

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

JUL 27 1994

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

|   |   |           |
|---|---|-----------|
| In the Matter of:                       | ) |           |
|   | ) |           |
| Petition for Relief From Unjust and     | ) | RM-8491   |
| Unreasonable Discrimination in the      | ) |           |
| Deployment of Video Dialtone            | ) |           |
| Facilities                              | ) |           |
|   | ) |           |
| Petition for Rulemaking to Adapt The    | ) | DA 94-621 |
| Section 214 Process to the Construction | ) |           |
| of Video Dialtone Facilities            | ) |           |

**REPLY COMMENTS  
OF THE  
UNITED STATES TELEPHONE ASSOCIATION**

The United States Telephone Association (USTA) files these reply comments in order to highlight the LEC industry's commitment to universal service and describe the positive role LECs can play in the National Information Infrastructure (NII). USTA believes that it is absolutely timely to re-examine universal service issues in light of new technology, new services and a competitive market structure. However, the video dialtone application process is not the proper forum for this inquiry. The Commission should promptly open a docket to address all facets of universal service.

In their initial comments, the companies that have video dialtone applications pending before the FCC clearly demonstrated that their plans are in the public interest

and should be promptly approved. These local exchange carriers have presented persuasive evidence that any concerns about "redlining" in connection with their video dialtone plans are misplaced.

The Commission itself has previously indicated that, in this early stage of video dialtone's development, it would be flexible in its approach.<sup>1</sup> In fact, the Commission recognizes that market demand, not regulatory fiat, should be the driver for the development of video dialtone services (*id.* at 5806). The FCC also recognizes that the level of consumer demand and the ultimate service configurations are far from certain (*id.* at 5832), and that regulatory restriction of the evolution of video dialtone service is inappropriate (*id.* at 5812). The Commission indicated that the public interest is best served by allowing the nascent video dialtone services to develop, without delay and unfettered by the premature consideration of a myriad of regulatory issues that may ultimately prove not be relevant to the new service (*id.* at 5820).

A number of commentors raised broader questions as to how the principals of universal service ought to be considered by the FCC in the context of video dialtone. USTA certainly believes that universal service is essential to the continued viability of the public network and the vitality of the American economy. But USTA strongly disagrees with commentors that simply assume that universal service includes video dialtone. In fact, there is clearly no societal consensus that video dialtone is a part of universal

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<sup>1</sup>See Telephone Company-Cable Television Cross-Ownership Rules, Sections 63.54-63.58, Second Report and Order, Recommendation to Congress, and Second Further Notice of Proposed Rulemaking, 7 FCC Rcd 5781 at 5804 (1992) ("Video Dialtone Order").

service.

A review of all the comments filed in this docket, regardless of position, highlights the fact that universal service issues have become more complex. With the introduction of new technology making so many new services possible, and with the telecommunications market becoming increasingly competitive, it is surely time to re-examine how best to maintain our national policy of universal service. But this proceeding is not an effective forum for resolving these broad policy issues. USTA has in the past and continues to advocate a comprehensive, national proceeding to address universal service issues so that we can continue to meet customer needs and universal service requirements as competition is introduced and the information super-highway is deployed.

In the attached position paper "USTA and Universal Service: Meeting Customer Requirements into the 21st Century," we show that existing regulatory tools like internal subsidy mechanisms and public policy pricing methods are no longer sustainable in today's rapidly evolving marketplace. (See Attachment 1.) While the existing tools may be adjusted or supplemented in some markets, a transition to new mechanisms and a new regulatory paradigm needs to be developed and tested.

USTA believes there is wide agreement that universal telephone service now encompasses voice-grade access to the public switched network, touch tone, single-party service, directory listing, access to operator services and directory assistance, and access

to emergency services (*id.* at 2-3). We recognize that marketplace demand and emerging technologies necessitate continual review of the components of universal service for potential expansion. Any expansion of universal service must not distort consumers choices by unfairly burdening any one provider with the cost of providing new services (*id.* at 5). Under today's regulatory model, LECs support lower rates for residential and other high-cost services with artificially higher rates for lower-cost services. LECs' competitors currently are unencumbered by our industry's long tradition of financial support of universal service and are therefore free to serve the low-cost segments by charging low rates.

For competition to flourish among various providers of all types of communications services, all participants in the industry must share responsibility for universal service, and LECs must be allowed to enter new markets unencumbered by needless, yet stringent, regulatory requirements. If the current universal subsidy system is further complicated by a requirement to deploy video dialtone universally, then consumer choices in an advanced, market-driven telecommunications will be impaired because the LECs have an impossibly heavy burden that no one else shares. Such a scenario would not serve the public interest or meet the Commission's stated policy of nationwide accessibility to advanced telecommunications networks in the context of market demand. (Video Dialtone Order at 5806.)

The development of a National Information Infrastructure (NII) holds the promise of improving the quality of life for all Americans. Video dialtone is merely one aspect of

that infrastructure. In turn, the question of the role government should play in encouraging NII deployment is one of a number of universal service issues. USTA believes that the public switched network and local exchange carriers have a critical role to play in the NII.<sup>2</sup> Indeed, USTA's member companies have already acted to build many components of the information superhighway to meet the diverse needs of their customers, including end users, carriers, information service providers, and application developers. Given the proper regulatory framework, the public switched network can continue to easily and efficiently serve as the network foundation for the NII. (See Attachment 2 at 1-2.) But that regulatory framework must be addressed in a holistic way in a proceeding on universal service. Individual video dialtone applications are not an effective means to resolve these vital policy questions. USTA again urges the FCC to begin this universal service proceeding.

