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Executive Summary



his document

represents Verizon New Jersey's (Verizon NJ) seventh annual infrastructure deployment report pursuant to its Plan for an Alternative Form of Regulation (PAR)¹. Because the New Jersey Board of Public Utilities (Board, BPU) revised the reporting requirements, this report emphasizes Verizon NJ's fourth year under Opportunity New Jerseysm (ONJ), as accelerated by Access New Jerseysm (ANJ).

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This narrative chronicles 2001 and addresses network service capabilities, technology levels and pending or planned market, technical and operational trials. In addition, this report identifies critical technology issues relating to infrastructure deployment, describes deployment objectives for the coming year and addresses the impact of infrastructure deployment on New Jersey's citizens and the state's economy.

In 2001, Verizon NJ continued aggressive technology deployment to fulfill its commitments under ONJ and ANJ. Key highlights include:

- \$1.066 billion invested, \$428.1 million more than Verizon NJ invested in 1994, the first full year of ONJ. Since ONJ was approved, Verizon NJ has invested \$7.583

billion. Through 1999², Verizon NJ exceeded the original business as usual (BAU) estimates by more than one billion dollars.

- Verizon NJ's advanced network facilitated the timely provisioning of services to customers relocating to New Jersey in the wake of the September 11 attack. Customers relocating offices included American Express, Deutsche Bank, Dow Jones, Kemper Insurance, Merrill Lynch, Morgan Stanley, and Port Authority of NY and NJ, among others, to various locations throughout New Jersey.³

- 280 more employees were hired (does not include wireless) to bring the cumulative number of new hires since 1993 to 9,979 in New Jersey.

- 132,681 miles of fiber were deployed in 2001, which accounts for 22 percent of the overall Verizon East regional total. With a total of 1,532,240 miles of fiber, Verizon NJ leads all other Verizon states in fiber deployment. In fact, this achievement distinguishes Verizon NJ as having a higher percentage of fiber sheath miles than BellSouth, Qwest or the individual SBC units (Southwestern, Pacific Telesis, and Ameritech).⁴

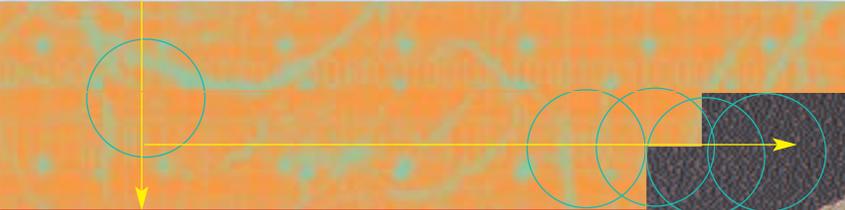
- 16 more Asynchronous Transfer Mode (ATM) switches and 10 additional fast packet switches were deployed to augment the capacity of the high-speed data network deployed initially in 1998 to accelerate availability of high-speed data services to public and non-public schools, public libraries and urban areas. Verizon NJ has deployed 40 ATM switches statewide.

¹ See Appendix A entitled *Evolution of the Plan*.

² Original business as usual (BAU) estimates were forecasted through 1999.

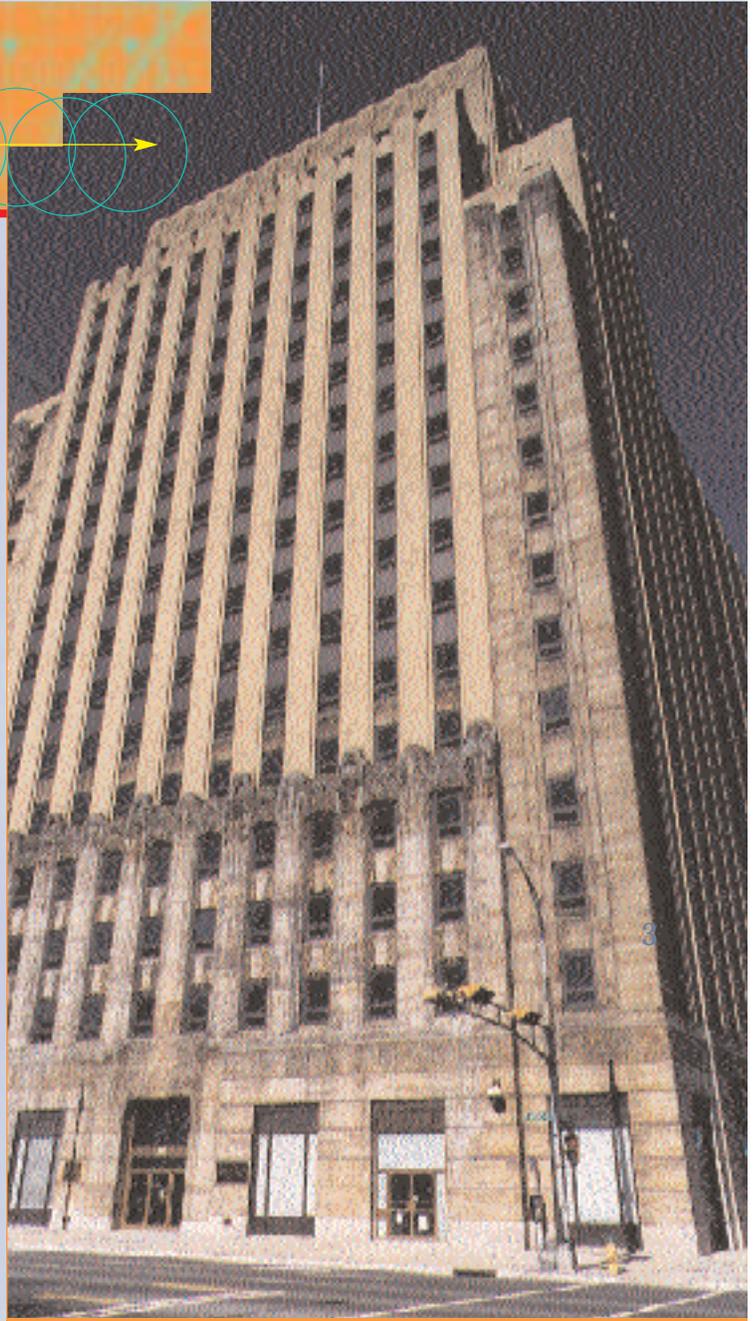
³ Bergen Record, October 21, 2001

⁴ Based on the most recently available data from 2001 (<http://gullfoss2.fcc.gov/cgi-bin/websql/prod/ccb/armis1/forms/armis.htm>)



■ In addition to deploying the latest technology, Verizon NJ has worked diligently to open New Jersey's local telephone market to competition. In its consultative report to the FCC, the Board wrote, "In the Board's judgment, with the conditions articulated herein, the New Jersey local telephone markets are fully and irreversibly open to competition."⁵ In New Jersey, more than 117 carriers are certified to provide local telecommunications services and 57 more have filed for regulatory approval. These companies are experiencing significant growth. Verizon exchanged 23.2 billion minutes of local calls with competitors' traffic, 70 percent more than the volume of traffic exchanged with competitive local exchange carriers in 2000.

■ The one-of-a-kind statewide video portal, located in Newark, with additional ATM switches and a backbone network was expanded. 200 schools in the state are registered to use the video portal, which enables schools around the state to hold live, interactive video classes for students statewide without incurring long-distance charges. Verizon was the first local phone company to deliver two-way interactive video services over dedicated facilities on a large scale to schools across LATA (long-distance) boundaries under a provision of the Telecommunications Act of 1996.



■ Verizon has connected 2,317 schools and libraries in the state to its advanced telecommunications network, providing availability to the benefits of the Internet. An estimated \$70 million of savings from free equipment and service discounts have been provided to schools and public libraries throughout every county. At year-end 2001, 87 percent of the Abbott Districts were participating in the program.⁶

⁵ CONSULTATIVE REPORT OF THE NEW JERSEY BOARD OF PUBLIC UTILITIES, Docket No. TO01090541, January 14, 2002
⁶ See Appendix D for Abbott District Participation by county.

■ Deployment of Verizon Online DSL (Digital Subscriber Line) services continued in 2001. As of the end of 2001, 168 Central Offices were equipped to provide Verizon Online DSL to more than 2.0 million households and more than 4.5 million phone lines statewide.

■ Further progress on service capability deployment created 97 percent of wide-band and 55 percent availability of broadband service capabilities.

■ Provided grants totaling more than \$13 million to New Jersey non-profits through the Verizon Foundation during the last five years—\$3.2 million in 2001 alone. The focus was on transforming the nonprofit community through the use of technology and innovative e-solutions. Other grants supported technology initiatives for students, seniors, arts programming, and workforce job training. For example, in 2001, the Verizon Foundation provided NJEA with a \$20,000 Targeted Technology Replication Grant to be awarded to recipients of their Frederick L. Hipp grants program. The replication grant empowers educators throughout the state to use technology tools to offer their award-winning programs to their colleagues in other schools. The range of Verizon Foundation grants in NJ mirror the broad diversity of the state's population

In 2001, Dr. Jeffrey V. Osowski, former Assistant Commissioner, NJ Department

of Education, testified to the benefits of ANJ:

“These programs demonstrate some of the numerous benefits for schools and libraries from the provisions of the ANJ program. The ANJ program established a foundation of support that is building into very successful educational experiences in classrooms and libraries throughout the state.”

“Over the last few years we have established a constructive and effective relationship with Verizon as we proceeded to implement ANJ through mutually collaborative efforts.”⁷

In the same proceeding, Patricia A. Tumulty, Executive Director of the New Jersey Library Association testified:

“The Access New Jersey program provided the catalyst for Internet development for New Jersey libraries. In 1996 only 14% of the public libraries in the state had public access to the Internet for its patrons. In just five short years that picture is drastically different. Now approximately 95% of all public libraries have patron access to the Internet.”

“The commitment of Verizon to the implementation of the Access New Jersey proposal has been commendable.”⁸

Also in the same proceeding, Thomas H. Weiss, on behalf of the New Jersey Division of the Ratepayer Advocate, testified:

“In summary, as the result of the ONJ program, Verizon's New Jersey network infrastructure is fully ready and able to provide high-speed network access for schools and libraries at virtually any bit transfer rate that they may require.”⁹

⁷ Testimony of Dr. Jeffrey V. Osowski BPU Docket No. T001020095

⁸ Rebuttal Testimony of Patricia A. Tumulty, BPU Docket No. T001020095

⁹ Testimony of Thomas H. Weiss Docket No. T001020095

ONJ, as accelerated by ANJ, has positioned New Jersey as an economic leader ready to compete in the new millennium. Verizon NJ, under its Plan for an Alternative Form of Regulation-2 (PAR-2), has proposed to invest an additional \$20 million to expand and extend the Access New Jersey program. This would include free equipment permitting K-12 Schools and Public Libraries to connect to the network through 2004, with contracts for discounted services in effect until the end of 2007. Also, under the plan, Verizon NJ has proposed:

■ To expand Lifeline Service to include Senior Citizens and ratepayers that are not currently eligible and to allow citizens to self-certify that they are eligible to receive discounted residential basic exchange service that, even undiscounted, is among the lowest in the country. Data from a recent survey¹⁰ by the United States General Accounting Office (USGAO) show that the rates for the six NJ locations included in the survey are lower than 96% of the other 408 survey locations throughout the other 49 states.

