties believe that the FCC has acted arbitrarily and capriciously, or has not followed congressional intent.

Top Ten Tips for Telecommunications Advocacy: Lessons Learned from the Past

1. *Identify the correct policymakers.* Determine whether a regulatory or legislative change is needed. If a law already provides authority for the FCC to take action on the matter under concern, a new regulation may suffice. If not, new legislation will be necessary.
2. *Find champions to support the cause.* Finding someone in a high position of authority who can work internally to push the issue along will prove to be invaluable. Work with that individual to help build the case with other policymakers.
3. *Be armed with facts.* Information and experiences to substantiate the proposed change will be critical to secure support from regulators and legislators. Also be prepared to make in-person visits. Written submissions are helpful, but will not make the same impression as a face-to-face presentation.
4. *Approach change realistically.* Knowing the practical and technical limitations of the issues at hand is critical. Policymakers will want to know both the benefits and disadvantages of the proposal. Become familiar with arguments to counter any potential drawbacks.
5. *Be flexible.* Negotiation and compromise may often be necessary to achieve the objectives. Understand that giving in on a point now does not mean giving up forever. Progress is incremental—minor advances now can make it easier to secure improvements later.
6. *Be reasonable.* Advocates are far more successful when their approach is rational. In addition, lawmakers will be more likely to accommodate a request if there is a way to make the proposed change fit within the existing regulatory or legislative framework.
7. *Pick your battles.* Prioritize the issues to decide what is worth fighting for and what can be relinquished. Do not “sweat the small stuff” if it means prevailing on bigger issues.
8. *Seek change at the appropriate time.* The timing of the request may influence its outcome. Be on the look-out for strategic periods, for example, the introduction

of related legislation or the pending release of new rules. Approaching Congress or the FCC may be advantageous during these periods.

9. *Be patient, but persistent.* Change often takes years to accomplish. This can be frustrating, but advocates should not easily give up, even if temporarily defeated. Also be aware that lawmakers juggle multiple items at any one time, and the timing of progress on your issue may be influenced by other matters capturing the attention of these policymakers.
10. *Use your passion.* The civil rights movement has always thrived on the passion of its advocates. Efforts to secure telecommunications access have rested upon the real-life experiences of the individuals driving those efforts. Along with hard facts, examples that portray the need for access are not only persuasive; they can also help decision-makers to better understand your position by comparing them with their own life experiences.

ABBREVIATIONS

- AAES. Association of Access Engineering Specialists
AAPD. American Association of People with Disabilities
AARP. American Association of Retired Persons
ACB. American Council of the Blind
Access Board or ATBCB. Architectural and Transportation Barriers Compliance Board
ACLU. American Civil Liberties Union
ACTS. Automated Coin Telephone System
ADA. Americans with Disabilities Act
ADAAG. ADA Accessibility Guidelines
AFB. American Foundation for the Blind
AG Bell. Alexander Graham Bell Association for the Deaf and Hard of Hearing
AIS. Accessibility Impact Statement
ALDA. Association of Late-Deafened Adults
ALI. automatic location identification (for emergency 911 calls)
ANI. automatic number identification (for emergency 911 calls)
ANSI. American National Standards Institute
APA. Administrative Procedure Act
APC. American Personal Communications
APCO. Association of Public-Safety Communications Officials
APCOM. Applied Communications Corporation
APT. Alliance for Public Technology
APTS. America's Public Television Stations
ASCII. American Standard Code for Information Interchange
ASDC. American Society for Deaf Children
ASHA. American Speech Hearing and Language Association
ASL. American Sign Language
AT&T. American Telephone and Telegraph Company
AT&T-IS. AT&T Information Systems
ATIS. Alliance for Telecommunications Industry Solutions
- CAD. Canadian Association of the Deaf
CAN. Consumer Action Network (later renamed DHHCAN)
CARS. Computer Assisted Relay System
CATA. Cable Telecommunications Association
CC. Common Carrier Bureau (FCC)

- CCD Task Force. Consortium of Citizens with Disabilities Task Force on Telecommunications and Communications Accessibility
- CDMA. Code Division Multiple Access (a type of wireless transmission)
- CDTAC. Disability/Consumer Telecommunications Advisory Committee
- CEPIN. Community Emergency Preparedness Information Network
- CFA. Consumer Federation of America
- CGB, CG. Consumer and Governmental Affairs Bureau (FCC)
- CIA. Central Intelligence Agency
- CIB. Consumer Information Bureau
- COED. Commission on Education of the Deaf
- COR. Council of Organizational Representatives (on National Issues Concerning People who are Deaf and Hard of Hearing)
- COSD. Council of Organizations Serving the Deaf
- CPB. Corporation for Public Broadcasting
- CPE. customer premises equipment
- CPU. central processing unit (in computers)
- CSCN. Canadian Steering Committee on Numbering
- CSD. Communication Service for the Deaf
- CTIA. Cellular Telecommunications Industry Association (later renamed Cellular Telecommunications and Internet Association)
- CWA. Communications Workers of America
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- DA. delegated authority (for FCC proceedings)
- DDTP/CTAP. Deaf and Disabled Telecommunications Program/California Telephone Access Program
- DEAFWATCH. Demanding Equal Access to Facts and Warnings Aired on Television for Citizens who are Hearing Impaired
- DHHCAN. Deaf and Hard of Hearing Consumer Advocacy Network (previously CAN)
- DHS. U.S. Department of Homeland Security
- DITF. Disabilities Issues Task Force
- Dkt. docket (for FCC proceedings)
- DOJ. U.S. Department of Justice
- DPN. Deaf President Now
- DRO. Disability Rights Office
- DTV. digital television
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- E911. enhanced 911
- EAS. Emergency Alert System
- EASE. Emergency Access Self-Evaluation (TDI kits on handling emergency TTY calls)
- EBO. Embedded Base Organization
- EBS. Emergency Broadcasting System
- EEAC. Equal Employment Advisory Council
- EIA. Electronic Industries Association or Electronic Industries Alliance
- EITAAC. Electronic and Information Technology Access Advisory Committee