Respectfully submitted,

UNITED STATES TELEPHONE ASSOCIATION

BY 

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<sup>2</sup>USTA recently released a paper that describes the positive and vital role LECs play in the NII. A copy is included as Attachment 2.

# **USTA AND UNIVERSAL SERVICE:**

**Meeting Customer Requirements into the 21st Century**

**April 1994**

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## USTA and Universal Service: Meeting Customer Requirements into the 21st Century

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America is at a cross-roads in telecommunications: seeking to expand competitive advanced telecommunications and information choices for as many consumers as possible, while at the same time seeking to maintain a historic commitment and support to provide services to all consumers. This commitment to universal service consists of two key components: availability and affordability.

USTA applauds the dedicated work and comprehensive proposals put forth by the Administration, Congress, the FCC, state regulators, and others. USTA agrees with many of these proposals that a comprehensive, national proceeding to address universal service is necessary in order to meet customer and universal service requirements as competition is introduced and the information super-highway is deployed.

Regulatory paradigms of the past were designed to promote universal telephone services to all citizens through a package of inter-dependent policy tools. These tools included holding rates for some services below market levels in many areas; the creation of explicit support mechanisms; internal support flows, and; carrier of last resort obligations within exclusive franchises. With these regulatory tools, which were part of a form of social contract between regulators and the telecommunications industry, America's local exchange carriers (LECs) have successfully achieved an average penetration level of over 94%, although penetration to certain segments of society must still be addressed.

The existing package of regulatory tools is no longer sustainable in today's rapidly evolving telecommunications markets. While existing tools may be adjusted or supplemented in some markets, a transition to new mechanisms and a new regulatory paradigm needs to be developed and tested in many markets. Current social contracts are no longer feasible, or, in many cases, desirable. Competitive barriers have fallen through numerous technological and regulatory changes. America is at the threshold of a new era.

It is essential for America to adopt a dynamic, forward-looking telecommunications policy. The Universal Service policy vision should promote the continued widespread availability of telecommunications services throughout the United States and universal accessibility to the advanced information superhighway. Wherever possible, this development should be determined by the forces of the competitive market, which will ensure that services are responsive to customers' needs, and that investment in America's telecommunications infrastructure will be made efficiently. Where the market cannot be relied upon, universal service policy should continue to ensure that the benefits of the telecommunications super-highway are available to all citizens.

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## THE HALLMARKS OF THE USTA UNIVERSAL SERVICE POLICY ARE:

- **Reliance on Market Forces**, wherever feasible, to establish reasonable prices and guide the development of new services;
- **Availability** of universal services to all consumers;
- **Periodic Review** of services included as part of the Universal Service policy vision;
- **Deployment** of additional telecommunications and information services to schools, libraries, hospitals, and citizens with disabilities;
- **Affordability** of targeted services;
- **Incentives** for full participation by all providers in an increasingly competitive telecommunications market;
- **Funding** universal service obligations in a competitively neutral manner; and
- **Ubiquity** through market-driven infrastructure deployment and carrier of last resort obligations where required.

These key objectives will ensure that the policy vision of universal service – universal accessibility to the advanced information super-highway – will be met in the 21st century.

USTA's universal service plan reconciles technological, regulatory, and related competitive developments with the need to support universal service.

### I. Reliance on Market Forces to Establish Prices and Develop New Services

The Universal Service policy vision should promote the continued widespread availability of telecommunications services and universal accessibility to the advanced information superhighway. Wherever possible, market forces should provide the means to make this policy vision a reality. In competitive telecommunications markets, customers should have the ability to choose services from providers that have the flexibility to meet their pricing, service, and quality requirements in the most efficient manner possible. Regulatory policies should focus on removing artificial barriers to the introduction of advanced networks and on promoting infrastructure deployment and investment decisions, rather than on picking technologies, services, or providers.

### II. Availability of Universal Services

Any universal service policy for the 21st century should ensure that, at a minimum, the services that are available at affordable rates today will continue to be available in the future. The definition of universal service should evolve over time to include additional services, based on the periodic reviews described below, in order to provide access to the information super-highway. Services that are eligible for support payments must be subject to a national standard to ensure that some consumers are not disadvantaged through inferior universally-accessible services. National standards for services available to all consumers under this policy vision should initially include:

- Voice grade access to the public switched network, with the ability to place and receive calls (this includes underlying investment in switching, loop, and transport facilities necessary to place and receive calls);
- Touch tone;
- Single-party service;
- White Page directory listing;
- Access to operator services and directory assistance; and
- Access to emergency services (such as 911/E911).

States may choose to adopt and fund universal service standards that exceed this national minimum standard.

### **III. Evolution of Universal Services through Periodic Reviews**

Where feasible, marketplace demand should be the primary factor in deciding what services will be provided, and at what price. This will minimize government intervention and ensure that consumers have the most say in determining the services they receive. However, periodic regulatory review is appropriate to determine when and how the national universal service standard should evolve.

Universal services should evolve as technology changes, information super-highways are deployed, and consumer demand results in wide availability of more advanced services. Periodic proceedings to expand the list of services should examine the degree of deployment, level of demand, nature of services, and accessibility to these or alternative services. These proceedings will determine whether universal service funding is necessary or desired to promote the availability of additional services in areas where the market will not provide them or would provide them at high rates due to cost and/or demand characteristics. Any universal service definition should be technology-neutral, not favoring or mandating a specific technology.