■ To institute a streamlined process to introduce new service offerings that will bring the capabilities of the advanced network to customers on an accelerated basis.

■ To strengthen existing service quality standards.

The State of the Network



The modernization of Verizon NJ's network infrastructure and the deployment of new technologies have been, and will continue to be, critical to the success of New Jersey and Verizon NJ. The development and deployment of new technologies are evolutionary processes, driven by the need to meet the constantly changing sets of customer requirements and expectations. Explosive demand for data connectivity has provided new challenges both in modernizing the network and in serving our customers.

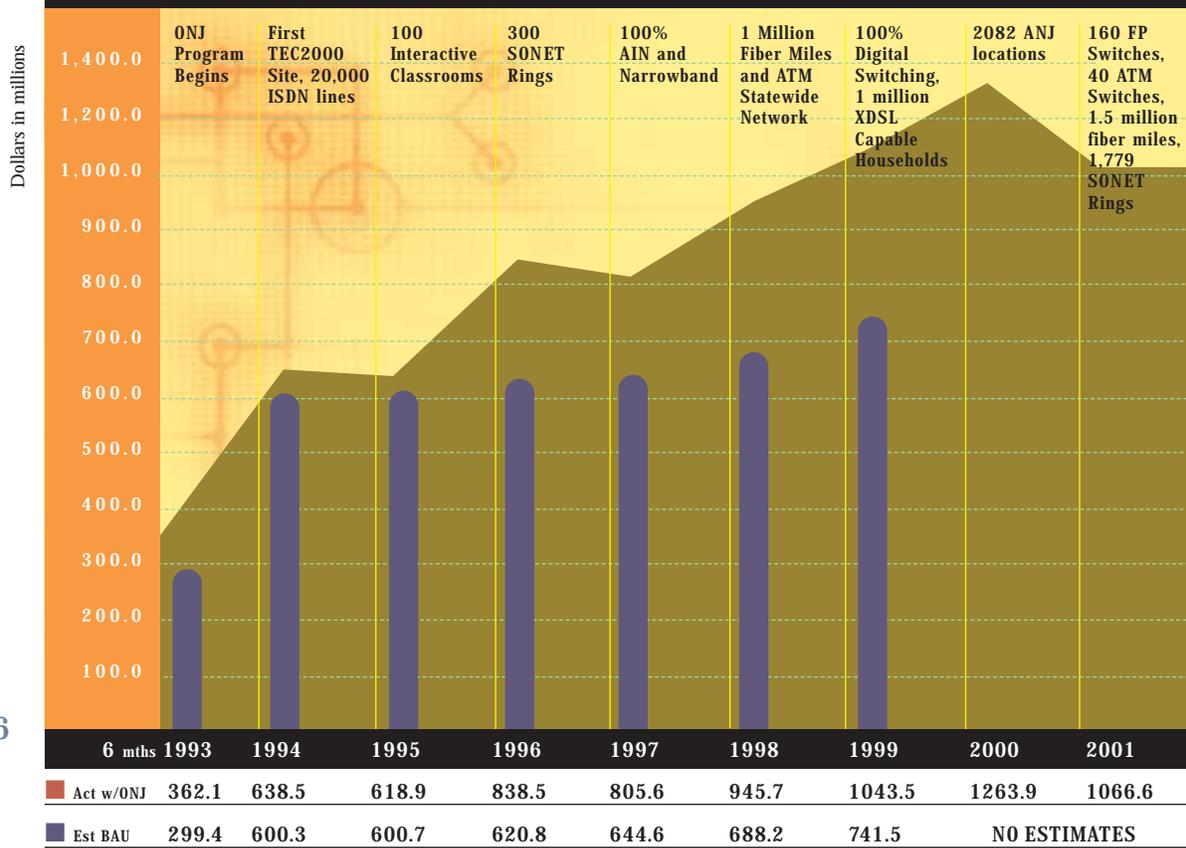
A primary objective of Verizon NJ is to build the infrastructure necessary to support New Jersey's economic development and customer demand. Verizon NJ's network must have the capabilities and capacity to meet both the current and future demands of an ever-changing marketplace to continue to provide high-quality communications services. Verizon NJ is committed to service capability deployment and makes capital expenditures to achieve its ONJ and ANJ commitments. The Liberty Consulting Group found, "Verizon Communications' strong OTC dividend policy has effectively protected New Jersey capital expenditure funding and facilitated Verizon NJ capital management."¹¹ Chart 1 on page 6, titled

¹⁰ TELECOMMUNICATIONS Federal and State Universal Service Programs and Challenges to Funding, United States General Accounting Office, February 2002

¹¹ "Final Report on the Review of the Financial Integrity of Verizon New Jersey", The Liberty Consulting Group, October 19, 2001, p. 32

Chart 1

Milestones and Gross Construction Expenditures



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Milestones and Gross Construction Expenditures compares actual investment to original plan estimates without ONJ and also shows that Verizon NJ has spent significantly more than was projected without ONJ and ANJ acceleration. Verizon NJ achieved 100% digital switching in its network in 1999. Based on the most recently available data from the year 2001,¹² only one other RBOC has achieved that level, as shown in Chart 2 on page 7.

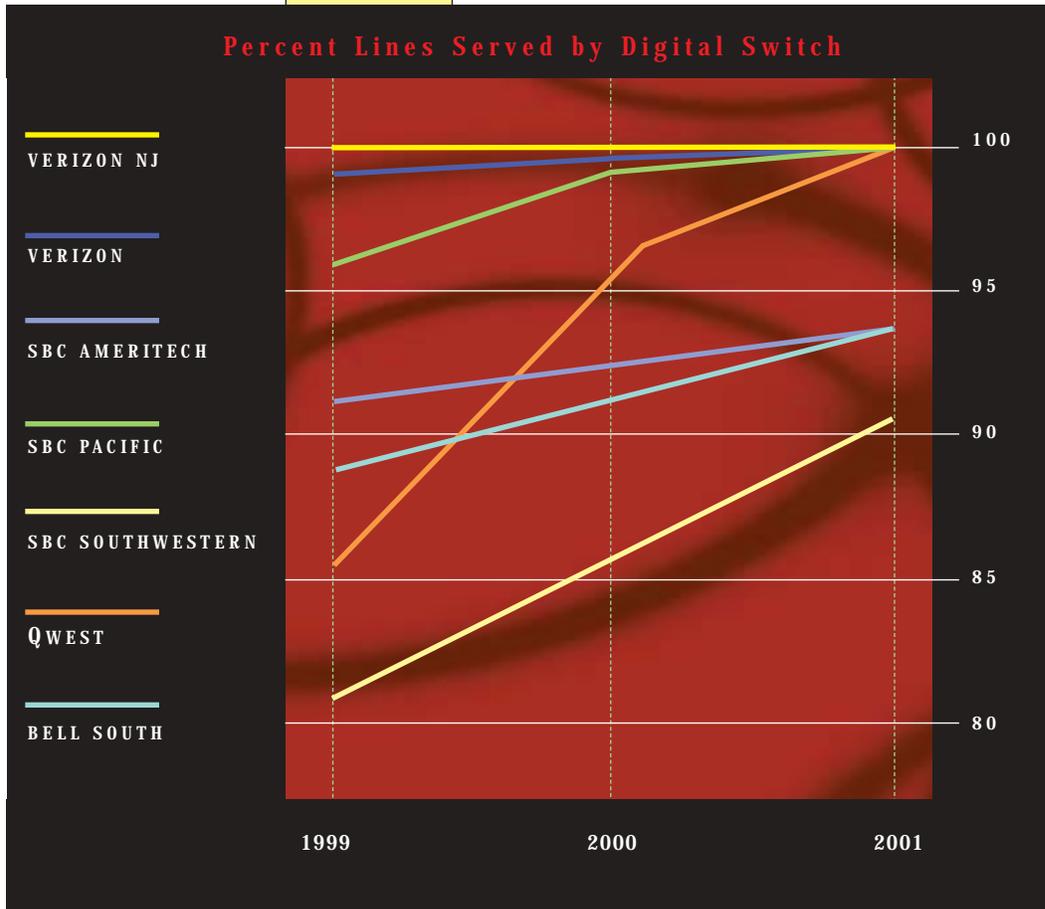
By integrating a number of services on a single network, Verizon NJ will continue to make optimum use of our service delivery capabilities. The evolution to the full

service ATM based switched broadband network will increase significantly the efficiency of serving New Jersey through automated provisioning and activation processes, increase capacity availability, and result in an even more flexible delivery platform.

Verizon NJ's integrated network of switches, transmission facilities and operating systems provides New Jersey's residential and business communities with a technologically advanced telecommunications infrastructure that is ready, willing and able to act as the on-ramp to the Information Highway. The Liberty Consulting Group found, "Quality

¹² ARMIS Data Retrieval System <http://gullfoss2.fcc.gov/cgi-bin/websql/prod/ccb/armis1/forms/43-08/frame1a.htm>