FCC. Federal Communications Commission
FDA. Food and Drug Administration
FEMA. Federal Emergency Management Authority
FRS. Federal Relay Service

GAO. General Accounting Office
GLAD. Greater Los Angeles Council on Deafness, Inc.
GRI. Gallaudet Research Institute
GSA. General Services Administration
GSM. Global System for Mobile Communications (a type of wireless transmission)
GTE. General Telephone & Electronic Service Corporation
GWU. George Washington University

HAC. hearing aid compatible
HCO. hearing carryover
HEAR-IT NOW. Helping Equalize Access Rights in Telecommunications Now
Coalition
HEW. U.S. Department of Health, Education and Welfare
HHS. U.S. Department of Health and Human Services
HIA. Hearing Industries Association

ICC. Interagency Coordinating Council on Emergency Preparedness and
Individuals with Disabilities
ICCF. Industry Carrier Compatibility Forum
IDEA. Individuals with Disabilities Education Act
IPR. Institute for Public Representation (Georgetown University law clinic)
IVR. interactive voice response

LATA. Local Access Transport Area
LHH. (New York) League for the Hard of Hearing

MFJ. Modified Final Judgment (court decree directing AT&T divestiture)
MM. Mass Media Bureau (FCC)
MRS Workshop. Message Relay Service Access Workshop (Canada)

NAB. National Association of Broadcasters
NAD. National Association of the Deaf
NANC. North American Numbering Council
NANPA. North American Numbering Plan Administrator
NARUC. National Association of Regulatory Utility Commissioners
NASNA. National Association of State Nine One One Administrators
NASRA. National Association of State Relay Administration
NATA. North American Telephone Association
NCAM. National Center for Accessible Media
NCD. National Council on Disability
NCI. National Captioning Institute

- NCLD. National Center for Law and the Deaf (later renamed National Center for Law and Deafness)
- NCTA. National Cable Television Association
- NECA. National Exchange Carriers Association
- NENA. National Emergency Number Association
- NRTA. National Retired Teachers Association
- NSNC. AT&T National Special Needs Center
- NTIA. National Telecommunications and Information Administration
- NTID. National Technical Institute for the Deaf
- NVRC. Northern Virginia Resource Center for Deaf and Hard of Hearing Persons
- NVRSC. National Video Relay Services Coalition
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- OCP. optional calling plan
- OET. Office of Engineering and Technology (FCC)
- OMB. Office of Management and Budget
- OSD. Operator Services for the Deaf
- OUT. Organization for Use of the Telephone
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- Pac Bell. Pacific Bell Mobile Services
- PBS. Public Broadcasting System
- PC. personal computers
- PCEPD. President's Committee on Employment of People with Disabilities
- PCIA. Personal Communications Industry Association
- PCS. personal communication services (digital wireless services)
- PCTV. personal computer with television circuitry
- PN. public notice
- PSAP. public safety answering point
- PSC. public service commission
- PSTN. public switched telephone network
- PUC. public utility commission
-
- RBOCs. regional Bell telephone companies (also called Baby Bells)
- RERC-TA. Rehabilitation Engineering Research Center on Telecommunications Access
- RF. radio frequency
- RIAA. Recording Industry Association of America
- RM. rulemaking (for FCC proceedings)
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- SCPE. specialized customer premises equipment
- SHHH. Self Help for Hard of Hearing People (later renamed Hearing Loss Association of America)
- SSA. U.S. Social Security Administration
- STS. speech-to-speech relay services
- SWBT. Southwestern Bell Telephone Company

TAAC. Telecommunications Access Advisory Committee
TAEA. Telecommunications Accessibility Enhancement Act
TAN. Telecommunications Advocacy Network
TCA. Tele-Communications Association (later renamed to Information Technology and Telecommunications Association)
TDA. Telecommunications for the Disabled Act
TDD. telecommunications device for the deaf (alternative name for TTY)
TDI. Telecommunications for the Deaf, Inc.
TDMA. time division multiple access (a type of wireless transmission)
TEDI. Telecommunications Exchange for the Deaf, Inc.
TEDPA. Telecommunications Equipment Distribution Program Association
TFA. Telephone for All (consumer e-mail distribution list)
THIC. Telecommunications for the Hearing Impaired Consumer Forum
TIA. Telecommunications Industry Association
TND. Telecommunications Network for the Deaf
TOBI. Television Online Bi-screen Information System
TOPS. Traffic Operator Position System
TRAC. Telecommunications Research and Action Center
TRS. telecommunications relay services
TSP. Telecommunications Service Priority (for restoration of telecommunications networks)
TTY. teletypewriter, text telephone
TVFA. Television for All Coalition

UCPA. United Cerebral Palsy Association
UPI. United Press International
USITA. United States Independent Telephone Association
USTA. United States Telephone Association

VCO. voice carryover
VETS. Video Enhanced Telephone Service
VoIP. Voice over Internet Protocol
VRS. video relay services

WAGHOH. Washington Area Group for the Hard of Hearing
WID. World Institute on Disability

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