### **IV. Deployment of Additional Services to Public Institutions and Citizens With Disabilities**

Specific programs should promote and fund the availability of additional services to targeted public institutions, such as elementary and secondary schools, public libraries and non-profit health care institutions, and to citizens with disabilities who have specialized telecommunications requirements. The periodic review of universal services should consider the public interest benefits of meeting unique data, video, and communications needs to promote such objectives as distance learning, access to information data bases, and tele-medicine or health care and educational opportunities to all areas of the country through public institutions. Specific programs, such as the Telecommunications Relay Service (TRS), which are targeted to specific community needs, should also continue to be provided.

## V. Affordability

Universal services must be accessible by all citizens, and additional services must be accessible to the public institutions identified above, in order to ensure that the benefits of the information age will be available to everyone. If service is not affordable, by definition it will not be accessible, and the benefits of the telecommunications and information infrastructure will not be available to our nation's citizens. For the majority of customers, market forces in the absence of regulatory intervention will produce affordable rates, and will also provide a benchmark for the rate level that should be affordable in other areas. Where market forces do not support the universal policy goal, two types of explicit funding are necessary to support the affordability of services: support to companies serving as a carrier of last resort (including support for providing service to high-cost geographic areas), and support for any companies providing service to individuals meeting objective income-eligibility criteria.

To promote the predominantly market-driven deployment of advanced infrastructure and new services, regulatory pricing distortions should be kept to a minimum. Local exchange carriers should be permitted to adjust their prices in a revenue-neutral manner by removing implicit support mechanisms from such prices, taking into account the receipt of explicit support revenues.

Support to carriers of last resort, as discussed above, will continue to be required in areas where high costs and/or low demand would not result in the deployment of adequate infrastructure or services, where carriers are required to maintain stand-by infrastructure, or where other regulatory inequities exist.

## VI. Incentives

USTA supports reliance on market forces, wherever feasible, to determine infrastructure investment and deployment decisions. US telecommunications policy should strive to promote competitive and efficient investment decisions by telecommunications carriers. Elaborate procedures for approving services, arbitrary cost allocations, and inequitable and unnecessary restrictions do not belong in an increasingly competitive market. Regulatory restrictions should be replaced with streamlined flexibility for all carriers to meet customer requirements and with incentives, such as investment tax credits and flexible depreciation policies, for innovation and investment. The greater the flexibility that exchange carriers are afforded to compete effectively by introducing new services and creating innovative rate structures for existing services, the smaller will be the need for explicit support to meet universal service objectives. With equitable, streamlined regulatory flexibility for all providers, the competitive market and the information super-highway will flourish.

## VII. Competitively-Neutral Funding

If America is to realize the goal of promoting advanced, market-driven telecommunications and information service deployment and availability, it is critical that no one service provider is unfairly burdened relative to other service providers. Contributions to universal service support should not distort consumer choices or technology deployment; government intervention must be kept to a minimum.

Potential funding mechanisms dedicated to universal service and administered under FCC regulations should be established based on the following criteria:

- competitively-neutral,
- sustainable,
- minimize economic distortions,
- technologically-neutral,
- broadly-based, and
- administrative ease.

Support contributions should be equitably borne by all telecommunications service and equipment providers, including the following:

- local exchange carriers (LECs),
- interexchange carriers (IXCs),
- competitive access providers (CAPs),
- commercial mobile radio service providers,
- microwave/satellite,
- video providers,
- any other telecommunications transmission services, and
- CPE/Part 68 registered equipment that may be connected to the public network (includes, but not limited to, switching equipment, PBXs, modems and modem-equipped devices).

The universal service support collection and disbursement may be handled by an administrator designated by the FCC. Disbursement of funds should be limited to companies providing service to individuals based on income eligibility and to companies serving as the carrier of last resort within a designated area.

## VIII. Ubiquitous Deployment/Carrier of Last Resort Obligations

Carrier of last resort obligations, historically established by state regulatory bodies, entail the provision of universal services upon reasonable request to any individual requesting service in a defined area, a readiness to serve, and a commitment to meet all applicable service quality standards. This obligation often equates to being the sole provider in an area where the market would not result in economic decisions to deploy network infrastructure or stand-by capacity in an area where multiple carriers provide service. Where carrier of last resort obligations exist, there should only be one designated carrier of last resort.

Preservation of universal service in an increasingly competitive environment requires equitable public policy changes that assure the continued provision of universal services, while balancing carrier obligations and opportunities and maintaining protection for the consumer.

The introduction of local exchange competition raises the question of how and when universal service support funding should flow to new market entrants. It is important to consider the two types of explicit support which are provided:

- Support to companies providing service to individuals meeting income eligibility criteria should be portable to their service provider. When an eligible customer changes service providers, funding would transfer to the new service provider.
- Support payments to assure the availability of service in targeted geographic areas (based on high cost and/or low demand, stand-by infrastructure requirements<sup>1</sup>, or other regulatory requirements) should flow to the designated carrier of last resort. This support will be limited to one designated carrier of last resort in an area to avoid duplicative public policy investments.

Some parties have proposed alternative carrier support funding proposals that would determine support for each individual consumer based on the difference between the average cost of and revenue generated by serving that consumer. The proposals would provide support funding to carriers as they serve "high cost" customers. While superficially reasonable, the concept suffers from two flaws when applied to real world telecommunications service:

- A high percentage of telecommunications network costs are related to the provision of ubiquitous infrastructure investments and standing ready to serve.
- Costs to serve individual customers can vary widely from average costs to provide service in a geographic market.