Chart 2



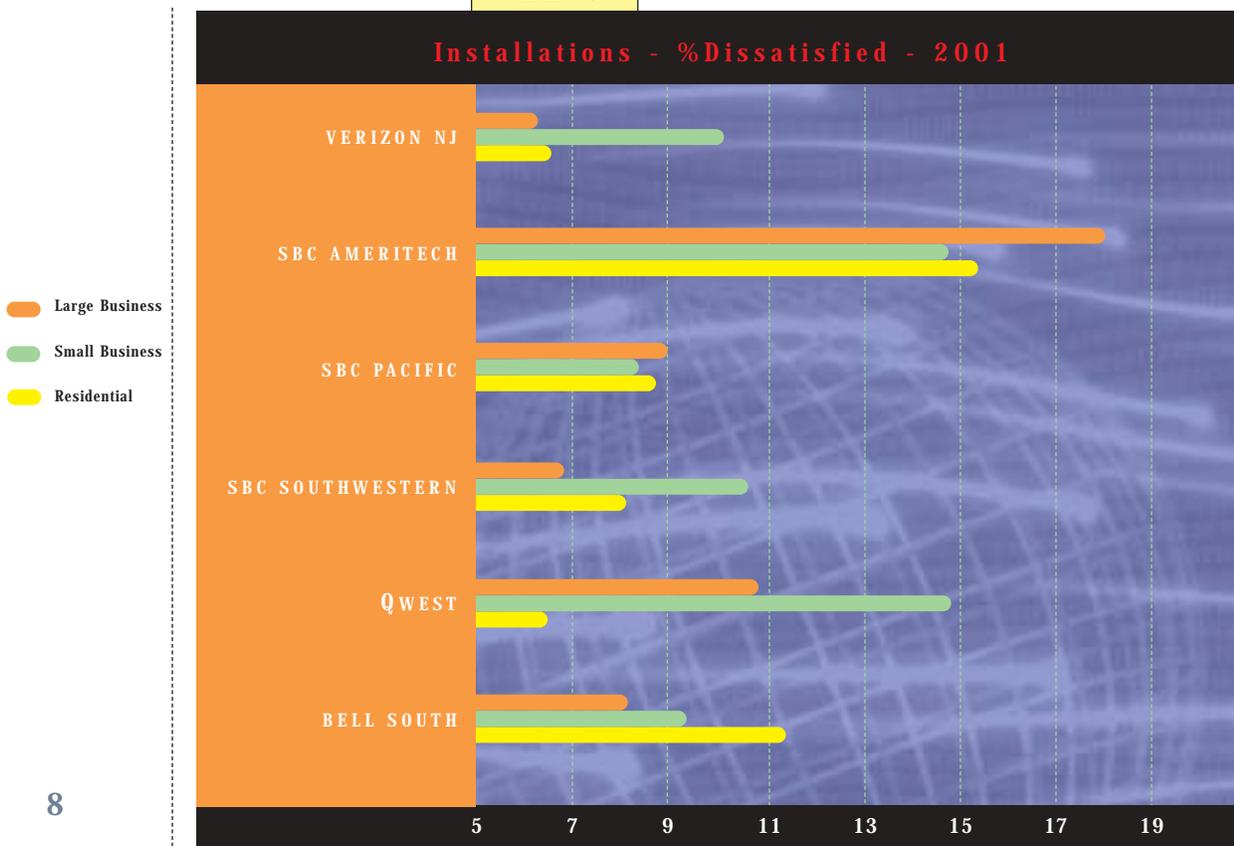
of service requirements have been met or exceeded by Verizon NJ during the period of analysis. Verizon NJ has consistently met the quality of service objectives required by the Board.¹³ Based on the most recently available data¹⁴ from 2001, less than seven percent of residence and large business customers expressed dissatisfaction with their installations. Chart 3 on page 8, shows the comparable results achieved by the other RBOCs.

In 2001, Verizon NJ continued to experience a decline in growth of access lines. Although wholesale access lines increased, Verizon NJ ended the year with approximately 120,000 less total lines than at the

end of 2000, as the telecommunications industry is experiencing a dramatic change from competition on all sides - new technology and providers. Network investments are driven by the customer demand for a broadening array of services. These services range from Internet access, and high-speed transport to applications requiring packet-switched networks, combinations of switched and private networks, and customized network designs. Additionally, the network must be able to handle increased traffic volumes from competitors using Verizon NJ's wholesale service offerings and network. Verizon NJ has implemented a comprehensive process to make it easier for competitors to gather

¹³ "Final Report on the Review of the Financial Integrity of Verizon New Jersey", The Liberty Consulting Group, October 19, 2001, p. 32
¹⁴ <http://gullfoss2.fcc.gov/cgi-bin/websql/prod/ccb/armis1/forms/armis.hts>

Chart 3



Source: ARMIS report 43-06: Customer Satisfaction Survey-2001 Data

preordering information on customers, submit orders for service, have service provisioned, bill users, and report troubles. For example, Verizon NJ:

- Combines different elements of Verizon NJ's network (unbundled network elements) for basic residential local service and residential ISDN service, making it easier for competitors to provide local service.
- Provides line sharing, enabling competitors to use existing subscriber lines to provide DSL service.
- Provides a comprehensive process to make it easier for competing local telephone companies to do business with Verizon NJ, including: using a database to track escalation of service-related problems and written procedures for reporting

such problems, a service center dedicated to processing local service requests of competitors, and a measurement process to gauge the center's performance.

- Provide non-discriminatory access that allows competitors to tie their systems directly to Verizon NJ's operating support systems for pre-ordering, ordering, provisioning, maintenance, repair and billing.
- Verizon NJ also has a facility in New Jersey solely dedicated to handling the needs of competitors. In New Jersey, 117 carriers are certified to provide local telecommunications services and 57 more have filed for regulatory approval. These companies are experiencing explosive growth. In 2001, Verizon NJ exchanged 23.2 billion minutes of traffic with them, a 70 percent increase over 2000.

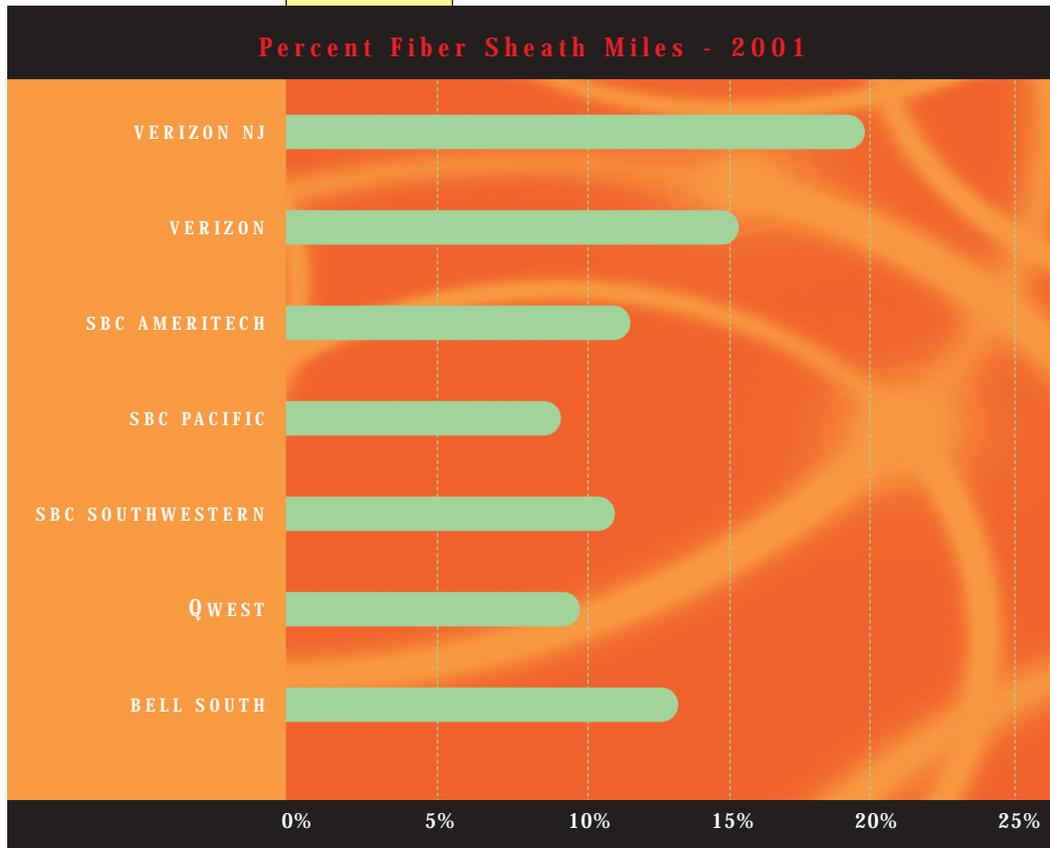


Today, Verizon NJ's sophisticated and intelligent communications network provides a world-class vehicle for accessing voice, data, imaging and video. Verizon NJ exceeded its commitments by making the Advanced Intelligent Network (AIN) and narrowband service capabilities 100 percent available in 1997, one year earlier than required. This section will address progress on the remaining two service capabilities of ONJ¹⁵ and ANJ — wideband and broadband. To accommodate ONJ, as accelerated by ANJ, Verizon NJ developed a deployment strategy so that the benefits of a broadband capable net-

work could be realized even sooner than required. The initial deployment of Asynchronous Transfer Mode (ATM) switches and fast packet switches at key hub locations linked with a high-speed fiber optic backbone provided statewide availability of an ATM-based network to all schools, libraries and urban areas in the Verizon NJ serving area one year ahead of schedule in 1998. Appendix C lists Verizon NJ's accomplishments and shows the progress made toward fulfilling the commitments under the ANJ program.

¹⁵ Appendix B provides data on service capability and technology deployment under the plan.

Chart 4



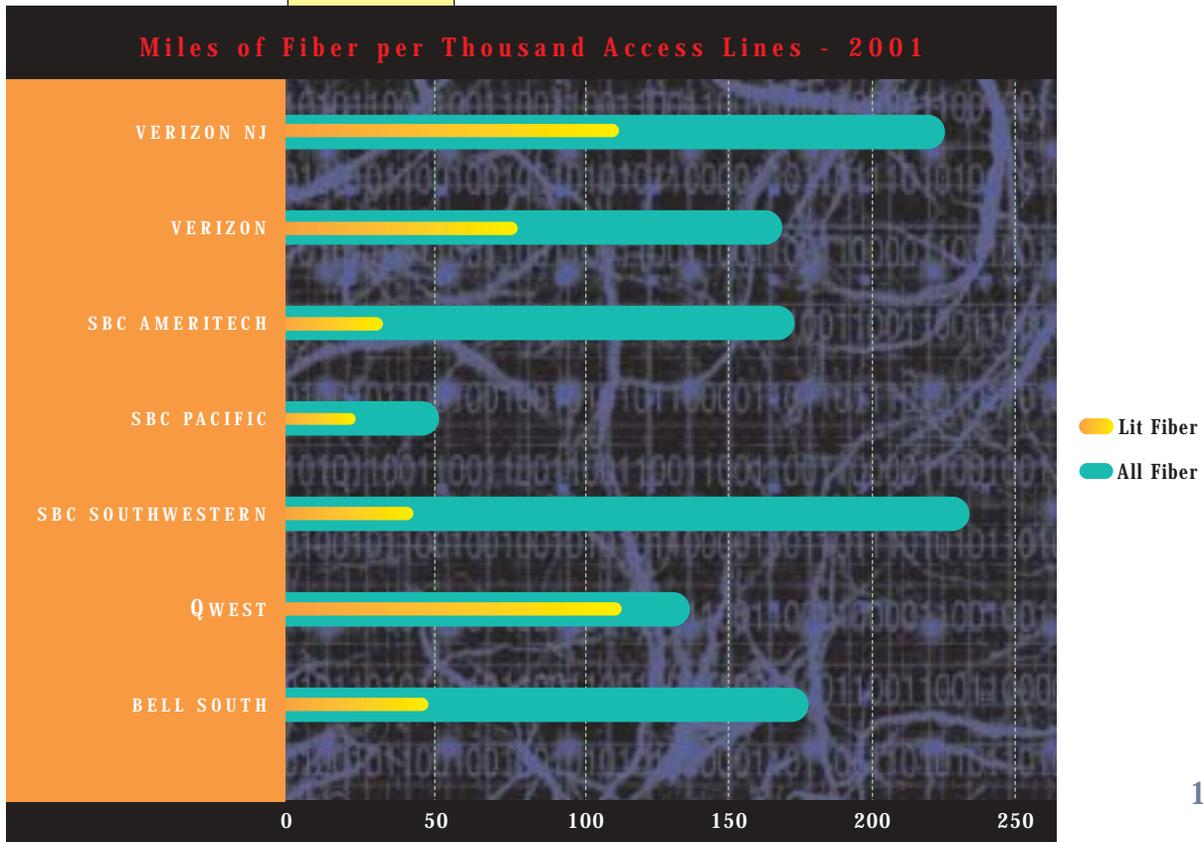
Source: FCC Fiber Deployment Update (table 12)

40 ATM switches and 160 fast packet switches at key hub locations provide statewide availability of ATM, frame relay and Switched Multimegabit Data Services (SMDS) to all New Jersey public and non-public schools, public libraries, Abbott Districts and urban areas. In 2001, Verizon NJ placed 16 additional ATM and 10 fast packet switches and augmented a statewide video portal.

The Video Portal is just one more step toward the future of electronic education. Using existing statewide ATM services and an ISDN gateway, the Video Portal encourages video-based distance learning for grades K-12, bringing the power and

creativity of information technology into the classroom and extending valuable resources throughout the state. One of the key goals of the ANJ program is to provide every school in Verizon NJ's territory with access to video conferencing capabilities. Prior to the establishment of the video portal, New Jersey schools running different communication systems could not interact. One highlight of the Video Portal gateway is that it facilitates multi-point conferencing, meaning that multiple schools can participate in the same event. The Video Portal's gateway capability is another unique feature, which seamlessly integrates different communications technologies. The three Local Access Transport Areas (LATAs) in New Jersey previously hindered school com-

Chart 5



Source: FCC Fiber Deployment Update (table 12)

munications. A provision in the 1996 Telecommunications Act, however, allows Verizon to remove these barriers to provide two-way interactive video or Internet services over dedicated facilities to benefit K-12 education. The Video Portal Network now provides circuits to interconnect these LATAs in New Jersey. Verizon NJ is the first local phone company to deliver broadband video services on a large scale to schools across LATA (long-distance) boundaries.

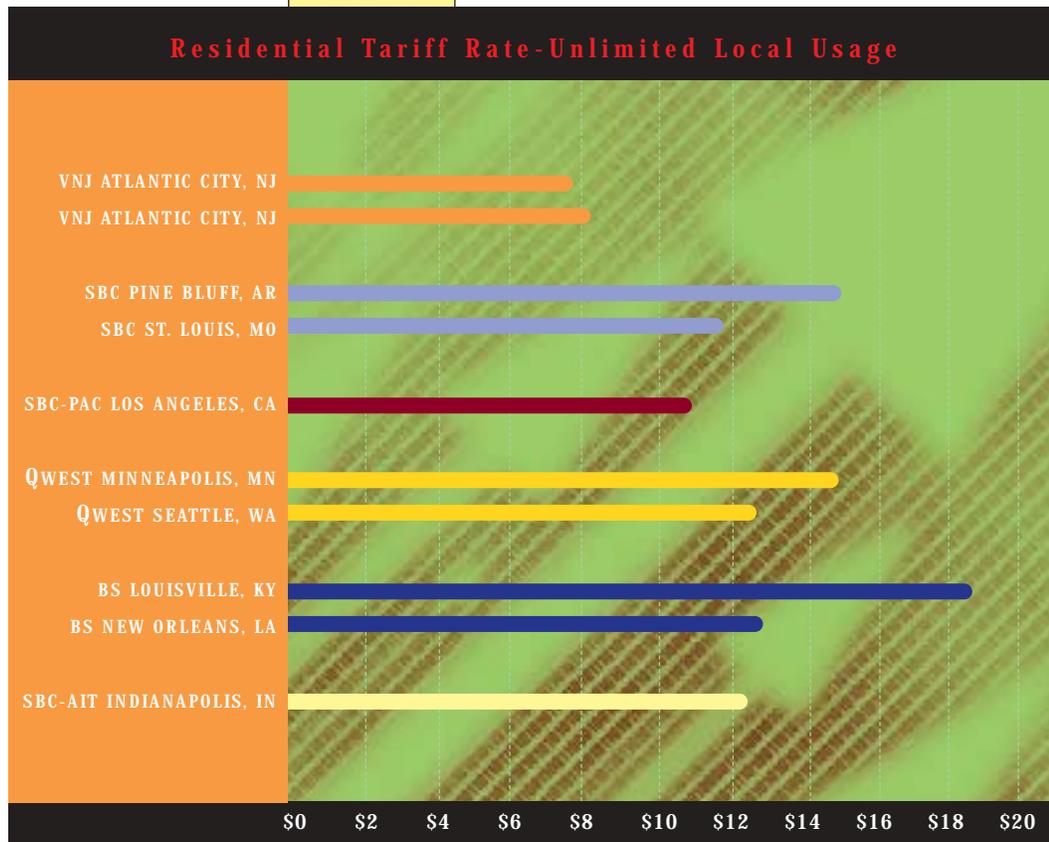
In his testimony in Docket No. T001020095 Dr. Jeffrey V. Osowski, former Assistant Commissioner, NJ Department of Education stated:
“The capabilities of the Video Portal network provide New Jersey’s Educational community

with a distance learning platform unmatched in the nation. Pre-K-12 schools throughout the State, using ISDN and ATM, can communicate with each other and in groups, all over a network managed by Verizon.”¹⁶

Verizon NJ deployed 132,681 miles of fiber in 2001. Fiber optics accounts for one-fifth of Verizon NJ’s total cable sheath miles. With 1,532,240 miles of fiber deployed, Verizon NJ leads all other Verizon East States accounting for almost 22 percent of the overall Verizon East regional total. Verizon NJ’s single-state fiber deployment record is impressive when compared to total fiber mile statis-

¹⁶ BPU Docket No. T001020095.

Chart 6



Source: GAO's survey of state public utility commissions (May-September 2001)

tics for the other Regional Bell Operating Companies (RBOCs). Based on the most recently available data¹⁷ from 2001, Verizon NJ continues to outpace most other RBOCs in fiber deployment. Chart 4 on page 10, clearly demonstrates that Verizon NJ's percentage of fiber sheath miles to total sheath miles far exceeds all other RBOCs. In addition, as illustrated in Chart 5 on page 11, with more than 200 miles of fiber per thousand access lines, Verizon NJ far exceeds the efforts of all but one of the other RBOCs. The numbers show that Verizon NJ continues to be a national leader in fiber optic deployment. Verizon NJ's accomplishments are even more impressive when considered in the context of residential basic exchange rates, which are the lowest among the

former RBOCs. Chart 6 shows a sampling of residential basic tariff rates, including unlimited local usage, for various cities from a survey conducted by the USGAO.¹⁸ In addition to having the lowest rates among the RBOCs, Verizon NJ's local rates as a percentage of State median income¹⁹ are significantly less than those of other RBOCs as illustrated in Chart 7 on page 13. Only one location, out of the 408 included in the USGAO survey, spends less on residential basic tariff rates as a percentage of State median income, than the six NJ locations included in the USGAO survey.

Verizon NJ continues to deploy dense wavelength division multiplexing (DWDM) systems in its core network. Multiwave systems provide immediate

¹⁷ <http://gulfoss2.fcc.gov/cgi-bin/websql/prod/ccb/armis1/forms/armis.hts>

¹⁸ TELECOMMUNICATIONS Federal and State Universal Service Programs and Challenges to Funding, United States General Accounting Office, February 2002

¹⁹ U.S. Census Bureau, Census 2000 Supplementary Survey

Chart 7



Source: GAO's survey of state public utility commissions (May-September 2001) and U.S. Census Bureau, Census 2000 Supplementary Survey

bandwidth relief so that new fiber is not needed. DWDM extends the life of current fiber optic plant and has the flexibility to handle all types and speeds of traffic. It also provides the flexibility to respond to the needs of customers for increased bandwidth in a timelier manner than having to place additional fiber.

The Telecommunications Act of 1996 brought sweeping changes in telecommunications regulations. Competition in local markets and the convergence of technologies have significantly and permanently altered the landscape of telecommunications. The explosive growth in the Internet has resulted in consumer demand for high-speed data services. Consequently, the technological community

has focused its efforts on the development of technology capable of providing data access to residential customers at greater speeds and functionality. Competitors using fiber, DSL, satellites, cable TV and other wireless based services now offer access to the Internet.

To speed broadband service availability to the residential marketplace, Verizon NJ has equipped a total of 168 central offices in New Jersey with RADSL (Rate Adaptive Digital Subscriber Line). The technology uses existing copper facilities to provide high-speed Internet access. The rollout was targeted initially to key urban areas including Newark, Camden, East Orange, Elizabeth, New Brunswick,

Paterson, Trenton and most of Hudson County, including Jersey City. RADSL enables customers to use Verizon NJ's Online DSL service to access the Internet at data rates ranging from 640 kbps (kilobits per second) to 7.1 mbps (megabits per second) or 120 times faster than a 56 kbps modem. For example, downloading the entire *Encyclopedia Britannica* with a 56 kbps modem would take 13 minutes. An ISDN (Integrated Service Digital Network) line working at 128 kbps would perform the same task in 6 minutes, while the slowest speed RADSL at 640 kbps would download the volumes in 70 seconds.

In 2001, Verizon NJ added 565 more SONET (Synchronous Optical Network) rings bringing the total deployed to 1,779, including 641 customer rings, 1,122 interoffice facilities rings, and 16 interexchange carrier rings. SONET technology continues to provide unparalleled security, faster service provisioning and network survivability. This technology continues to make New Jersey highly attractive to business.

Verizon NJ has invested \$7.583 billion in New Jersey since ONJ was approved. In 2001, the Company spent \$1.066 billion. Since the plan was approved, Verizon NJ's spending averaged \$870 million per year, a total of \$1.1 billion more than original

BAU estimates (through 1999, which is the last year of the original BAU estimates). With nine years left in the deployment schedule, these investments position Verizon NJ to fulfill its remaining ONJ and ANJ service capability commitments. Verizon NJ's progress has provided the state with early recognition as a leader in advanced telecommunications technology and services as envisioned by public policymakers.