The public interest is served by providing support to companies serving specific geographic areas (including high cost and/or low demand areas) because this support will be necessary to provide the incentive and the resources to invest in a ubiquitous network infrastructure. Without this support, some customers may not have access to service at all, and some may only have access to service at unacceptably high prices. Competitive entry in high cost areas does not reduce the significant fixed costs of installing and maintaining ubiquitous carrier of last resort networks. Therefore, the carrier of last resort should continue to receive support funding.

The public interest would not be served by providing geographic support funding to multiple carriers serving the same geographic area or to carriers not serving as a carrier of last resort, due to the potential for duplicative public policy investments and due to the nature of cost averages in telecommunications. Proposals that would enable new entrants who serve selected lower-cost customers within an area to receive support funding based on averaged costs to serve all customers in the area would produce a windfall for the new entrant.

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<sup>1</sup> State public service commissions, through quality of service and other mandates, expect LECs to provide back-up service when calling volumes or alternative provider equipment failures dictate the need.

This is not to say that the carrier of last resort responsibilities should forever remain with the incumbent provider. If a new entrant can stand ready to provide service to all customers within a designated service area (certainly no smaller than an entire existing LEC exchange) at a lower cost or with less required support than the incumbent and be consistent with service and quality requirements, then equitable procedures could be developed for the transfer of carrier of last resort responsibility. However, because of the unique cost and demand characteristics in certain high cost areas, changes in carrier of last resort obligations would be unduly burdensome and not in the public interest.

Should carrier of last resort responsibilities be transferred to a new provider, incumbent local exchange carriers, which made network investments to satisfy public policy obligations without the expectation of competition within their franchise territories, should have the opportunity to recover those investments placed to meet carrier of last resort obligations. A transitional mechanism would be necessary to recover these investments.

As markets continue to become increasingly competitive and customers gain choices of alternatives to traditional telecommunications services, carrier of last resort obligations and support may be transitioned and may eventually disappear in those competitive markets.

## IX. Conclusion

Universal Service is a policy which seeks to promote the widespread availability of telecommunications and information services throughout the United States. This policy should be dynamic: as technology makes possible more and better services, the policy vision of the services that ought to be widely available should expand over time.

This policy vision should seek to extend to all Americans the benefits of information super-highways which are responsive to their choices, and which provide an efficient national infrastructure. This vision should not be technology-specific; it should focus instead on services and capabilities.

USTA continues to support maintaining nationwide geographically-averaged toll rates. Geographically-averaged toll rates will continue to be critical to the ability of consumers in many areas to access telecommunications and information services and to be a part of the nationwide super-highway.

A dynamic universal service policy can only be achieved through the adoption of new, forward-looking policy tools. The pervasive regulation which has been used in the past to promote universal service should play a limited role in this new policy mix. Extending this traditional approach to new services and capabilities would slow their adoption, would be inconsistent with the development of competition, and could lead to inefficient investments in the wrong technology. Wherever possible, market forces should provide the means to make the policy vision a reality. Where the marketplace cannot be relied upon to meet the universal service objective, a competitively neutral funding mechanism will be needed to ensure the continued provision of the quality and

level of service and technological innovation that all customers expect. Because customers provide neither infrastructure nor services, universal service funding must both compensate providers of last resort for costs they incur to provide universal service and assist economically disadvantaged customers to afford universal service.

USTA supports and applauds Administration and Congressional efforts to promote a nationwide universal service infrastructure, to expand the support for the infrastructure to all providers in a competitively-neutral manner, to remove artificial barriers (such as restrictions applied to local exchange carriers in a discriminatory manner) to the introduction of advanced networks, and to streamline regulations that would apply to all service providers. With the appropriate mix of policy tools and competitive incentives, USTA is confident that America will continue to lead the world in the deployment and availability of customer-determined telecommunications services.

**NATIONAL INFORMATION INFRASTRUCTURE (NII)  
PUBLIC POLICY WHITE PAPER:**

**ROUTE '94: INFORMATION SUPERHIGHWAY  
PUBLIC POLICY ROAD MAP**



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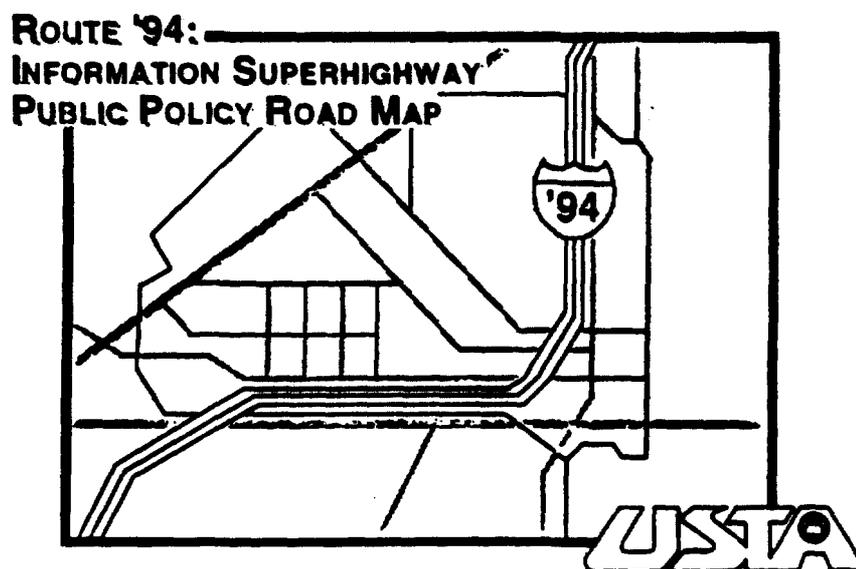
**National Information Infrastructure (NII)  
Public Policy White Paper:  
Route '94: Information Superhighway Public Policy Road Map**

**Preface**

This paper represents both the evolution of visionary public policy development within USTA and an urgent call to action, now – both of which can help jump-start a National Information Infrastructure for all Americans.