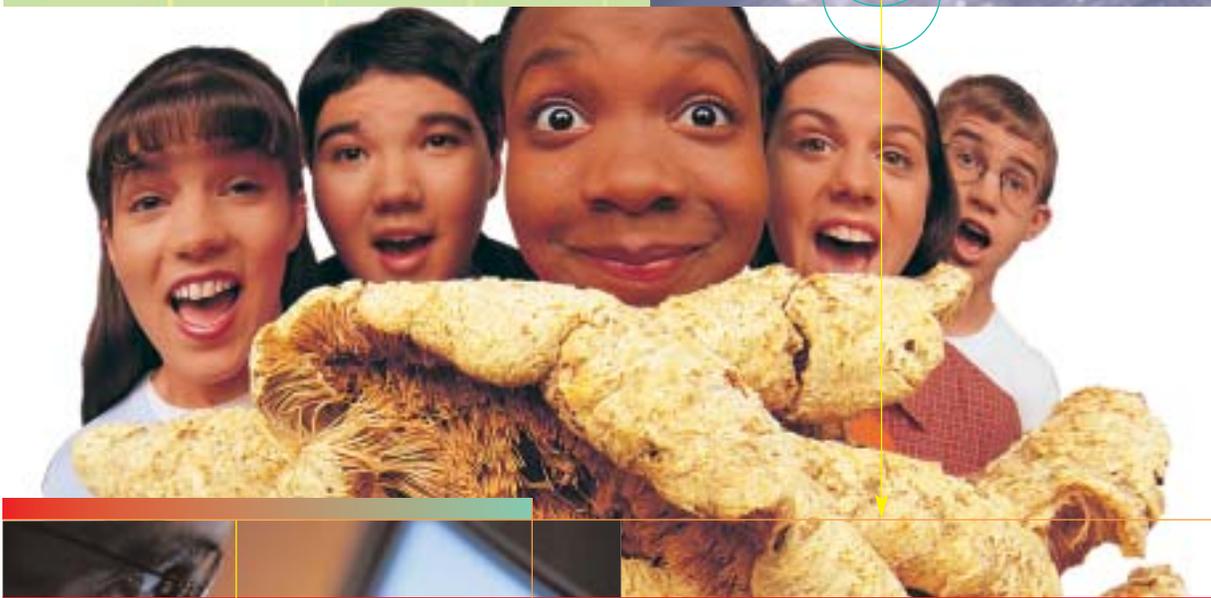
In 2001, Thomas H. Weiss, on behalf of the New Jersey Division of the Ratepayer Advocate, testified:

"Verizon's New Jersey wireline network infrastructure is technologically modern. The Company's network has the capacity to provide a full range of advanced telecommunications products and services to the general body of Verizon's business and residential customers. It is also equipped and configured to accomplish all of the goals of the Opportunity New Jersey ("ONJ") program as modified by the additional requirements of Access New Jersey ("ANJ"), but only to the extent that the intended beneficiaries of ANJ (i.e., schools and libraries in the state) are economically able to take advantage of the program."

"In summary, as the result of the ONJ program, Verizon's New Jersey network infrastructure is fully ready and able to provide high-speed network access for schools and libraries at virtually any bit transfer rate that they may require."²⁰

²⁰ Testimony of Thomas H. Weiss Docket No. TO01020095

Benefits to New Jersey and New Jerseyans



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environment. Five years later, this assessment was confirmed by a follow-up study conducted by the same consulting firm. The significance of New Jersey's telecommunications infrastructure is illustrated by a statement on a State of New Jersey Web Page, "New Jersey: An Economic Overview": "New Jersey is located at the hub of the most modern telecommunications network in the world."²¹

For or well over a decade, experts have agreed that there is a causal relationship between advanced telecommunications infrastructure deployment and economic development. In its 1991 *Infrastructure Study*, the Deloitte & Touche Consulting Group projected that telecommunications services would become increasingly important in the business

Verizon NJ has hired 9,979 employees and invested \$7,583 billion in New Jersey since ONJ took effect in 1993. During this time, New Jersey's nonfarm employment has grown by more than 500,000.²² Except for 2000, New Jersey unemployment at an average of 4.3 % for 2001, was at its lowest since 1989. "New Jersey's economy has held up fairly well during this national economic slowdown," said

²¹ <http://www.state.nj.us/commerce/economics.html#top>

²² U.S. Bureau of Labor Statistics, <http://data.bls.gov/cgi-bin/surveymost>

Labor Department Spokesman Kevin Smith. "December of 2001 marked the 25th consecutive month that New Jersey's unemployment rate remained at or below the national level which was 5.8 percent in December."²³ In 2001, Verizon NJ, demonstrating its commitment to Newark and New Jersey, began a multi-year, 40 plus million-dollar renovation to its corporate headquarters in Newark.

Verizon NJ provides a full range of customized communications solutions to address the complex requirements of business customers. Our products and services are designed to meet the connectivity requirements of a dynamic business environment, reaching beyond traditional boundaries to an increasingly distributed workforce, suppliers and key customers. Today, companies are looking for customized network communication solutions that enable them to share information quickly and securely among employees, customers and suppliers by combining the broad availability of the Internet with the control, high-speed connectivity and security offered by traditional communications networks. As a result, the network is increasing in its importance to business, as it becomes the central means not only to deliver information, but also to manage, direct and monitor all information flows within a business. Verizon NJ's advanced network facilitated the timely provisioning of services to customers relocating to New Jersey in the wake of the September 11 attack. Customers relocating employees and offices included American Express, Deutsche Bank, Dow Jones, Kemper

Insurance, Merrill Lynch, Morgan Stanley, and Port Authority of NY and NJ, among others, to various locations throughout New Jersey including Bergen, Hudson, Mercer, Middlesex and Morris counties.²⁴

In 2001, several large corporations continued to take advantage of the capabilities of Verizon NJ's advanced network by contracting for services such as SONET. SONET is an important service because the client's local access, up to and including presence in a Carrier Point of Presence (POP), is protected by a self-healing fiber ring in the contracted bandwidths. No local outages should occur. This is the cornerstone for alternate routing and disaster avoidance.

The availability of advanced telecommunications continues to be attractive to business in New Jersey. Many businesses, including small start-ups, are technology driven and need more than basic local voice access to be competitive in their markets, both domestically and globally. Customers of all sizes require advanced digital services including Frame Relay, Primary Rate ISDN, xDSL, High Capacity Digital Lines, and Digital Hand-offs. Verizon NJ's advanced network has facilitated meeting these requirements despite the diverse needs and geographic location of many of these customers.

Health systems also use New Jersey's advanced network to create innovative services. For example, Healthynj.org is a creation of the University Libraries within the University of Medicine and Dentistry of NJ (UMDNJ), which will help alleviate

²³ New Jersey Department of Labor news release dated January 14, 2002, <http://www.wnjin.state.nj.us/OneStopCareerCenter/LaborMarketInformation/lmi16/release1.htm>

²⁴ Bergen Record, October 21, 2001

the critical shortage of valid web-based health consumer information. It serves as a comprehensive, authoritative information resource for New Jersey residents with an interest in health and well-being – the first of its kind to ride over Verizon’s telecommunications infrastructure. The site is divided into four main areas: Health and Wellness, Diseases and Conditions, Health in New Jersey and the Reference Desk. The first three establishes a community of support through health recommendations and patient education information like fact sheets or print literature. The reference section features online resources, including medical databases and dictionaries, online text- books and tutorials. Information will always be current and delivered in real time. Judy Cohn, director of the George F. Smith Library at the UMDNJ, said, “Health in New Jersey is a very high priority. With the massive amounts of information on the Internet, we want to make sense of the resources available to the consumers.” As it expands, Cohn said the group intends to conduct focus groups with librarians and consumers to get feedback and ascertain their needs. The UMDNJ library is also eager to cultivate collaborative relationships with public and school libraries throughout the state. Through contributions to the NJ Library Association, Verizon NJ provided the resources to move the site from an idea to a reality.

Economic development depends greatly on the availability of a skilled workforce. During his campaign, Governor Jim McGreevey said:

“We need to harness the resources and skills of educators, parents, the business

community and colleges to produce schools that prepare our children for the challenges of the future. The strength of public education is the most critical element in the technology-based economy.”²⁵

Verizon NJ and the State of New Jersey have been extremely successful in marrying technology to education. Included in that effort is the continued activity of Workforce Investment Boards (WIBs). The WIBs’ mission is to ensure that New Jersey businesses take the lead in the state’s Workforce Readiness Initiatives and that Prosperity New Jersey will link the employment, training, and education system to the competitive demands of the global economy. This partnership of the private and public sectors exists in each county or multi-county area to develop, maintain, and implement a new system that is consumer and labor based. Verizon NJ managers sit on 6 of the 15 WIBs. One of the objectives of the WIBs is to develop School-to-Career opportunities.

Verizon NJ has expanded the idea of an employee training center to a community wide interactive multimedia resource center. As part of Verizon NJ’s commitment to the use of interactive technology in education, Verizon NJ has built a multimedia classroom within its headquarters building in Newark. The facility opened spring 2001, and features the type of advanced network technologies that Access New JerseySM is bringing to more than 2000 schools and libraries throughout the Garden State. It advances Verizon NJ’s proud heritage of bringing advanced

²⁵ <http://www.cpanj.com/capitalreportpages/campaigncorner/march2001/SENATOR%20LIEBERMAN%20JOINS%20WITH%20McGREEVEY.htm>

information technology to Newark. It is available to public schools in the area; local museums may use the classroom to conduct training for teachers throughout the state via interactive video and community-based organizations may use the classroom for computer training or to participate in relevant videoconference events. It brings value to local organizations that may not be able to finance or support the technology in-house. Every week local students paired with Verizon employee tutors use the center for computer based lessons in Math and Reading. This program provides skill development and tracking of each student's progress.

Verizon NJ has continued to support SeniorNet, a non-profit organization with six centers in New Jersey and more than 220 SeniorNet learning centers and satellites nationwide. SeniorNet centers are dedicated to providing seniors with basic computer skills and cyber communications training. Centers are open in West Orange, Tenafly, Ewing, Eatontown, Union and Manahawkin. In the Fall of 2001, Verizon-NJ was a sponsor of the SeniorNet Eastern Regional Conference held at the Ewing Township Community Center. Calvin Iszard, Verizon NJ Director - External Affairs, joined Senator Shirley Turner and Mayor Al Bridges of Ewing as a key-note speaker during the opening session and addressed the group of over 175 participants from all over the Delaware Valley on issues from protecting their identities to our Lifeline service.

Verizon NJ continues to advocate the use of technology to benefit New Jersey children. The ONJ Technology grant program, begun jointly with the New Jersey Association of School Administrators, encourages the development of technology applications in New Jersey's K-12 schools. Since 1996, the ONJ grant program provided approximately \$700,000 to fund opportunities for schools and libraries (in 1998, under ANJ, the ONJ Grant program was extended to libraries) to bridge geographic, cultural, and socio-economic differences. To date, 21 libraries have benefited from more than \$525,000 in grants awarded under this program.