USTA's evolution is evident both in its 1990 publication *Vision 2000* and in its 1993 video presentation *From POTS to Video*. Both of these visionary pieces predate the administration's NII vision; both of the pieces are in sync with the NII vision. Clearly, the LEC industry is and has been, looking ahead toward a public policy environment that will enable the benefits of "Public Broadband Intelligent Networks" to flow to customers throughout America.

An urgent call to action – public policy action in 1994 – is needed now in order to benefit customers as quickly, robustly, and broadly as possible. Hence, the subtitle of this paper (and the title of the accompanying slide presentation), "Route '94 - Information Superhighway Public Policy Road Map". 1994 is a pivotal year for American telecommunications policy in a globally competitive environment. Some sixty years after the Communications Act of 1934 and ten years after the Bell System divestiture, policy makers enjoy the opportunity to create policy enabling all Americans to participate fully in the Global Information Age. USTA, and its member companies, support actions to bring our vision, as presented in the following paper, to fruition in 1994.



**National Information Infrastructure (NII)  
Public Policy White Paper:  
Route '94: Information Superhighway Public Policy Road Map**

**Introduction**

The development of an information superhighway through the National Information Infrastructure (NII) holds the promise of improving the quality of life for all Americans. However, in order for the NII to be effective, it must economically and efficiently satisfy the diverse needs of all telecommunications users regardless of size or location. Since Local Exchange Carriers (LECs) currently provide telecommunications services to a significant portion of end users and information services providers, LECs can and *must* play an integral role in fulfilling the Administration's vision of the information superhighway. Essentially, the services LECs provide today, and want to provide tomorrow, are included in this vision. Over the last few years the LECs have been exploring the challenges created by converging technologies and competing industries generating the information age of the 21st century. The United States Telephone Association's (USTA) views have been articulated in its *Vision 2000* statement which is strikingly similar to the Administration's vision of the NII.

USTA, as the principal trade association of the exchange carrier industry, would like to share its *Vision 2000* and the public policy actions that it believes are needed.<sup>1</sup> USTA has identified five elements of the telecommunications public policy foundation that it believes are essential to the continued viability of the public network and for the vitality of the American economy: Universal Service; Advanced Network Capabilities; A Seamless Nationwide Network; Quality Service; and Public Health, Safety, Defense and Security. Public policy makers should recognize this foundation and ensure that NII planning and implementation builds upon it.

Based on the Public Switched Network's (PSN) capabilities, USTA's member companies have been building many components of the information superhighway to meet the diverse market needs of their customers, which include end users, information services providers, and applications developers. It is USTA's view that the PSN is now and can, in the future, easily and efficiently serve as the network

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<sup>1</sup> USTA's membership consists of approximately 1,100 telephone exchange carriers which provide local and exchange services, utilizing both wireline and wireless technologies, throughout the country. These member companies provide over 98 percent of the telephone-company provided access lines in the United States.



foundation of the NII. This PSN evolution has been articulated in USTA's *From POTS to Video* presentation, which helps in describing the NII as a multi-lane information highway -- providing multiple services and technologies to meet diverse needs. As it has been for the last hundred years, this evolution of the network is a continuous process. When each of these new services and technologies identified in the *POTS to Video* presentation are implemented, a new need will be identified and existing technologies will have to be modified or new technologies will have to be developed to support those needs. As the nation's core distribution backbone tying other public and private networks and systems together as an interoperable whole, the PSN has the flexibility to address the varying needs of all constituencies of American society. Experience has demonstrated that in order to provide a wide array of quality services at affordable prices, any telecommunications model must incorporate the following essential characteristics: Ease-of-Use; Security/Privacy; Interoperability; Service/Support, Reliability/Survivability; and Ubiquity. The Public Switched Network encompasses these characteristics. The NII, if it is to succeed, must incorporate these public network characteristics.

USTA concurs with the widely held belief that the NII is capable of meeting societal needs in the areas of education, health care, and commerce as well as improving the quality of American life. However, without a fundamental change in national telecommunications policies, many of which are more suited for 1934 than 1994, and an understanding that all telecommunications providers have a stake in working cooperatively as the catalyst of that change, the turn of the century may find us looking back on the NII as an unfulfilled promise. The telecommunications environment which shaped how these policies were crafted was characterized by a monopoly market structure and monolithic technology. Competitive market forces were almost non-existent and had to be artificially simulated by regulatory bodies. Technology, for the most part, was advancing at a slow and predictable pace and heavily weighted toward voice communications. Data and video were a small part of telecommunications and their underlying technologies were usually separately identifiable. In those instances where voice could share technology platforms with either data or video there was a logical way to differentiate facilities use between services. Now, in contrast, new telecommunications technologies burst on the scene in rapid fire succession from all quarters. Older technologies are displaced long before capital recovery occurs. What we call new technology today will be old technology tomorrow. The phenomenon called digitalization is making services transparent to technology. As a result, once separate and distinct industries like telephone, entertainment, banking and newspapers are converging into a competitive telecommunications marketplace.



NII Vision /USTA Vision 2000

USTA's *Vision 2000* describes how LECs can help the NII become a reality and support the advancement of a public telecommunications network operated by thousands of companies. Our *Vision* includes the efficient deployment of new telecommunications technologies and the creation of a wide array of services designed to meet the diverse needs of the American public and the business community in a competitive market environment.

The *Vision 2000* elements are:

- ✓ *Universal Service*
- ✓ *Advanced Network Capabilities*
- ✓ *A Seamless Nationwide Network*
- ✓ *Quality Service*
- ✓ *Public Health, Safety, Defense and Security*

The LECs have been implementing a range of telecommunications services that will support the achievement of the NII. Based on a variety of proven technologies, these services will enable consumers and businesses to participate in the NII at various levels depending on their individual needs. Connectivity with the core network promotes the rapid and effective deployment of advanced, competitive telecommunications capabilities and services. Thus, all Americans will be able to participate in a seamless, advanced, core network infrastructure provided by LECs, and used by LECs and other high quality telecommunications service providers to provide a myriad of national advanced telecommunications and information services. The adoption of five public policy principles is needed to let LECs make this vision real for all customers. These concepts, which will be explained in greater detail, are:

1. Local telephone companies are no longer "natural monopolies."
2. Local telephone companies must have equal business opportunities.
3. There must be regulatory parity for competition to flourish.
4. There should be universal support for universal service.
5. Smaller and rural telephone companies' unique responsibilities must be recognized.

USTA's Network Evolution Vision: From POTS to Video & Multi-Lane NII

The POTS to Video Cone, as shown below, depicts the evolution from POTS (Plain Old Telephone Service) to the broadband services provided by a public intelligent network and its relationship to the NII. The technologies and services which have developed over the years are listed in the cone and

legend. For each category of service, there must be an enabling technology. The delivery of these services is supported by an advancing market depicted on the right side of the cone. The meandering line through the center of the cone represents the impact of public policy -- sometimes positive, sometimes neutral, and often negative. The NII should recognize the important role public policy plays in new technology development and deployment and thus the availability of new services to meet evolving market needs. USTA believes that a more direct, market-based public policy framework is needed now.

The lines intersecting the cone represent the lanes of the information superhighway: Fast and Smart, Faster and Smarter, and Fastest and Smartest. Each lane may utilize a different level of technology to provide appropriate degrees of services, based on customer needs.

The services and technologies mix of the PSN can be viewed in the POTS to Video Cone in Figure 1.

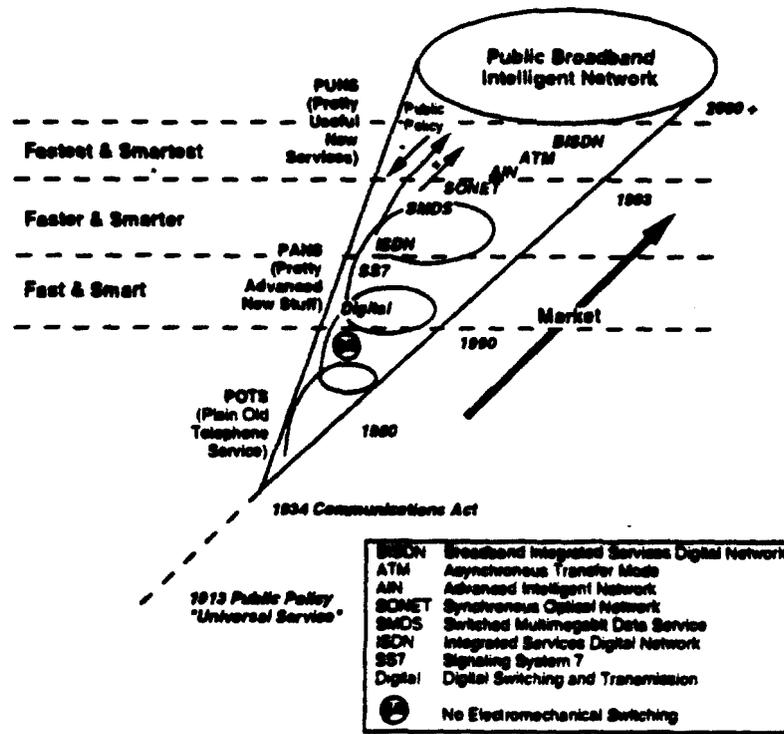


Figure 1  
POTS to Video Cone

Many examples of the information superhighway lanes, already in use, exist today in LECs across the country. Here are but a few examples. Telecommuting, a key application of the fast and smart lane of the NII, is flourishing in the post-earthquake Los Angeles area. Both Pacific Bell and GTE have instituted



special programs to support this improved work style. Community leaders and educators are praising the efforts in virtually every major newspaper in the nation.<sup>2</sup> As Mike Antonovich, a Los Angeles County Supervisor, has said "We recognize that technology is the wave of the future, but in light of the damage [from] the earthquake, the future is now."<sup>3</sup>

The Faster and Smarter lane of the information highway is exemplified by the Texas Telemedicine Project (TTP). Southwestern Bell, GTE, and Advanced Telecommunications Corporation (ATC), an interexchange carrier, enable health professionals to provide a high level of patient care, at a reduced cost at a dialysis clinic, in Giddings, Texas. The TTP uses interactive audio, video and data links between rural Giddings and Austin, Texas, sixty-five miles away. Austin-based nephrologists and other medical specialists can conduct regular "video rounds" of their patients, in addition to the over 2,500 consultations already conducted over the network from 1991 to 1993. By reducing travel, medical specialists are more productive and patient care costs are lower.