Access New Jersey (ANJ)

ANJ is a comprehensive solution for acquiring or upgrading telecommunications technology for virtually every facet of the learning environment in schools and libraries throughout the Verizon NJ service area. ANJ has proved to be an overwhelming success.²⁶ The Atlantic City Press referenced the success of ANJ in a recent article dated February 3, 2002:

"The state funds, along with federal e-rate grants and Verizon's "Access NJ" discounts helped the state reach its technology goal of one computer for every five students a year early, in 2001. The state's 2001 Technology Survey showed 99 percent of districts and 61 percent of schools responding have technology coordinators. More than 84 percent have Internet access, and almost 80 percent have distance-learning capabilities."²⁷

²⁶ BA-NJ's progress is detailed in Appendix C.

²⁷ <http://www.pressofatlanticcity.com/news/newjersey/020302VIRTUALTRIPS.html>

Chart 8

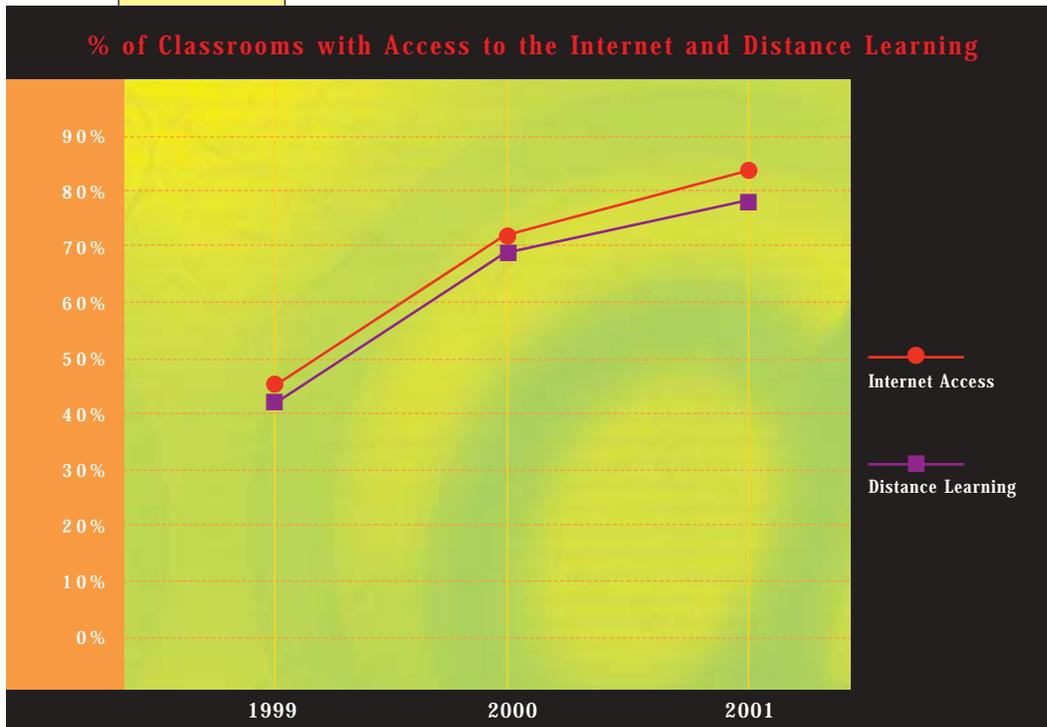


Chart 8 shows the dramatic increases in percent of classrooms with access to the Internet and distance learning capabilities over the last few years.²⁸

In 2001, Verizon NJ spent \$5.7 million supplementing the ATM-based network, bringing the total spent since 1998 to \$39.5 million. In 2001, Verizon NJ installed 16 additional ATM and 10 fast packet switches at key hub locations, supplementing the statewide availability of ATM services previously provided in 1998, a full year ahead of schedule. Every public and non-public school and public library in every urban, suburban and rural area of the state served by Verizon NJ has been given the opportunity to take advantage of the program. By the end of 2001, 2,317 K-12 schools and libraries, representing every county in the state, have taken advantage of ANJ. In fact, contracts have been signed

in 100% of the towns with Urban Enterprise Zones (UEZ). In addition, 87 percent of the Abbott Districts and 71 percent of the Economically Disadvantaged Districts participate in the program. Schools and libraries within the Verizon NJ serving area participating in the program are saving \$70 million on customer premise equipment (CPE) and service discounts. Verizon NJ distributed \$34 million of free CPE through 2001, representing more than 100 percent of the original CPE fund. Although Abbott Districts constitute only 7% of the public school districts participating in ANJ, they received 23% of the total funding for free equipment, or \$7.8 million. \$910,000 was used to fund free ITV (interactive television) classrooms for 17 Abbott Districts. Appendix D lists the number of contracts, locations and savings by county.

²⁸ Source: NJ School Technology Survey 2001 Report

Dr. Jeffrey V. Osowski, former Assistant Commissioner, NJ Department of Education, testified, in 2001, to the benefits of ANJ:

“Providing ubiquitous technology in our schools and libraries means many things. For example, integrating computers into the educational process with telecommunications access accelerates learning. When technology access is provided, attendance improves, grades go up and discipline problems down. This has been demonstrated in many New Jersey schools - especially in the State’s most economically-disadvantaged areas such as the Whitney Young School in Jersey City, Camden Middle School in Newark and the nationally-acclaimed Christopher Columbus School and Emerson High School projects in Union City. As schools and libraries in New Jersey take advantage of the affordable rates provided by ANJ, the inequalities stop at the schoolhouse door and at the front steps of the library.”

“As for library services, participation in ANJ has enabled 309 public libraries in our State (233 municipal libraries, 14 county libraries, and 62 public association libraries) to provide advanced services as outlined in the New Jersey State Library’s Technology Plan, *Libraries 2000*. ANJ provides more than \$3.5 million for public libraries’ telecommunications equipment, installation of lines and discounted rates. The availability of high speed services through the ANJ program enabled the State Library to establish advanced Technology programs such as the Cyberdesk (www.njstatelib.org/cyberdesk/) and to offer EBSCO Information Services - an

integrated information system that includes over 1,200 full-text periodicals online.

These programs demonstrate some of the numerous benefits for schools and libraries from the provisions of the ANJ program. The ANJ program established a foundation support that is building into very successful educational experiences in classrooms and libraries throughout the state.”²⁹

Also, regarding libraries, Patricia A. Tumulty, in 2001, testified to the following at a public hearing:

“The Access New Jersey program provided the catalyst for Internet development for New Jersey libraries. In 1996 only 14% of the public libraries in the state had public access to the Internet for its patrons. In just five short years that picture is drastically different. Now approximately 95% of all public libraries have patron access to the Internet. From the New Jersey Library Association’s view the Access New Jersey agreement was a critical turning point. Without the discounted rates and equipment provided through this agreement, many libraries would not be providing Internet services to the residents of New Jersey.

The commitment of Verizon to the implementation of the Access New Jersey proposal has been commendable. From the beginning Verizon assigned technical and administrative staff to the program. The Verizon staff assisted the New Jersey State Library in designing its Hub project which links public libraries to the Internet in a cost effective manner. Equipment for Hub programs such as high speed routers came through the Access New Jersey program.

²⁹ BPU Docket No. T001020095

This equipment was essential for the implementation of this initiative.”

“We thank the Verizon corporation and its staff for the successful implementation of ANJ. Their cooperation and commitment has been essential to the success of this program. They have been extremely supportive partners in implementing this program. We are extremely pleased that they wish to continue this program in the future.

ANJ has provided the financial foundation to transform the libraries of New Jersey to digital gateways for all residents. It has made a fundamental difference in the quality of library services in our state and has provided access to the Internet for millions of residents of New Jersey.”³⁰

In BPU Docket No. TO99120934, Patricia A. Tumulty testified on details of the Hub project:

“There are currently 16 hub libraries throughout New Jersey. Verizon has indicated that this design actually saves New Jersey public libraries approximately \$1 million in telecommunications and Internet costs each year. Equipment provided to the hubs such as high speed routers came through the Access New Jersey program. The library community views the “hub” program as a great success. In addition, the New Jersey Library Association has worked directly with Verizon on a grant program which assists our public libraries in developing model projects for the use of new technology to serve community partners.”³¹

The New Jersey Library Association honored Dennis Bone, president of Verizon NJ, at their April, 2001 convention. The award recognized the support that Verizon has offered to New Jersey’s library community through its Access New Jersey Program and the grants made to individual libraries.

In his testimony, Dr. Osowski also cited examples of ANJ school-based participants using advanced technology resources to enhance instruction:

“Cumberland County Collaboration Between Abbott Districts (Vineland and Bridgeton)

John Cassadia’s 9th grade class in the Vineland School District was able to send video out from their science room through the school’s network via ATM connectivity to the Bridgeton School District where they shared their classroom activity with the science class there. Chicks raced across desktops on the video feed while students worked together presenting and learning about the developmental life stages of the chicken.

Bergen County Empowering Students To Think Beyond Local Resources

Students from the Bergen County Academy participating in the “Who Shot J.F.K.?” project interviewed Dr. Paul C. Peters in their continued search for the truth in the assassination of President John F. Kennedy. Dr. Peters was part of a team of surgeons at Parkland Memorial

³⁰ Public Hearing Testimony of Patricia A. Tumulty, BPU Docket No. T001020095, April 13, 2001
³¹ Rebuttal Testimony of Patricia A. Tumulty, BPU Docket No. TO99120934

Hospital who tried desperately to save the president's life minutes after he was shot in the back and head. One can still hear real time responses from Dr. Peters on the website outlining this project [www.bergen.org/BCTC/Projects/Peters_JFK/].

Gloucester County Expanding Teachers' Horizons

Having received a grant that related to world languages, West Deptford High School pulled in Specialists in this area. The presenter came to the high school and the school then connected by ITV to groups at Delsea High School, the Gloucester County Educational Technology Training Center and the Camden County Educational Technology Training Center on a monthly basis. Teachers united in learning from each of the monthly presentations and took an electronic field trip to the Philadelphia Art Museum where the histories of various French paintings were related to them in French. Sessions were videotaped to be shared again with other teachers.