Education is also enhanced by the Faster and Smarter lane with the use of Integrated Services Digital Network (ISDN) and interactive learning. In San Marcos, Texas, Century Telephone has provided full motion video, voice and data links between schools in the San Marcos Consolidated Independent School District and between the district itself and Southwest Texas State University. These links enable the resources at one education site to be utilized by another. For example, Southwest Texas State University offers special programs in mathematics, social work, advanced mathematics and literacy courses for both the community and the school system.

On a larger educational scale, the Fastest and Smartest lane of the information highway is exemplified by the North Carolina Information Highway. BellSouth, GTE, Sprint/Carolina Telephone, and INFINET Multimedia Services (a consortium of independent and cooperative telcos) have developed an Asynchronous Transfer Mode (ATM) statewide, switched, broadband network that will interconnect more than 3000 sites with interactive distance learning programs, like those described in San Marcos, Texas. Additionally, the network will provide library database access, teacher training and other community services in areas like medicine (telemedicine), law enforcement (database access, inmate education, video arraignment), and government applications (electronic town meetings, video conferencing). This

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<sup>2</sup> A Los Angeles County Assessor, quoted in the *Wall Street Journal* (1/27/94), mentions that he finds that city employees are 34% more productive and are processing their work 64% faster. Jack Nilles, the Los Angeles-based consultant, who coined the term "telecommuting" says that companies can save \$8,000 a year, per employee, if one-half of all the mid-level managers of an organization telecommutes at least two days a week. Susan Herman, who is head of the Los Angeles County Telecommunications Department, and an Advisory Committee member of the National Information Infrastructure has found that, in a survey of 500 Los Angeles city workers (architects, lawyers, and detectives), that they were at least 12.5% more productive while telecommuting.

<sup>3</sup> *Chicago Tribune*, 1/30/94

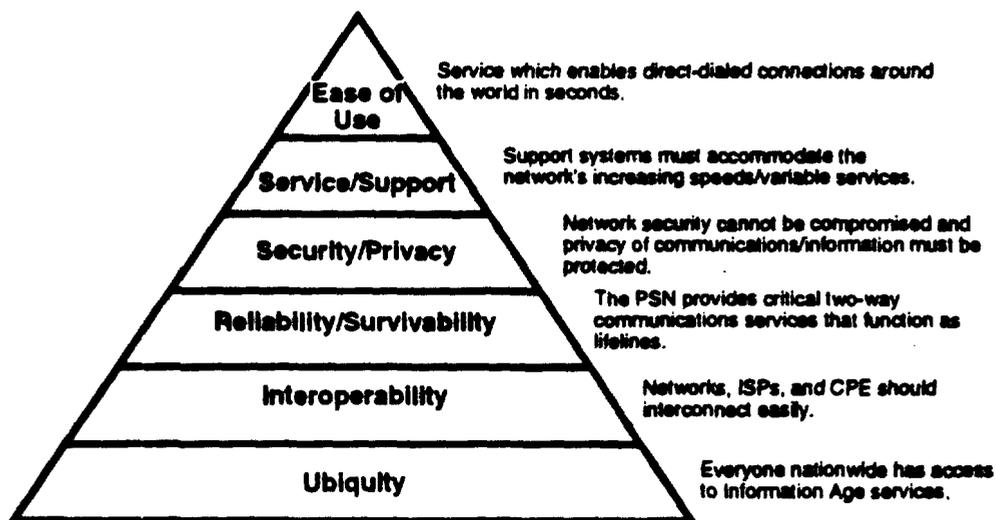
ATM application, like the other lanes of the information highway is expected to be widely used by the public, allow for expansion, and encourage economic growth.

These are only a few examples of the multitude of services that Americans are now using and will be able to use in their daily lives at work, home, school, and play -- made possible with the array of enabling technologies listed on the multiple lanes of the information superhighway . By using the LEC public switched network, the National Information Infrastructure will be flexible enough to offer broadband services to one set of customers and narrowband services to another set of customers, all the while maintaining the rigorous standards of reliability, quality and ubiquity of service that have historically made the American public switched network the best in the world.

**Public Network Characteristics**

To ensure a viable and robust NII, key characteristics must be established and understood. The perception of the public switched network as the standard for public telephony is based on six key characteristics which are essential to any public telecommunications network. The pyramid in Figure 2 is a pictorial representation of these characteristics.

***The NII should support public network characteristics.  
Public Telephony is the Standard.***



**Figure 2  
Key Characteristics of a Telecommunications Network**

Interexchange carriers, cellular mobile carriers, enhanced services providers, among others, use the PSN either to reach their customers or to permit their customers to communicate with the public at large. Generally, any network or system that is compatible with the PSN automatically is compatible with all



other networks and systems interconnected with it. Interoperability provides a foundation for standards and compatibility that permits rapid and effective deployment of competitive services. A public policy framework that promotes the continuing evolution of the public switched network will advance both infrastructure development and competition. The LEC community will continue its work in industry forums,<sup>4</sup> with all participants, to help ensure that public network characteristics are supported as the NII evolves so that customers can enjoy the same level of robust, secure, ubiquitous service tomorrow that they know today.

### **Benefits**

USTA believes there are significant benefits associated with the development of the NII. Such an infrastructure will be an important contributing factor to economic development and productivity within the United States and will enhance its ability to compete in global markets. Furthermore, all Americans will benefit in terms of enjoyment and quality of life. The potential advances in education and health care afforded by this advanced infrastructure are well documented. New interactive applications will play an important role in promoting improvements in the quality and delivery of education. A network which provides interactive communications between classrooms, centralized learning centers, libraries, and the home will enhance and stimulate the American learning process. The NII can provide all Americans, regardless of their location, with the benefits of sophisticated health care. It will allow remote diagnostics, data transfer and imaging of medical procedures, along with in-home care.

In the areas of welfare and social reform, high performance networks providing advanced telecommunications services will promote the development of work skills and increase productivity through advanced telecommuting capabilities, as well as contribute to environmental improvements. The resulting increase in productivity will enhance the nation's economy and global competitiveness. How effectively the NII is used will determine, to a large extent, how much America's productivity and global competitiveness are enhanced.

USTA views the PSN's developing broadband functionality as playing a vital part in providing the backbone communications link for these advanced services. But, meeting customer needs requires more than just a network. To fully benefit from the NII, customers and applications providers must know how to

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<sup>4</sup> A very short list, by way of example, of current forums helping to shape the future of the NII would include: COS, Corporation for Open Systems; ICCF, Industry Carriers Compatibility Forum; NOF, Network Operations Forum; ATIS, Alliance for Telecommunications Industry Solutions; NIIAC, NII Advisory Council; XIWT, Cross-Industry Working Team; CLC, Carrier Liaison Committee; IILC, Information Industry Liaison Committee; NIUF, National ISDN User's Forum; IITF, Information Infrastructure Task Force; and the InterNet Society.



use it effectively. Customer provided equipment and applications must be user-friendly and the networks comprising the NII must be fully interconnected, interoperable networks.

### Public Policy Principles

The importance of appropriate national policy enabling the necessary partnerships to develop infrastructure development is critical. It is a widely held belief that telecommunications public policy must be overhauled. USTA has developed five principles that must be incorporated into any public policies created for the information superhighway:

1. *Local telephone companies are no longer "natural monopolies."*  
Competition is here for LECs, rendering obsolete the economic and regulatory model upon which local service has been based.
2. *Local telephone companies must have equal business opportunities.*  
LECs should be allowed to enter new lines of business as easily as their competitors enter the telephone business. For example, USTA supports eliminating outdated MFJ and Cable Act restrictions which foreclose LECs from business opportunities in the provision of cable television, video programming, and long distance services and in the manufacturing of telecommunications equipment.
3. *There must be regulatory parity for competition to flourish.*  
If LECs are allowed to enter new markets but are burdened with regulations that their competitors do not have, a competitive disadvantage will result. For competition to flourish and for the infrastructure development and job growth that accompanies a competitive market to be realized, LECs must be able to compete equally with others in markets they enter.
4. *There should be universal support for universal service.*  
Under the current regulatory model, LECs charge above cost rates for some services (e.g., access services) to support lower rates for other services (e.g., residential services). Competitors, unlike LECs, do not have universal service responsibilities, so they can selectively serve lower-cost customers and offer lower rates. USTA believes that all telecommunications providers must contribute to universal service as it should be a shared responsibility associated with participating in the telecommunications business.
5. *Smaller and rural telephone companies' unique responsibilities must be recognized.*  
Many rural LECs do not have the same economies of scale and scope as larger LECs, yet they too have universal service responsibilities. In order to ensure that advancements in the telecommunications infrastructure are made available to rural customers, USTA supports the concept of infrastructure sharing as expressed in its *Infrastructure Sharing* white paper.



### Specific Public Policy Goals

As mentioned before, USTA has established five public policy goals that must be recognized to promote the continuing advancement of the LEC public network:

- ✓ *Universal Service*
- ✓ *Advanced Network Capabilities*
- ✓ *A Seamless Nationwide Network*
- ✓ *Quality Service*
- ✓ *Public Health, Safety, Defense and Security*

These requirements must be addressed at both the federal and state levels in the legislative and regulatory arenas as well as by the courts and telecommunications forums. Without the continuing advancement of the LEC public network, the nation cannot be assured of an adequate connectivity backbone to promote the deployment of advanced, competitive services.

From a federal legislative, and judicial perspective, the telco/cable TV cross-ownership ban and the RBOC MFJ restrictions must be lifted;<sup>5</sup> LECs should be provided with incentives to modernize their networks in order to better serve customers; and LECs must be given the opportunity to both share infrastructure with other LECs and compete equally with all other competitive telecommunications providers in the provision of advanced services. At the state level, legislative action in the form of infrastructure development plans, incentive tax credits, and support from state agencies (e.g., Governor's Economic Councils, Education Councils) can assist widespread deployment of the NII.

In the regulatory arena at both the federal and state levels minimal and symmetrical regulation is required. For example, movement toward pure price cap regulation can be viewed as positive, minimal regulation. Regulators must take action not only to simplify and streamline regulation but also to provide the option of incentive regulation, promote inter-LEC cooperation, establish broad-based universal service support rules, and establish realistic depreciation rates in step with the evolution of technology.

If public policy impacting LEC involvement in the NII is not reformed, this country may become a nation of information "haves" and "have nots" ill-served by a confusing mix of disjointed "Balkanized" networks. Without enlightened public policy, existing LEC services may require price changes with significant increases in less metropolitan areas; network functionality may decrease as one goes from urban to rural areas; advanced services may be unavailable to residential, small business, and

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<sup>5</sup> USTA supports the lifting of the MFJ restrictions with specific safeguards on interLATA and manufacturing relief.