There are countless other examples of the explosion of technology-based activities in our schools on the NJDOE's website [www.state.nj.us/education] and through the link to school web sites [www.state.nj.us/njdecl/tech-no/sur-vey/results/2000/websites.htm].³² Participation in ANJ continued to grow in 2001, as advanced technology through ONJ and ANJ helped to prepare New Jersey's 1.2 million K-12 students for the

future. Some examples of innovative use of technology follow:

Advancing Arts, Culture and English using Interactive Technologies (AACE IT) is New Jersey's first cross-curricular high school English course to incorporate live, interactive video among educators, guest experts, scholars, performing and visual artists, and students. The program brings together students from three culturally diverse New Jersey high schools (Newark, suburban Glen Ridge and rural Warren) via their schools' interactive video technologies for real-time discussions of literature and theater. "AACE IT was designed, in large part, to advance educational equity among students who might not otherwise meet each other," said Mark Blackman, ArtsPower's Director of Development.

WARRENNET, consisting of 900 teachers and 9000 students from twenty-three Warren County school districts and government agencies that receive their Internet services through Warren County Technical School, undertook a unique project during the 2000-2001 school year. WARRENNET, partnered with the Smithsonian Migratory Bird Center, The U.S. Fish and Wildlife Service, Warren and Hunterdon County Fish and Wildlife Services, and The Avery.com, to study migratory birds (<http://www.warrennet.org/countybirds>). Over 2400 students were registered by their teachers to explore the world of migratory birds in the U.S."³³

³² BPU Docket No. T001020095

³³ NJAET Winter 2001 Newsletter <http://www.njaet.org/winter2001.html>

The NJDOE awarded a Pairing and Sharing grant to a joint program between Woodbury and Monroe Public Schools in Gloucester County to support a web-based problem-solving program entitled "Technology and Learning". The schools investigated the issues and work toward the solutions necessary to sustain life in a closed environment called a biome. Their chosen environment was the ocean. During the research phase, the schools developed a working relationship with NASA. The benefits of the program are likely to continue because NASA has expressed the desire to create a template for similar distance learning activities.³⁴

Another NJDOE Pairing and Sharing grant allowed North Arlington High School and Lodi High School to share instructional strategy/resource via teleconferencing to learn to use graphing calculators to plot and graph data, to solve systems of equations, and to detect motion using the Calculator-based laboratory tools and motion detectors. Students became more proficient in their use of the graphing calculators through a project that involved testing the water quality of the Passaic and Saddle rivers and interacted with each other by comparing results.³⁵

The NJDOE's Technology Fellowship³⁶ program recognizes and enables classroom teachers who effectively use technology in their classroom instruction to mentor and model their practices throughout the state. As an example, Shawn Fitzpatrick, a Technology Fellow and 4th grade Math

and Science teacher in the Burlington Township School District, created an Online Classroom web site for his students and their families:

"This web site allows for his students to view images of their activities from class, prepare for future assessments and check daily assignments. Parents use this web site as a communication tool to confirm upcoming events and homework assignments. Shawn's goal for this project is to use Online Classroom as a skeleton to give teachers (throughout the district) a jump-start to their own web sites."³⁷

Logan Elementary School in Logan Township, NJ has made extensive use of distance learning via electronic (video) field trips. Students have had conferences with diverse sites including the Museum of Tolerance in Los Angeles, Liberty Science Center in Jersey City, Conner Prairie in Indiana, the Cincinnati Zoo and the Philadelphia Museum of Art.

In letters to Verizon NJ, school districts across the state acknowledge how pleased they are with what ANJ has done for their schools. According to these educators, two direct outcomes, one budgetary and one instructional, are "forcing districts to move into the Information Age."³⁸ The discounts and free equipment allow school districts to devote more of their limited fiscal resources to provide direct instructional services to children while at the same time upgrading their networking technologies and systems.

³⁴ NJ School Technology Survey 2001 Report <http://www.state.nj.us/njded/techno/survey/results/2001/survey.pdf>
³⁵ http://www.njcommunity.com/servlet/sites_ProcServ/DBPAGE=page&GID=00001000010889556947603584&PG=01299001001007413431801579
³⁶ <http://www.state.nj.us/njded/techno/fellowship/private/brochure.pdf>
³⁷ <http://www.state.nj.us/njded/techno/fellowship/abstract.htm>
³⁸ Memo from Monroe Township Superintendent of Schools, dated April 19, 2000.



Conclusion



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When Alexander Graham Bell made the first telephone call in 1876, he started a revolution in the way people communicate. The telephone became the prime method for families and friends to bridge the geographic distance that separated them. It became a tool critical to commerce. Businesses came to rely on it. Today, businesses continue to rely on it.

The infusion of advanced technologies into New Jersey's telecommunications infrastructure continues to tear down the barriers of distance and time. The Verizon NJ network equips our state with an affordable full service network that will keep New Jersey prosperous, educated, safe and strong. As validated by the 1998-1999 Hezel report, Verizon NJ's advanced network capabilities, offered under ONJ and ANJ, position New Jersey among the leaders in telecommunications for the Information Age.

We at Verizon NJ realize that while recognition is nice, the work is not yet done. With the anticipated approval of PAR-2 in 2002, the equipment fund will be expanded and extended to allow schools and libraries to take advantage of the wideband and broadband services that this new network provides. We will continue to work with the Department of Education and educators to help schools and libraries within the Verizon NJ serving area take advantage of special discounts. And above all, we will continue our larger commitment to bring the benefits of the Information Age to every citizen in New Jersey. Verizon NJ's commitment to technology and learning, under ONJ as accelerated by ANJ, works hand in hand with New Jersey's goal to leap forward into the 21st century.



verizon

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providing availability
to the benefits of the
information age



Evolution of “The Plan”

The 1992 New Jersey Telecommunications Act allowed the New Jersey Board of Public Utilities (Board, BPU) to deal more effectively with changes in markets and technology that were occurring within the telecommunications industry. This law permitted the BPU to adopt alternative forms of regulation and provided a road map for New Jersey’s entry into the information age.

In 1993, the BPU approved a Plan for an Alternative Form of Regulation (PAR)¹ that provided an initial framework enabling Verizon New Jersey (Verizon NJ, Company) to accelerate the deployment of an advanced infrastructure over a 17-year period. The infrastructure plan, called Opportunity New JerseySM (Plan, ONJ), provided a blueprint for upgrading New Jersey’s telecommunications network to position the state to deliver a wide variety of new information age services and enhance New Jersey’s economic competitiveness. The deployment plan was forward looking, in that it contained the flexibility to address the evolution of technology during the 17-year life of the plan.

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The plan evolved from a comprehensive Infrastructure Study that was commissioned by the BPU. The objectives of the study were, among other things, to identify what would be required for the state’s policymakers to chart a new course for telecommunications regulatory policy. The study, published in 1991 by Deloitte and Touche, found that a “significant strategic opportunity exists to advance the public agenda in New Jersey through the accelerated deployment of a reasonably priced, advanced telecommunications network in the state.” Five years later, this assessment was sustained by a follow-up study conducted by the same consulting firm.

The 1996 Deloitte and Touche study surveyed New Jersey businesses, as well as Economic Development Managers. Study findings showed a significant increase, from 20 percent in 1991 to 97 percent in 1996, in the belief held by businesses that advanced telecommunications services were “critical” to their ability to compete in a global marketplace. This belief was reinforced by the Economic Development Managers’ view that the availability of an advanced telecommunications infrastructure is a “key” element in attracting and maintaining businesses in New Jersey.

Between October 1996 and June 1997, the Board reviewed Verizon’s progress under ONJ and found that Bell Atlantic-New Jersey was meeting, and in many cases, exceeding its commitments. The Ratepayer Advocated stated that “Bell Atlantic-New Jersey has thus far met the milestones the company set for itself in 1992 when the Board approved Opportunity New Jersey. Furthermore, we

¹ On April 28, 1999 the Board approved a one-year extension of PAR until December 31, 2000.

applaud Bell Atlantic-New Jersey for achieving those goals.” Although the record clearly established that Verizon NJ was meeting the commitments of the Plan, the Company agreed to accelerate ONJ further via the deployment of wideband and broadband service capabilities to K-12 schools, public libraries, and urban areas. In April 1997, in cooperation with the BPU and the Ratepayer Advocate, Verizon NJ developed the Access New JerseySM (ANJ) program. ANJ evolved as a comprehensive solution for acquiring or upgrading telecommunications technology for virtually every facet of the learning environment in New Jersey’s schools and libraries throughout the Verizon service area.

Under ONJ as accelerated by ANJ, Verizon NJ agreed to:

- Deploy a \$55 million ATM/fast packet high-speed network over four years. This network would provide voice, video and data capability to all 28 Abbott districts by the end of 1999, and all remaining school districts and libraries in the Verizon NJ service area by the year 2001;
- Establish a \$25 million equipment fund for schools and libraries who subscribe to ANJ to acquire the equipment they need to connect computers and video equipment to the high-speed network; and
- Provide schools and libraries with educational discounts on tariff rates, on a flat rate basis, ranging from 31 to 72 percent for ATM (Asynchronous Transfer Mode), SMDS (Switched Multimegabit Data Service), Frame Relay, and ISDN (Integrated Services Digital Network) services.

In 1999, the Board reviewed the Company’s progress under ONJ as accelerated and found, once again, that Verizon NJ has either satisfied or is on track to satisfy all of its commitments. In testimony before the Board, the Assistant Commissioner of the New Jersey Department of Education stated, “Overall, the number of contracts, the service to the Abbott Districts, the allocation of customer premise equipment, and the development of the ATM-based network met or exceeded the expectations of DOE.”

On December 30, 1999 Verizon NJ filed a modified plan responding to the profound changes in the New Jersey telecommunications marketplace brought about by the Board’s pro-competitive policies, the sweeping changes resulting from the federal Telecommunications Act of 1996 and continuing transition of New Jersey’s telecommunications marketplace from regulated to competitive. Citing delays in other related proceedings, the Company withdrew its petition and requested that the current PAR be extended until these parallel proceedings are completed. On December 22, 2000, the Board approved the extension of PAR and directed Verizon NJ to file its new plan on February 15, 2001.

In a separate initiative, Verizon NJ and the parties to the ANJ stipulation requested that the Board combine the remaining CPE and network funds into a single fund. This would assure that the full amount of \$80 million will be expended and provide maximum access to the high speed ATM based network. The Board directed the Company to set aside a minimum of \$1.8 million of equipment funding for the Abbott Districts. The Board approved this joint motion on December 19, 2000.

Verizon NJ's new plan, the Plan for an Alternative Form of Regulation-2 (PAR-2), was filed on February 15, 2001. The PAR-2 does not propose any changes to existing rates and includes the following proposals:

- Expand Lifeline Service to include Senior Citizens and ratepayers that are not currently eligible; and to allow citizens to self-certify that they are eligible to receive discounted residential basic exchange service.
- Commit an additional \$20 million to expand and extend the Access New Jersey program including free equipment permitting K-12 Schools and Public Libraries to connect to the network through 2004, with contracts for discounted services in effect until the end of 2007.
- Modify existing service quality standards.
- Institute a streamlined process to introduce new service offerings without prior Board approval.

Although an initial schedule was established to conclude the proceeding by year-end, the Board extended the schedule to allow sufficient time to conclude its review of PAR-2 by June 30, 2002.

It has been evident to Verizon NJ for a number of years, that many Abbott and other school districts have had and used competitive alternatives to Verizon NJ's services. The Board officially signaled a new era for telecommunications in New Jersey on January 14, 2002. After it had conducted a proceeding, the Board found that Verizon has complied with the local market opening conditions or 14-point checklist contained in Section 271 of the federal Act. The Board then issued a consultative report to the Federal Communications Commission (FCC) supporting Verizon NJ's compliance with the checklist for approval to enter the long distance market in New Jersey. This will enable Verizon NJ to expand use of the statewide video portal and more efficiently serve school districts that straddle Local Access Transport Area boundaries.

Service Capability & Enabling Technology Deployment

I. Opportunity New Jersey's Service Capabilities	1997	1998	1999	2000	2001	Commitments
Advanced Intelligent Network						
w/o acceleration (est)	80%	88%	94%			
with acceleration (act)	100%			achieved		100% 1998
Narrowband (up to 144 kbps)						
w/o acceleration (est)	74%	82%	87%			none
with acceleration (act)	100%			achieved		100% 1998
Wideband (144 kbps to 1.5 mbps)						
w/o acceleration (est)	50%	62%	71%			none
with acceleration (act)	66%	78%	84%	95%		95% 2000
Broadband (up to 45 mbps & higher)						
w/o acceleration (est)	1%	3%	9%			none
with acceleration (act)	34%	35%	42%	52%	55%	100% 2010

II. Enabling Technology Deployment & Resources	1997	1998	1999	2000	2001	Commitments
Analog Switches	17	9	—	—		
Digital Switches	197	205	215	215	215	
%Digital Switches	92%	96%	100%	achieved		100% 1999
RADSL Equipped Offices		12	128	167	168	
Infospeed DSL Qualified Households		243,387	1,048,371	1,486,202	1,980,096	
ATM/Fast Packet Switch Hub Locations	10	10	10	10	10	
ATM Switches	3	16	19	24	40	
Fast Packet Switches	79	125	148	150	160	
Annual Optical Fiber Miles Installed	140,728	203,182	121,679	118,536	132,681	
Cumulative Optical Fiber Miles	956,162	1,159,344	1,281,023	1,399,559	1,532,240	
% fiber sheath miles	15%	16%	18%	19%	20%	
Estimated Investment (m) <i>w/o acceleration</i>	\$645	\$688	\$742			
Cuml Investment (m) <i>w/o acceleration</i>	\$2,766	\$3,454	\$4,196			
Actual Investment (m) <i>w/o acceleration</i>	\$806	\$946	\$1,044	\$1,264	\$1,066	
Cuml Investment (m) <i>w/o acceleration</i>	\$3,263	\$4,209	\$5,253	\$6,517	\$7,583	
ANJ Ntwk & Equip Expenditures (m) Committed		\$23	\$48	\$61	\$77	\$80m
Total NJ Workforce	17,651	18,008	18,297	19,051	17,707	
Net Gain	671	357	289	754	(1,344)	
New Hires	1,371	1,129	1,827	2,388	280*	
Cumulative Hires	4,355	5,484	7,311	9,699	9,979	

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III. Miscellaneous	1997	1998	1999	2000	2001
SONET Fiber Rings Deployed	492	731	855	1,214	1,779
Interactive Classrooms	178	199	201	186	179
Abbott District ITV classrooms	12	15	22	25	29
Access NJ Contracts		500	826	1,027	1,307
Access NJ Locations		1,300	1,876	2,082	2,317

* Does not include wireless

**Progress Report on Verizon-New Jersey's
Opportunity New Jersey Program
as accelerated with Access New Jersey**

Commitments	Achieved	Accomplishments
ACCESS NEW JERSEY		
During 1998-2001, deploy an ATM based network that provides fast packet services for narrow-band, wideband and broadband transmission rates. An estimated 15-18 ATM switches to be added.		Added 37 ATM and 81 fast packet switches at 10 key hub locations that provided statewide availability of an ATM based network. Appendix B provide the number of ATM and fast packet switches deployed per year. Statewide distance learning capability provided through a unique Video Portal.
ATM availability to all Abbott Districts by year end 1999. .		Statewide ATM availability to K-12 schools and public libraries in 1998, one year ahead of schedule. 87% of Abbott Districts have taken advantage of the program.
Estimated \$80 million of capital and expense for an ATM-based network and Customer Premises Equipment (CPE) fund, 1998-2002		\$ 77 million of the combined fund was committed as of December 2001. Appendix B shows expenditures by year.
On December 19, 2000, the Board approved combining the network and CPE funds. With a minimum of \$1.8 million of CPE set aside for Abbott Districts until 12/31/02.		\$2 million of CPE provided to Abbott Districts from 12/19/00-12/31/01. Since ANJ was implemented, Abbott Districts have received \$7.8 million of free CPE.
One million of CPE funding set-aside for free ITV classrooms for the Abbott Districts that don't have one.		Funded 17 ITV classrooms at a total cost of \$910,000. Consequently, 97% of the Abbott Districts now have ITV classrooms.
Discounted services packaged on a flat rate basis retroactive to 9/97, minimum 3-year contract.		ISDN, frame relay, SMDS, and ATM services discounted and packaged for K-12 schools and public libraries retroactive to 9/97: 1,307 contracts signed; 2,317 locations have taken advantage of the program. See Appendix D for estimated savings by county.
Key sponsor of NetDay 1997; provide up to 500 free NetDay kits.		Funded a statewide coordinator and provided 539 free NetDay kits to "wire" 3,234 classrooms.
Opportunity New Jersey Grants extended to libraries in 1998.		Since 1998, Verizon NJ has provided \$400,000 in grants to ten public libraries (Asbury Park, Bradley Beach, Dunellen, Elizabeth, Piscataway, South Brunswick, Burlington County, Cherry Hill, Ridgewood and Phillipsburg) and to the New Jersey Library Association. These grants have helped individual libraries extend their reach through the use of information technology and has also created a statewide health-awareness initiative called healthynj.org .
Overseeing performance, assign a manager to work on ANJ.		Full time manager assigned. Kathleen Tully leads an interdepartmental team and meets monthly with the NJ DOE to discuss progress and any implementation issues.

Commitments	Achieved	Accomplishments
<p>ACCESS NEW JERSEY</p> <p>Report progress in a separate section of annual infrastructure report.</p>		<p>Appendix C of annual Infrastructure Deployment Reports.</p>
<p>Reasonable efforts will be made to provision IDLS service within 6-months of a request subject to tariffed rates, terms and conditions.</p>		<p>Verizon NJ's standard IDLS service provisioning interval is 90-days. The functionality of the service relies on the readiness of the customer and the completion of the ITV classroom.</p>
<p>ATM network deployed in a way to accelerate access to urban areas. Any business offering will be provisioned to Urban Enterprise Zones (UEZs) within 90-days of a request.</p>		<p>Statewide ATM availability to K-12 schools and public libraries in urban areas in 1998, one year ahead of schedule, 87% of Abbott Districts have taken advantage of the program. 100% of municipalities with UEZs have schools and libraries participating in the program.</p> <p>ATM network services are generally complex business services. For complex business services, over 98% of the due dates were met within 30-days</p>
<p>Rate Stability: withdraw 1996 filed formula based rate increase, forego additional formula based adjustments.</p>		<p>1997 formula based increase withdrawn, no additional formula based adjustments filed. Elimination of provision continued through two subsequent plan extensions.</p>
<p>Support an interim Lifeline program until a universal service program is established.</p>		<p>In cooperation with state agencies, 400,000 residents were identified as eligible for the interim Lifeline program established in 1998. The program was offered to these residents initially via direct mail from these agencies. The offer included a letter and application form in English and Spanish, followed by a public notice in the 15 major dailies and minority media. In addition, Verizon NJ furnished posters and brochures to the agencies for "walk in" applicants. As of December 2001, 43,686 subscribers were taking advantage of the program, a 15% increase over year end 2000.</p>
<p>100% Digital Switching year-end 1999, no effect on presubscription.</p>		<p>100% digital switching achieved Nov. 1999, one-month ahead of schedule. IntraLATA Toll presubscription implementation completed in May 1997.</p>
<p>Hire additional employees such that the expected net gain will be 800 full time employees in New Jersey in 1997.</p>		<p>Hired 1,371 employees in 1997. However, with over 500 voluntary separations, the completion of 90 term assignments and other attrition resulted in a net gain of 671. An increase of 168 employees in January resulted in a net gain of 839 from Jan. 1997 through Jan. 1998.</p>
<p>Modify plans to provide full service network technology to 40000 homes in Newark and Elizabeth.</p>		<p>Central Offices in Newark and Elizabeth equipped with RADSLS technology for more than 100,000 qualified households.</p>

**Access New Jersey
Participation by County
as of December 2001**

County	Nnumber of Schools and Libraries Contracts	Public Schools Districts Participating	Abbott Districts Participating	Value of Free Customer Premises Equipment (CPE) Provided	Eastimated Total Savings for Schools and Libraries (CPE+Discounts)
Atlantic	111	92%	100%	\$1,915,858	\$3,831,849
Bergen	228	62%	0%	\$3,797,693	\$9,152,799
Burlington	46	45%	100%	\$1,025,980	\$2,167,913
Camden	50	26%	50%	\$1,985,053	\$3,370,961
Cape May	17	37%	NA	\$235,199	\$494,150
Cumberland	35	88%	100%	\$997,478	\$1,559,966
Essex	77	61%	100%	\$3,650,909	\$8,158,576
Gloucester	58	76%	NA	\$1,222,824	\$2,143,244
Hudson	52	85%	80%	\$1,847,011	\$4,624,203
Hunterdon	8	50%	NA	\$34,129	\$82,126
Mercer	35	91%	100%	\$2,298,791	\$4,276,404
Middlesex	85	81%	100%	\$3,147,436	\$6,272,016
Monmouth	93	57%	100%	\$2,780,411	\$4,676,281
Morris	115	78%	NA	\$2,122,235	\$4,652,867
Ocean	33	50%	NA	\$815,141	\$1,850,425
Passaic	62	90%	50%	\$1,767,298	\$3,609,648
Salem	35	100%	NA	\$400,216	\$722,464
Somerset	45	70%	NA	\$958,582	\$2,152,365
Sussex	3	60%	NA	\$13,513	\$39,993
Union	82	83%	100%	\$2,348,993	\$4,871,767
Warren	37	100%	100%	\$485,827	\$1,378,412
Total VNJ	1,307	66%	87%	\$33,850,577	\$70,088,429
Abbott Districts (included in above)	68			\$7,788,815	\$14,975,904
% of Total	5%			23%	21%